MIDSOUTH PHARMACY RESIDENTS CONFERENCE

Abstracts

MidSouth Pharmacy Residents Conference 2023

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Abbruzese, Lucas

Safety of parenteral nutrition administration through umbilical artery catheters

Abbruzese, Lucas - Author[1]; Christensen, Michael - Co-Author[1]; Herrera, Oscar - Co-Author[1]
[1]Le Bonheur Children's Hospital

Results

Results will be described

Methods

This is a single-center retrospective analysis which will include neonates admitted from January 1st, 2019 to June 30th, 2022, who received PN through a UAC. The primary outcome of the study is the loss of the UAC due to the occurrence of infiltrate/extravasation or the development of a thrombosis. Secondary outcomes include the occurrence of hypertension, death, and the maximum dextrose and electrolyte concentrations administered. Data to be collected includes: birth weight; gestational age; the duration of PN administered via the UAC; the reason for the removal of the UAC; maximum daily blood pressure; the administration of lipids; the PN infusion rate; and the maximum concentrations of dextrose, calcium, potassium, osmolarity.

Background/Purpose

Historically, umbilical-vein catheters (UVCs) have been treated as a central-venous line whereas umbilical-artery catheters (UACs) have been treated as a peripheral line. Peripheral administration has widely known limits on the amount of dextrose, potassium and calcium that can be provided as part of an intravenous fluid or a parenteral nutrition (PN) solution. In addition, protein and sodium intakes may have to be decreased, depending on the volume provided, to remain within the osmolarity limits for peripheral administration. These restrictions may lead to delays in providing optimal calories for the growing neonate; or being unable to correct an electrolyte abnormality, forcing the team to order a replacement bolus outside the parenteral nutrition further increasing the neonate's fluid intake. The purpose of this study is to assess the safety of administering PN through a UAC in neonates in a Level-IV neonatal intensive care unit at a tertiary children's hospital.

Adams, Delaney

Fluid resuscitation in sepsis: is 30 mL/kg too aggressive for all patients?

Adams, Delaney - Author[1]
[1]Regional One Health

Conclusions

There was no significant difference in ICU length of stay and 30-day mortality between the patients who received ≥ 30 mL/kg of IV crystalloids and < 30 mL/kg of IV crystalloids based on ideal body weight.

Results

Out of 283 patients, 149 patients received < 30 mL/kg based on ideal body weight within the first 3 hours, with the average being 17.25 mL/kg (3-29 mL/kg). 134 patients received ≥ 30 mL/kg, with an average of 46 mL/kg (30-145 mL/kg). At 30 days, death had occurred in 85 patients (30%). The median volume of IV crystalloids received was 2L in the group that survived (interquartile range, 1 to 2.61), and 2L in the group that died within 30 days (interquartile range, 1 to 2.45, p=0.241). ICU length of stay did not differ between groups (p=0.651).

Methods

This single-center, retrospective study assessed patients admitted to the MICU from April 1, 2019 to August 31, 2022 who were diagnosed with sepsis or septic shock, and received a fluid bolus within 3 hours of recognition. Data evaluated included type of IV crystalloid received, volume (mL) of crystalloids received within first 3 hours of recognition, if antibiotics were given within first hour of recognition, ICU length of stay, mortality during stay or within 30 days. Patients were excluded if they were incarcerated, pregnant, were not admitted to the medical ICU, trauma patients, burn patients, or patients that did not receive a fluid bolus within 3 hours of recognition.

Background/Purpose

The 2021 Surviving Sepsis Campaign Guidelines recommend administering 30 mL/kg based on ideal body weight of IV crystalloids within the first 3 hours for sepsis-induced hypo-perfusion. This recommendation is graded as weak, low quality of evidence and is a downgrade from the strong recommendation in the 2016 guidelines. Recent multicenter clinical trials have demonstrated that 30 mL/kg fluid resuscitation may not improve patient outcomes with sepsis and septic shock. The purpose of this study was to retrospectively compare the all-cause mortality and ICU length of stay in patients who received ≥ 30 mL/kg of crystalloids versus patients who received < 30 mL/kg of crystalloids during initial fluid resuscitation.

Adams, Kaleb

Evaluation of Current Medication History Process at a Tertiary Care Community Institution

Adams, Kaleb - Author[1]; Guinn, Courtney - Co-Author[1]; McMackin, Bethany - Co-Author[1]; Williams, Steven - Co-Author[1]; Moss, Anita - Co-Author[1]; Bailey, Daniel - Co-Author[1]

[1]Jackson Madison County General Hospital

Conclusions

Pending

Results

Pending

Methods

This single-center, retrospective study included a random sample of patients 18 years of age or older who had a completed medication history and were admitted through the Emergency Department during March 2022. Baseline characteristics were obtained. The primary endpoint was a composite of in-hospital mortality and 30-day all-cause readmission rates. Secondary endpoints included individual components of the primary endpoint, the overall length of stay, and 7-day all-cause readmission rates. The percentage of medication histories performed by pharmacy personnel and the percentage of medication histories readdressed after being completed by pharmacy were also evaluated.

Background/Purpose

Documenting an accurate medication history is the initial step and a vital component of medication reconciliation when a patient is admitted to the hospital. Nurses and providers complete the majority of medication histories despite being preoccupied with direct patient-care activities. Patients who have an up-to-date and accurate medication list are less susceptible to medication errors which allows care teams to make more informed treatment decisions. Literature demonstrates that devoting trained pharmacy personnel to the medication history collection process not only reduces medication errors but also improves patient outcomes. The purpose of this project is to evaluate the effect of medication histories performed by pharmacy personnel on clinical outcomes and to determine internal areas for process improvement. It is hypothesized that medication histories performed by pharmacy personnel will improve clinical patient outcomes.

Adcock, Taylor

Long-Term Outcomes with Elexacaftor/Tezacaftor/Ivacaftor in Pediatric Patients with Cystic Fibrosis

Adcock, Taylor - Author[1]; Fleming, Joshua - Co-Author[1]; Pate, Adam - Co-Author[1]
[1]University of Mississippi School of Pharmacy

Conclusions

Extended ETI therapy demonstrated significant improvement in weight. While it did not show statistical significance for FEV1, it appears to show a positive trend. Safety concerns were also favorable throughout 48 weeks of treatment.

Results

When analyzing data, FEV1 did not show statistically significant findings at 24 weeks or in combined groups for 30-36 weeks and 42-48 weeks. Weight showed statistically significant findings for weight gain at 24 weeks and for combined weeks 30-36 and 42-48. When assessing BMI, statistical significance was not shown at 24 weeks but was shown for combined weeks 30-36 and 42-48 with an increase in BMI. Secondary endpoints demonstrated no significant difference from baseline to week 48 in ETI attributed adverse effects.

Methods

This retrospective cohort study was approved by the institutional review board. Inclusion criteria were: age 6-20 years old, diagnosis of Cystic Fibrosis, treatment received at the University of Mississippi Pediatric Pulmonary Clinic, ETI therapy for a minimum of 48 weeks, and an FEV1 at 24, 30, 36, 42, and 48 weeks of therapy. The primary endpoint included changes in FEV1 from baseline to 24, 30, 36, 42, and 48 weeks of therapy. Secondary efficacy endpoints included mean change in BMI from pre-therapy baseline to final data collection date along with other primary safety endpoints such as presence of liver damage, which was defined as AST $\geq$160 U/L and/or ALT $\geq$165 U/L, rash, neurological changes, and any other adverse effects attributed to ETI.

Background/Purpose

Elexacaftor/Tezacaftor/Ivacaftor (ETI) has been evaluated up to 24 weeks in pediatric patients with Cystic Fibrosis demonstrating improved predicted forced expiratory volume in 1 second (FEV1). The primary outcome of this study is to evaluate changes in FEV1 with 48-week ETI therapy in pediatric patients with Cystic Fibrosis. Secondary outcomes include investigating incidence of ETI-associated adverse effects and BMI changes with extended 48-week therapy.

Aldridge, Harleigh

Inpatient Initiation of SGLT2 Inhibitors for Heart Failure (INSIGHT)

Aldridge, Harleigh - Author[1]
[1]Mississippi Baptist Medical Center

Conclusions

SGLT2is appeared well tolerated in this real-world setting with similar rates of AKI and hypotension between groups.

Results

Based on inclusion criteria, 72 patients were analyzed, 36 patients in each group. Baseline characteristics were comparable between groups. The primary composite outcome occurred in 63.8% of the SGLT2i group and 72.2% of the non-SGLT2i group (P=0.45). AKI occurred in 13.8% of the SGLT2i group and 30.5% of the non-SGLT2i group (P=0.09), and hypotensive events occurred in 68% vs 52.7% of patients, respectively (P=0.22). Secondary endpoints were not statistically significant.

Methods

This study was a single center, retrospective, case control study that included patients admitted to Mississippi Baptist Medical Center from June 1, 2022 through October 31, 2022 who were 18 years of age or older with systolic or diastolic heart failure. A list of eligible patients was generated from the electronic medical record using a registry of patients who had a diagnosis of heart failure. Patients who had a SGLT2i initiated for heart failure during their hospital stay were compared to patients in whom a SGLT2i was not initiated. The primary endpoint was the composite incidence of AKI and hypotensive events among patients started on a SGLT2i in the inpatient setting compared to those not started on a SGLT2i. Secondary endpoints included individual components of the primary endpoint, length of stay, all cause 30-day readmissions, and 30-day readmissions for heart failure.

Background/Purpose

Heart failure is one of the leading causes of hospitalizations in the United States and is associated with increased morbidity, mortality, and cost. The American College of Cardiology/American Heart Association Joint Committee guidelines state that sodium-glucose cotransporter-2 inhibitors (SGLT2is) are recommended to reduce hospitalizations for heart failure and mortality in patients with symptomatic chronic heart failure with both reduced ejection fraction and preserved ejection fraction. Despite the low level of adverse events in large randomized trials, some providers at our institution are hesitant to initiate SGLT2is for fear of causing acute kidney injuries (AKIs) and hypotension. The purpose of this study was to examine the tolerability and safety of initiating SGLT2is in the inpatient setting at our institution.

Alexander, Connor

A Retrospective Case-Control Study of Eravacycline for the Treatment of Carbapenem-Resistant Acinetobacter Infections in Patients with Burn Injuries

Alexander, Connor - Author[1]
[1]Regional One Health

Conclusions

In conclusion, eravacycline is a reasonable option to consider in patients with burn injuries being treated for some polymicrobial, multi-drug resistant infections.

Results

Preliminary results: Choice to treat with eravacycline over CMS was not more or less likely to be associated with a favorable response [odds ratio (95% confidence interval), 2.066 (0.456 – 9.361), p = 0.347]. Patients treated with CMS had a 4-fold higher incidence of new onset AKI vs ERA (36.4% vs 9.1%, p = 0.143); however, the results were non-significant. There was no difference in mortality after adjusting for age and %TBSA burned. No patients experienced nausea and/or vomiting in the ERV group.

Methods

This single-center, retrospective, matched, case-control study assessed patients with thermal or inhalation injury admitted to an American Burn Associated-verified burn center from May 1, 2019 to July 31, 2022 who received eravacycline. Patients were randomly matched 4:1 to a historical cohort, using a previously established, de-identified dataset of patients treated with colistimethate (CMS) in the same burn center (March 1, 2009 to March 31, 2014), based on %TBSA, age, and Acinetobacter infection. Demographic data, treatment characteristics, and incidence of AKI were collected. Clinical response (i.e, treatment success) was defined as 30-day survival, completion of course (i.e, did not change antibiotics due to clinical worsening) and lack of recurrence within 14 days of final dose of initial regimen. A composite favorable outcome was defined as 30-day survival, completion of course, lack of 14-day recurrence, and lack of acute kidney injury.

Background/Purpose

Thermal injuries lead to a deficiency in one's natural, protective barrier to infection, increased susceptibility to multiple pathogens, and often require multiple courses of broadspectrum antibiotics. Eravacycline, a novel flourocycline, has shown adequate in vitro activity against multiple MDR pathogens including Acinetobacter. Due to the increasing prevalence of multi-drug resistant bacteria and the heightened susceptibility of burn patients to infection, studies are needed to examine the clinical effect of eravacycline in this population. The primary objective of this retrospective, case-control study is to compare the outcomes of patients with thermal injuries treated with eravacycline versus a matched control for Carbapenem-resistant Acinetobacter infections.

Barber, Jacob

Evaluation of a Mobile Application to Improve Communication for Missing Medications

Barber, Jacob - Author[1]
[1]HCA Healthcare

Conclusions

The final results and conclusion of this project are pending data collection and analysis.

Results

The final results and conclusion of this project are pending data collection and analysis.

Methods

This retrospective descriptive study will evaluate the impact of a mobile application into nursing and pharmacy workflows. Missing Meds is an internal mobile application aiming to assist nursing staff in tracking the order status and location of their missing medication alert. Two acute care facilities serving 615 and 275-beds in Tennessee implemented the Missing Meds application. The study time frame will consist of an implementation and postimplementation phase and corresponding onsite visits. This project has been submitted to the institutional review board at the University of Tennessee Health Science Center.

Background/Purpose

Nurses are a critical part of the patient care team and make up the largest section of healthcare professionals. The American Nurses Association (ANA) expects the nursing profession to experience more available jobs than any other profession in the United States by the end of 20221. To assist in combatting the nursing shortage, organizations are continuously evaluating opportunities to address inefficiencies identified in nursing workflows2. Working to locate medications which are not in their expected location is one potential inefficiency to current nursing models3. This research evaluates the utilization of an internal mobile application that allows for nursing and pharmacy to communicate regarding missing medications. This technology allows the pharmacy to status and signal medication delivery and for the nurse to receive a notification when a medication has been delivered. The purpose of this study is to evaluate the impact of a mobile application on pharmacy and nursing medication delivery workflows.

1.Haddad, L. M., Annamaraju, P., & Toney-Butler, T. J. (2022). Nursing Shortage. In StatPearls. StatPearls Publishing. **2**.Louden, L., Mirtallo, J. M., Worley, M., Naseman, R., Hafford, A., & Brown, N. V. (2017). Efficiency analysis of a barcode-enabled and integrated medication-tracking system. American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists, 74(23 Supplement 4), S84–S89. https://doi.org/10.2146/ajhp160877 **3.** Bhakta, S. B., Deyhim, N., Zafar, N., & Abbasi, G. A. (2022). Implementation and evaluation of an EHR-integrated mobile dispense tracking technology in a large academic tertiary hospital. American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists, 79(18), 1562–1569. https://doi.org/10.1093/ajhp/zxac154

Bateman, Mixson

Assessment of Community Acquired Pneumonia Treatment in Critically Ill Patients

Bateman, Mixson - Author[1]; Tiemann, Maria - Co-Author[1]; Crawford, Allie - Co-Author[1]; Brunson, Allison - Co-Author[1]

[1]Baptist Memorial Hospital-Memphis

Conclusions

The antibiotics chosen for the management of CAP in critically ill patients are too broad with durations longer than 7 days in the majority of patients.

Results

A total of 1,065 patients were screened and 101 were included – 7 (7%) in the appropriate group and 94 (93%) in the inappropriate group. 89% of patients received antibiotic therapy that was too broad for a community acquired pneumonia. 61% of all patients received a duration of antibiotics for longer than 7 days.

Methods

This study is a single-center, retrospective chart review of adults admitted to the ICU at Baptist Memorial Hospital – Memphis with a diagnosis of CAP from June 2017 to June 2022. Patients were included if they were 18 years of age or older, diagnosis of CAP, and admitted to the ICU. Patients were excluded if they had prior respiratory cultures positive for methicillin-resistant Staphylococcus aureus (MRSA) or Pseudomonas aeruginosa, indication for antibiotics other than pneumonia, positive for COVID-19 during their admission, or if they were discharged with hospice. The primary outcome is to evaluate appropriate antibiotic selection and duration for CAP treatment in critically ill patients. Appropriate antibiotic selection includes a beta lactam in combination with a macrolide or tetracycline, or monotherapy with a respiratory fluoroquinolone. Appropriate duration is defined as 7 days or less. Secondary outcomes include duration of antibiotic therapy, 30 and 90-day readmission rates, hospital length of stay, ICU length of stay, incidence of Clostridium difficile, and utilization of MRSA nasal swabs for appropriate de-escalation of antibiotics.

Background/Purpose

CAP is a common and potentially serious illness that is associated with significant morbidity and mortality in adults. In the United States, roughly half of all patients diagnosed with CAP are hospitalized each year, with 10-20% being severe requiring admission to an intensive care unit (ICU). The mortality rate associated with severe CAP is about 30%, which emphasizes the need to identify risk factors in order to optimize appropriate empiric antibiotic therapy. This study aims to assess the appropriateness of CAP treatment at Baptist Memorial Hospital – Memphis based on antibiotic selection and duration of therapy in adult critically ill patients.

Bell, La'Kendra

Barriers and Best Practices for Implementing Payer Programs in CPESN Mississippi Pharmacies

Bell, La'Kendra - Author[1]; Ballou, Jordan - Co-Author[2]; Brown, Meagan - Co-Author[3]; Johnson, Anna Greer - Co-Author[4]; Page, Reagan - Co-Author[4]; Rosenthal, Meagen - Co-Author[1]

[1]University of Mississippi School of Pharmacy, Oxford, Mississippi, [2]University of South Carolina College of Pharmacy, Columbia, South Carolina, [3]University of Mississippi School of Pharmacy, [4]University of Mississippi School of Pharmacy, Jackson, Mississippi

Conclusions

Preliminary analysis has indicated that community pharmacists are eager to find alternative sources of revenue, but require support with implementation and value the opportunity to collaborate with peers through the network.

Results

A total of 21 pharmacists at community pharmacies in CPESN Mississippi were interviewed for a response rate of 51.2%. There were 8 interviews in the best practices group and 13 in the barriers group. Representative quotes from participants were chosen to illustrate each area of the EPIS Framework for implementation.

Methods

This qualitative, quality improvement study was approved as exempt by the University of Mississippi Institutional Review Board (Protocol #22x-256). Subjects included owners or managers of pharmacies participating in CPESN Mississippi, an accountable pharmacy organization. Investigators developed two interview guides using the Exploration, Preparation, Implementation, Sustainment (EPIS) Framework. One interview guide was intended to gather information on best practices for the implementation of services, while the other was geared towards assessing barriers to implementation. Pharmacies were sorted into two groups to receive either the barriers or best practices questions based on their participation in a payer program in the fall of 2021. Interviews were conducted via telephone and were digitally recorded. Three attempts to contact each pharmacy were made on different days and times. Interviews were transcribed via Trint and are currently undergoing analysis for thematic content.

Background/Purpose

The advancement of clinical services in the community pharmacy setting hinges on workflow augmentations that will assist pharmacies in successful implementation. Community Pharmacy Enhanced Services Network (CPESN) Mississippi is a network of community-based pharmacies collaborating to optimize medication use to promote positive patient health outcomes. The purpose of this study was to evaluate barriers to and best practices for implementing patient care services while participating in payer engagements.

Bennett, Shelby

Inpatient Initiation of Sodium-glucose Cotransporter-2 Inhibitors in Patients with Heart Failure with Reduced Ejection Fraction in a Community-based Healthcare System

Bennett, Shelby - Author[1]; Walley, Jeremy - Co-Author[1]; Kent, Chloe - Co-Author[1]; Burich, Taylor - Co-Author[1]

[1]Cookeville Regional Medical Center, Cookeville, TN

Conclusions

Results are currently being analyzed and will be available at the time of presentation.

Results

Results are currently being analyzed and will be available at the time of presentation.

Methods

Retrospective data collection assessed SGLT2 inhibitor utilization among 427 hospitalized patients with ICD-10 codes for HFrEF. These data compared utilization prior to the guideline updates in April 2022 and after the guideline updates. Utilization of remaining GDMT and use of target daily doses were also reviewed for each patient. An updated order set for heart failure was created, which included SGLT2 inhibitors. Providers and nursing staff were educated on the implementation of this process. Post order set implementation, data will be analyzed to assess the number of hospitalized HFrEF patients started on an SGLT2 inhibitor. Initiation post-order set will be compared to the number of patients on SGLT2 inhibitors prior to implementation.

Background/Purpose

Heart failure is one of the leading causes of morbidity and mortality in the United States; and, its prevalence continues to rise with the aging population. Recent research shows an associated reduction in all-cause mortality and cardiovascular death with sodium-glucose cotransporter-2 (SGLT2) inhibitors in patients with heart failure with reduced ejection fraction (HFrEF) irrespective of a diabetes diagnosis. Current heart failure guidelines were updated to include SGLT2 inhibitors as guideline-directed medical therapy (GDMT) for patients with symptomatic HFrEF. The objective of this study is to evaluate the initiation of SGLT2 inhibitors via a standardized inpatient HFrEF order set.

Breeze, Lesley

Evaluation of UTI Order Set at Regional Medical Center

Breeze, Lesley - Author[1]; Schirmer, Lori - Co-Author[2]; Strozyk, William - Co-Author[1]
[1]Fort Sanders Regional Medical Center, [2]Cardinal Health

Conclusions

The UTI order set at this facility is not being utilized by the majority of prescribers and when it is, it is often not utilized correctly.

Results

Preliminary results indicate that 98% of patients admitted for UTI were initiated on empiric ceftriaxone. Only 39.8% of these orders originated from an order set, with 31.9% from the UTI specific order set. For orders prescribed utilizing the order set, the medication selected did not match the type of UTI in 20 of the 36 orders (55.6%). Of the orders evaluated, 69% could have been de-escalated, but only 28 of the 78 (35.9%) were de-escalated, primarily with IV to PO intervention.

Methods

A single-center retrospective chart review was performed for patients admitted in November 2022 that received treatment for a UTI with a medication included in the facility's UTI Order Set. These medications included: nitrofurantoin, sulfamethoxazole/trimethoprim, cephalexin, and ceftriaxone. The order set was organized by type of UTI (asymptomatic, uncomplicated, or complicated). Patients were identified using the electronic medical record and data collection occurred via chart review. Patients with indwelling catheters at home were excluded, along with patients located on the labor and delivery and physical rehab units. Utilization of the order set, concordance of antibiotic with documentation of UTI type, and opportunities to de-escalate therapy were collected. Ability to de-escalate included collection of dietary intake/swallowing ability, culture and sensitivity data when available, and the presence of other reasons to use IV therapy.

Background/Purpose

The 2016 IDSA Guidelines on Antimicrobial Stewardship Programs (ASP) recommend hospitals develop facility-specific clinical practice guidelines for common infectious diseases, such as urinary tract infections (UTI), with incorporation of computerized clinical decision support where feasible to guide appropriate antibiotic use. These strategies combined with other ASP interventions are essential to monitor to identify opportunities for improvement. This study sought to analyze the utilization of the UTI Order Set at Fort Sanders Regional Medical Center to identify opportunities to optimize antibiotic use for the treatment of UTI.

Brent, Lindsay

Assessing the Value of an Embedded Care Pharmacist Program to a Medicare Advantage Plan through a Cost-Benefit Analysis

Brent, Lindsay - Author[1]; Holmes, Trey - Co-Author[1]; Luecht, Eric - Co-Author[1]; Herbst, Kassie - Co-Author[1]; Tunney, Jeffrey - Co-Author[1]; Nola, Kam - Co-Author[2]

[1]Cigna, [2]Lipscomb University College of Pharmacy

Conclusions

Preliminary

Results

Preliminary

Methods

Inputs will be characterized by the costs of implementing and maintaining clinical pharmacist programs in the primary care setting. Outputs will be characterized by embedded clinical pharmacist-driven quality measure performance change, net medical and pharmacy spend avoidance, and patient experience improvement. The study cohorts will consist of network provider groups who utilized an embedded clinical pharmacist, as the case groups, and matched network provider groups who did not utilize an embedded clinical pharmacist model, as the control groups. A univariate sensitivity analysis will be considered through a tornado diagram. This tool will graph the impact of variable assumptions on the base case result to better handle uncertainty and assess the robustness of the economic analysis.

Background/Purpose

Background:
The misuse of medications is one of the largest preventable factors contributing to lower healthcare quality in the United States.1 As a major stakeholder in the healthcare industry, health plans can combat excess medication-related spending through the implementation of comprehensive medication management services (CMMS). For Measure Year 2023, it is estimated that over 30% of HEDIS quality measures, set by the National Committee for Quality Assurance, can be met as a result of medication therapy problem resolution through CMMS.2 Additionally, of the 36 Part C and D Stars Measures set by CMS in 2021, at least 36% may be positively influenced by pharmacist interventions in primary care, such as controlling blood sugar or blood pressure.3 Pharmacy services can demonstrate added value to health plans by decreasing total medical costs and improving economic, clinical and humanistic outcomes. While there is a growing body of literature that positively correlates the integration of CMMS in primary care settings with reduced healthcare utilization and improvements in patient outcomes, there is minimal evidence that analyzes the cost-benefit ratio of pharmacist-led interventions that drive improvements in medical trends and quality measure performance from a health plan perspective.4-6

Purpose:
Determine whether the benefits of a health plan-sponsored, embedded clinical pharmacist

program outweigh the costs associated with implementation and maintenance in the primary care setting through a return on investment (ROI) analysis.

References cited above:

1. Tripicchio, K., et al. Making the Economic Value Proposition for Pharmacist Comprehensive Medication Management in Primary Care: A Conceptual Framework. Accessed September 23, 2022.
2. 2023 HEDIS Measures: Summary Table of Measures, Product Lines, and Changes. https://www.ncqa.org/wp-content/uploads/2022/08/MY-2023-Summary-Table-of-Measures-Product-Lines-Changes.pdf. Accessed September 23, 2022.
3. Centers for Medicare and Medicaid Services. Medicare 2021 Part C & D Start Ratings Technical Notes. https://www.cms.gov/files/document/2021technotes20201001.pdf-0. Accessed September 23, 2022.
4. Rothman RL, Malone R, Bryant B, et al. A randomized trial of a primary care-based disease management program to improve cardiovascular risk factors and glycated hemoglobin levels in patients with diabetes. *Am J Med*. 2005;118(3):276-284. doi:10.1016/j.amjmed.2004.09.017
5. McAdam-Marx C, Dahal A, Jennings B, Singhal M, Gunning K. The effect of a diabetes collaborative care management program on clinical and economic outcomes in patients with type 2 diabetes. *J Manag Care Spec Pharm*. 2015;21(6):452-468. doi:10.18553/jmcp.2015.21.6.452
6. Altavela JL, Jones MK, Ritter M. A prospective trial of a clinical pharmacy intervention in a primary care practice in a capitated payment system. *J Manag Care Pharm*. 2008;14(9):831-843. doi:10.18553/jmcp.2008.14.9.831.

Burlette, Mary Anne

Evaluation of Vancomycin Loading Dose Criteria on Incidence of Acute Kidney Injury

Burlette, Mary Anne - Author[1]; Davis, Andrea - Co-Author[1]; Taylor, Prisca - Co-Author[1]
[1]St. Bernards Medical Center

Conclusions

Pending

Results

To date, 260 out of 328 patients have been screened for inclusion into the study. Data collection is ongoing.

Methods

This retrospective, pre-post study will take place between October 2021 and November 2021 for the pre-implementation group and October 2022 and November 2022 for the post-implementation group. The study will include adults receiving vancomycin for at least 48 hours. Exclusion criteria will consist of patients receiving vancomycin prior to admission, patients presenting with AKI or requiring RRT prior to vancomycin initiation, and pregnancy. The primary endpoint will be incidence of AKI defined as an increase in serum creatinine level of greater than or equal to 0.3 mg/dL in a 48-hour period or a 50 percent increase from baseline over 7 days. Secondary endpoints will consist of incidence of clinical failure, time to target therapeutic level, and 30-day mortality. Clinical failure will be defined as any of the following after vancomycin initiation: positive blood culture for more than 7 days, white blood cell counts greater than 12000/L after 5 days of therapy, temperatures greater than 100.4^{o}F for at least three readings over a 48-hour period after 5 days of therapy, or substitution of another anti-MRSA agent with documentation of clinical failure from the provider. Target therapeutic levels will be defined as an AUC of 400-600 mcg*h/mL or trough of 10-15 mg/dL. The primary endpoint will be calculated using a chi-squared test and secondary endpoints will be calculated using chi-squared test and students t-test.

Background/Purpose

The American Journal of Health-System Pharmacy published revised vancomycin guidelines in 2020 recommending loading doses in select patients. With higher doses of vancomycin, the risk of acute kidney injury (AKI) increases leading to increased mortality, prolonged hospitalizations, and escalated healthcare costs. In October 2022, pharmacists in a community hospital transitioned from loading all adults on vancomycin to loading patients who are critically ill with suspected or confirmed methicillin resistant *Staphylococcus aureus* (MRSA) or patients requiring renal replacement therapy (RRT). The purpose of this study is to evaluate the impact of vancomycin loading doses in relation to incidence of AKI.

Busscher, Karlee

Decreasing 30-day Hospital Readmission Rates in Patients With Heart Failure on an SGLT-2 Inhibitor

Busscher, Karlee - Author[1]
[1]Ascension Saint Thomas

Conclusions

Patients hospitalized with HF, and on an SGLT-2 inhibitor did not see a statistically significant decrease in 30-day and 90-day readmission rates, with a trend towards clinical significance.

Results

30-day readmission occurred in 6.45% (8/124) of the SGLT-2 inhibitor group compared to 12.7% (16/126) in the control group (p value 0.094). 90-day readmission occurred in 6.45% (8/124) in the SGLT-2 inhibitor group compared to 11.1% (14/126) in the control group (p value 0.194). Incidence of hypoglycemia occurred in 8.87% (11/124) in the treatment group and 15.87% (20/126) in the control group (p value 0.093).

Methods

This multi-center, retrospective cohort study was approved by the Ascension Saint Thomas Institutional Review Board. The electronic medical record system was used to identify patients aged ≥18 years old admitted to study sites between June 1, 2021 through November 30th, 2021 or June 1, 2022 through November 30th, 2022 with documented NYHA functional class II-IV HF. Heart failure patients admitted with or discharged on an SGLT2 inhibitor were compared to those who were not on an SGLT2 inhibitor. The primary efficacy outcome was 30-day readmission rates. Secondary outcomes include 90-day readmission rates and the occurrence of hypoglycemia. All data was collected via chart review.

Background/Purpose

Heart failure (HF) is a progressive, complex clinical syndrome where the heart is unable to pump blood to meet the metabolic demands of the body, as a result of structural or functional impairment. Empagliflozin and dapagliflozin are the two SGLT-2 inhibitors recently FDA approved for reducing the risk of death and number of hospitalizations in adults with HF. According to the EMPEROR-Reduced and EMPEROR-Preserved studies, the effects were consistent regardless of the patient's diabetes status, and both showed a statistically and clinically significant reduction in mortality and number of hospitalizations in patients with HF. SGLT-2 inhibitors have shown to reduce hospitalizations and could also help to decrease 30 day hospital readmission rates in patients with HF.

Butterfass, Courtney

The effect of hyperglycemia on outcomes in hospitalized COVID-19 patient without diabetes receiving corticosteroids

Butterfass, Courtney - Author[1]; Morgan, Jillian - Co-Author[1]; Wells, Lindsey - Co-Author[1]; Goggans, Margaret - Co-Author[1]; Hunt, Molly - Co-Author[1]

[1]Lt. Col. Luke Weathers, Jr. VA Medical Center

Conclusions

Veterans with no previous history of DM treated with steroids for COVID-19 had significantly increased mortality as well as worse clinical outcomes when experiencing uncontrolled hyperglycemia.

Results

In the primary outcome, hyperglycemic patients were found to have a statistically significant increased mortality (16% vs 13%, p= 0.02). Hyperglycemic patients also had increased need for ICU admission, mechanical ventilation, RRT, and vasopressors compared to the normoglycemic group.

Methods

This study was a retrospective, cohort, observational chart review of veterans admitted to Veteran's Affairs medical centers in the Midsouth Healthcare Network. Patients with COVID-19 receiving either dexamethasone or methylprednisolone from February 1, 2020 to April 30, 2022 were identified. Patients were excluded if they had a prior history of DM. The remaining patients were categorized based on normoglycemia (control group) versus uncontrolled hyperglycemia (study group) during admission. Uncontrolled hyperglycemia was defined as 3 or more blood glucose readings greater than 180 mg/dl while receiving steroids. The primary outcome was hospital mortality. Secondary outcomes included hospital length of stay (LOS), admission to ICU, ICU LOS, need for noninvasive positive pressure ventilation, mechanical ventilation, renal replacement therapy (RRT), and vasopressors. Descriptive statistics were used to analyze demographic data. Continuous outcomes were analyzed with student's t-test for parametric data and Mann Whitney U for nonparametric data. Categorical outcomes were analyzed with chi square or Fisher's exact tests.

Background/Purpose

Hospitalized veterans with uncontrolled hyperglycemia are at known risk of worse clinical outcomes. In the setting of COVID-19 and steroid use, it is important to understand the risk of uncontrolled hyperglycemia in patients with no history of DM as this could impact how aggressively hyperglycemia is treated. The purpose of this study was to evaluate the clinical effects of steroid-induced hyperglycemia in veterans hospitalized with COVID-19 with no previous history of DM.

Cauthen, Kaitlin

Time to Target Sedation with Dexmedetomidine vs. Propofol in Patients Mechanically Ventilated in the Emergency Department

Cauthen, Kaitlin - Author[1]; Harlan, Sarah - Co-Author[1]; Ruckel, Cassidy - Co-Author[1]; Powell, Meghan - Co-Author[1]

[1]Baptist Memorial Hospital - Memphis, TN

Conclusions

This study demonstrated that there was no difference in time to target RASS between propofol and dexmedetomidine. Further studies with a larger and more balanced study population are needed.

Results

A convenience sample of 100 patients were included with 50 patients (50%) in the propofol group and 50 patients (50%) in the dexmedetomidine group. Preliminary results demonstrate time to target sedation was 3.5 (0.23-11.2) hours in the propofol group and 4.9 (0.75-16.9) hours in the dexmedetomidine group (p=0.237). The duration of mechanical ventilation was 38.4 (21.0-99.65) hours in the propofol group and 46.3 (29.5-137.9) hours for the dexmedetomidine group (p=0.144).

Methods

This is a retrospective, single-center study conducted at a large tertiary care, community hospital. Patients undergoing RSI in the ED and who received either propofol or dexmedetomidine with at least one dose titration were included. Patients diagnosed with an acute neurologic injury, cardiac arrest, fulminant hepatic failure, death or comfort measures within 24 hours, or received rocuronium for intubation were excluded. The primary outcome is time to target RASS attainment. Secondary outcomes include the location of target RASS attainment (ED or ICU), dose at first target RASS, number of study agent dose titrations required and need for rescue sedation. Additionally, time to target RASS and the weight-base dose required will be compared in normal body mass index, obese and morbidly obese populations. Safety outcomes include incidence of hypotension and/or bradycardia prior to dose titrations of study agents, reported adverse events and complications prior to achievement of target RASS including self-extubation and line removal.

Background/Purpose

Pharmacologic sedation is frequently required by mechanically ventilated patients to reduce anxiety and prevent agitation-related harm. Current guidelines recommend light sedation, defined as -2 to +1 on the Richmond Agitation Sedation Scale (RASS), for improved outcomes. There is limited guidance on optimal initial dosing regimens to achieve rapid target sedation levels in intubated patients in the emergency department (ED). This study aims to determine the time to target RASS in patients undergoing rapid sequence intubation (RSI) in the ED receiving dexmedetomidine or propofol infusions.

Chang, Joshua

Assessing Adherence of Sacubitril-valsartan for Patients with Heart Failure

Chang, Joshua - Author[1]; Mathis, Raymond - Co-Author[1]
[1]Magnolia Regional Health Center

Conclusions

Patients with commercial insurance plans exhibited a higher percentage in meeting an adherence rate of 80 percent. Furthermore, a higher adherence rate demonstrated a slight negative correlation with the number of rehospitalizations due to HFrEF. However, the clinical significance of these findings must be determined with the use of accurate patient medical records and statistical tests before further implementation.

Results

After screening the patient's medication list, 438 out of 500 patients were excluded. The patients had an average LVEF of 21 percent with a calculated mean adherence rate for sacubitril-valsartan of 81 percent. A total of 24 patients were not able to reach the adherence rate goal of 80 percent. Patients with dual eligibility for Medicare and Medicaid, Niche Insurance, Primary Medicaid, Veterans Affairs and Tricare, Primary Medicare, Medicare Advantage, and a Commercial Plan exhibited a 33, 45, 57, 67, 71, 75, and 80 percent in meeting the adherence goal, respectively. The number of HFrEF rehospitalizations ranged from 0 to 3.

Methods

This is a single-center, retrospective case series study involving adult patients with HFrEF that are prescribed with sacubitril-valsartan at Magnolia Regional Health Center. The following data will be collected: patient age, gender, ethnicity, left ventricle ejection fraction (LVEF), insurance coverage, and refill and dispense history of sacubitril-valsartan. The number of hospitalizations and readmissions related to heart failure exacerbations will also be collected. All data will be recorded without patient identifiers and maintained confidentially. Medication adherence of sacubitril-valsartan will be calculated by the pharmacist by utilizing the proportion of days covered equation. A score of 80 percent or above will indicate adequate adherence.

Background/Purpose

Sacubitril-valsartan is an angiotensin receptor neprilysin inhibitor that is recommended as a first-line agent for patients with heart failure with reduced ejection fraction (HFrEF). Although clinical trials have shown sacubitril-valsartan significantly reduces cardiovascular death and hospitalizations, the market price for sacubitril-valsartan still remains high and can potentially impact medication adherence. This study was designed to evaluate the medication adherence of sacubitril-valsartan for patients with HFrEF and analyze if adherence can in turn prevent heart failure exacerbations.

Chokshi, Sheena

Evaluation of Pharmacist Impact on Adherence and Disease Outcomes in Sickle Cell Clinic

Chokshi, Sheena - Author[1]; Slayton, Melissa - Co-Author[1]; Armstrong, Drew - Co-Author[1]
[1]Regional One Health

Conclusions

In the sickle cell clinic, introduction of a clinical pharmacist resulted in an increase of touch points between patient and pharmacist. Adherence and disease outcomes varied by patient factors. Complete analysis is pending.

Results

A total of 40 patients were included. Medication adherence was measured through a prescription capture tool and analysis is pending. Hemoglobin (Hgb) and hematocrit (Hct) were an average of 8.29 mg/dL and 24 mg/dL respectively in the six month period prior to clinical pharmacist integration vs 8.69 mg/dL and 25.39 mg/dL respectively in the six month period after clinical pharmacist integration (Hgb: -0.40; CI -0.77, -0.04; p=0.033; Hct: -1.39; CI -2.51, -0.27; p=0.017). Number of vaso-occlusive crises and hospitalizations for acute chest syndrome were not statistically significant.

Methods

This retrospective, case-control study evaluated adults with SCD on voxelotor and/or L-glutamine. Adherence to therapy and disease-related outcomes were compared in the six months before and after the integration of a clinical pharmacist in the sickle cell clinic. The primary outcome was the change in medication adherence. Secondary outcomes included change in hemoglobin and hematocrit, vaso-occlusive crises, and hospitalizations for acute chest syndrome.

Background/Purpose

Sickle cell disease (SCD) is an inheritable blood disorder characterized by a hemoglobin gene defect and can be responsible for serious and life threatening complications. These complications can include occlusion of postcapillary venules, infection, stroke, hemolytic anemia, and organ damage. Recent developments in treatment of SCD have introduced new medications with unique mechanisms of action. Two such medications are voxelotor (Oxbryta) and L-glutamine (Endari). These new medications have been shown to improve anemia (voxelotor) and reduce sickle cell complications (L-glutamine). Integration of clinical pharmacists in multispecialty clinics has shown a positive impact on patient understanding of therapy, adherence to therapy, and disease-related outcomes. The purpose of this study was to evaluate the pharmacist impact on therapy adherence and disease outcomes in the sickle cell clinic.

Claxon, Evan

Expansion of Clinical Pharmacy Metrics for Small Hospitals within a Large Health-System

Claxon, Evan - Author[1]; Burks, Chenette - Co-Author[1]; Roemer, Kaleb - Co-Author[1]
[1]HCA Healthcare

Conclusions

Preliminary conclusion will be described

Results

Preliminary Results will be described

Methods

This is a quality improvement project within a nationwide healthcare system. Data captured in our clinical surveillance software from January 2022 to July 2022 identified 24 hospitals that did not meet the minimum number of intervention opportunities to be included in our current clinical pharmacy metrics. Additional data from our clinical surveillance software and consultation with clinical pharmacy leaders from these hospitals will be collected and used to identify clinical activities to be captured through new metrics. Using the determined workflow, new metrics will be built and analyzed. The study is awaiting Institutional Review Board approval.

Background/Purpose

Health-systems utilize clinical pharmacy metrics to measure the value and impact of clinical pharmacists while providing consistent performance evaluation[1,2]. A challenge with developing metrics is ensuring they are applicable to a variety of hospital sizes, service lines, and pharmacy staffing models. A minimum number of intervention opportunities are required to ensure the integrity of the metric and that it is not skewed with a small population. The purpose of this quality improvement project is to determine and outline a process for the development of clinical pharmacy metrics for smaller hospitals within a large health-system.

Clement, Callie

Beta-agonist Sparing Therapy versus Rate Slowing Therapy for Rate Control in Patients With Septic Shock Complicated by Tachyarrhythmia

Clement, Callie - Author[1]; Sprick, Emily - Co-Author[2]; Wiley, Tessa - Co-Author[2]; Derringer, Jon - Co-Author[2]

[1]Baptist Health Medical Center- Little Rock, [2]Baptist Health Medical Center, Little Rock, AR

Conclusions

There was no difference in rate control within 1 hour between BAS and RS therapy. Time to shock reversal in patients with baseline atrial fibrillation was significantly shorter in those that received RS therapy and overall, there was a significant increase in ICU mortality in the BAS therapy group.

Results

Of the 88 patients satisfying criteria for study inclusion, 19 in the BAS group and 40 in the RS group achieved rate control within one hour of intervention (76% BAS vs 63.5% RS, p = 0.26). Median time to RC was 1.0 (0.42- 9.33) hours in the BAS group versus 1.92 (1- 3.75) hours in the RS group (p = 0.62). Time to shock reversal was significantly shorter in the RS therapy group in patients with baseline atrial fibrillation (6.06 hrs vs 1.16 hrs; p= 0.008). Overall, there was a significant increase in ICU mortality in the BAS therapy group (40% vs 17.5%; p= 0.03).

Methods

This is a single-center, retrospective cohort study of adult patients admitted to the intensive care unit (ICU) from January 1, 2016- September 30, 2022 with concurrent diagnoses of septic shock and tachyarrhythmia. Patients were divided into two groups depending on receiving either BAS or RS therapy. To be included, patients had to receive norepinephrine (NE) and develop a heart rate (HR) ≥ 120 bpm prompting an intervention. Groups were compared to determine the percentage of patients who achieved RC within one hour of the intervention. Secondary outcomes such as time to shock reversal, time to RC, ICU and hospital length of stay and ICU mortality were also compared.

Background/Purpose

Tachyarrhythmias in patients with septic shock can be common, and rate control (RC) may be achieved by adding a beta-agonist-sparing (BAS) agent such as phenylephrine or vasopressin. An alternative RC strategy is to add on a rate slowing (RS) agent such as a beta blocker, amiodarone, diltiazem, digoxin, or ivabradine. While both strategies may achieve RC, there is currently no guideline recommendation or definitive strategy for treating arrhythmias that occur exclusively during septic shock.

Coalter, Carli

Clopidogrel dosing and monitoring in high-risk pediatric cardiovascular patients

Coalter, Carli - Author[1]; Rayburn, Mark - Co-Author[2]; Anton-Martin, Pilar - Co-Author[3]

[1]Le Bonheur Children's Hospital/University of Tennessee Health Science Center, [2]Le Bonheur Children's Hospital, [3]University of Tennessee Health Science Center/Le Bonheur Children's Hospital

Conclusions

Conclusion will be submitted within final slides.

Results

Results will be submitted within final slides.

Methods

This is a single-center, retrospective cohort study from February 2018 to October 2021 reviewing all computerized physician order entries for clopidogrel. Patients older than 24 months will be excluded. Data collected includes: clopidogrel dose (mg, mg/kg), PRU values, indication, cardiac diagnosis, concomitant medications, adverse events, and length of stay. The first aim is to propose a nomogram for dosing of clopidogrel using P2Y12 values, population kinetics, and patient demographics for patients 0 to 24 months of age. The second aim is to analyze adverse events of bleeding, thrombosis, or death among these patients. Descriptive statistics using Chi-squared or Fisher's Exact tests will be utilized. For all statistical comparisons, a p-value less than 0.05 will be considered statistically significant. A regression analysis using Spearman's rank correlation coefficient or Pearson correlation coefficient will be utilized to determine the best fit nomogram for clopidogrel dosing in high-risk pediatric patients.

Background/Purpose

Infants and children with congenital heart diseases are at an increased risk of thrombotic events secondary to their underlying pathophysiology or foreign materials in their cardiovascular system following corrective or palliative procedures. Aspirin and clopidogrel are often initiated in these patients as dual antiplatelet therapy for thromboprophylaxis. Clopidogrel is a P2Y12 ADP-receptor antagonist in which its therapeutic effect can be monitored with P2Y12 reaction unit (PRU) assays. The assay is a quantitative test used to determine the level of platelet inhibition.

In 2008, the PICOLO trial provided recommendations for clopidogrel dosing of 0.2 mg/kg/day for patients less than 24 months of age. However, after 24 months, the recommended dose is 1 mg/kg/day, which is a five-fold increase in a one day age difference. The purpose of this research project is to further define clopidogrel dosing in pediatric patients 0 to 24 months old by assessing the correlation between dose and PRU based on patient demographics and pharmacokinetics. The goal of this research is to provide a step-wise approach to clopidogrel dosing to avoid adverse clinical outcomes while still providing a prophylactic effect against thrombosis.

Cole, Madison

Utilizing guidelines to improve the safety of infusion administration

Cole, Madison - Author[1]; Hughes, Kristen - Co-Author[1]; Robertson, Jennifer - Co-Author[1]; Hoffman, James - Co-Author[1]

[1]St. Jude Children's Research Hospital

Conclusions

Conclusion will be described.

Results

Upon initial review of 87 continuous infusion entries in the drug library, 58 have custom concentrations. Of those 58 drugs with custom concentrations, 55 have hard minimum concentration limits set in the library. Of 700 intermittent infusions, 4 have hard minimum duration limits and 25 have hard maximum dosing limits. Actions taken are pending and will be described.

Methods

St. Jude Children's Research Hospital manages its drug library limits, or DERS, with Guardrails™ on BD Alaris™ smart pumps. First, continuous and intermittent infusions in the drug library will be compared to an electronic health record (EHR) report to ensure consistency in the nomenclature, including drug name, dose, dosing units and rate. Next, intermittent infusions in the drug library will be reviewed to ensure hard limits have been employed for all medication entries. Finally, continuous infusion concentrations in the drug library will be standardized to the EHR concentrations, limiting custom concentrations when appropriate.

Background/Purpose

In 2020, the Institute for Safe Medication Practices (ISMP) released updated smart-pump guidelines titled Guidelines for Optimizing Safe Implementation and Use of Smart Infusion Pumps to address pump-related errors reported since the first set of guidelines were published in 2009. In this updated guideline, ISMP outlines recommendations for optimal use of the smart-pump drug library to prevent errors. After review of gaps in our drug library as compared to the guidelines, we to focused on the following guideline recommendations: standardize the nomenclature in the drug library to ensure consistency with the electronic health record (EHR), actively utilize dose error reduction software (DERS), standardize and limit the number of drug concentrations for continuous infusions and limit the ability to manually program continuous infusion concentrations. This quality improvement project aims to align the St. Jude drug library to ISMP guidelines.

Compagner, Chad

Electronic health record governance through the creation of a standardized medication configuration processes

Compagner, Chad - Author[1]; Aguero, David - Co-Author[1]

[1]St. Jude Children's Research Hospital

Conclusions

Conclusions will be described.

Results

Results will be described.

Methods

This project is a qualitative description of our institution's transition in medication-build governance from Cerner to Epic, and the subsequent iteration that is required. A framework highlighting project planning, implementation challenges, and mitigating strategies will be described and illustrated.

Background/Purpose

Over the past decade, there has been a rapid expansion of technology used within healthcare. For example, a typical hospital pharmacy is supported by the Electronic Health Record (EHR) and numerous third-party systems. These systems require standard ways to communicate with each other and must contain consistent information for this communication to function appropriately.

Best practices mandate that governance processes (including standards, change control, and appropriate quality assurance) manage the clinical information within each of these systems and ensure consistency and function. Without standard processes, it is difficult to maintain all disparate systems. One maintenance task involves medication configuration within the EHR. Typically, a health system contracts with a clinical content data vendor to provide the basic clinical information related to medications, but this information is often lacking institution-specific guidance on the use of the medication. The missing information may include allowed/recommended dosing and routes, instructions for preparation and administration, charging codes, and/or smart pump and automated dispensing cabinet identifiers. Medication configuration encourages appropriate use of medications within the EHR and disparate systems.

Recently, our St. Jude Children's Research Hospital converted to a new EHR platform (from Cerner to Epic) along with the revision of supporting third-party systems. The EHR conversion required the Pharmacy Informatics team to revise all aspects of medication build and configuration governance processes as the two EHRs require different amounts of information to function. This revision includes the various systems that interact with our EHR including the inventory management and distribution system cabinets and carousels, smart infusion pumps, total parenteral nutrition compounder, and the EHR. Best practice requests that each present consistent information to the end user while allowing interfacing within the medication-use ecosystem. This project captures the transition and iteration of our governance process for medication build to assist other institutions in a medication-build governance process creation.

Copelin, Nedra

Validation of the A&D UA-651 oscillometric sphygmomanometer in Children

Copelin, Nedra - Author[1]; Brady, Jessica - Author[1]; Donald, Bryan - Author[1]
[1]University of Louisiana Monroe College of Pharmacy

Conclusions

To be presented at MidSouth Pharmacy Residents Conference.

Results

To be presented at MidSouth Pharmacy Residents Conference.

Methods

This project will use the methods specified in the AAMI/ESH/ISO standards. Three personnel will conduct each validation: 2 observers and 1 coordinator. Observers and coordinators will be trained and qualified. Observers performing measurements on the reference manual blood pressure device will be qualified according to a modified version of the British Hypertension Society (BHS) guidelines. Coordinators guiding validation, performing measurements on the test device, and recording results will be trained by the PI in permission and assent procedures and the validation procedure. Reference measurements will be made with the ADC E-Sphyg 2 electric sphygmomanometer on manual mode. Two observers will both listen for the blood pressure simultaneously using a y-split teaching stethoscope, then record the blood pressure they observed into a web app on their phones, not letting each other know their measurements. The average of both observers' measurements will be compared to the test measurement during analysis. Test measurements will be taken by the coordinator with the A&D device and record the blood pressure measured into a web app on his or her phone, not letting the observers know the measurement. All measurements will be taken from the right arm.

Background/Purpose

The purpose of this project is to validate the A&D Medical UA-651 blood pressure monitor in children according to the joint standards published by the Association for the Advancement of Medical Instrumentation, European Society of Hypertension, and International Organization for Standardization (AAMI/ESH/ISO). There are currently no blood pressure monitors marketed in the United States that have been validated for home blood pressure monitoring in children. This limits the ability of clinicians to use home monitoring in clinical practice and the ability of researchers to conduct research in hypertension in the pediatric population. The American Academy of Pediatrics (AAP) guidelines support home monitoring, they only support monitoring with a validated monitor, which does not exist in this case.

Corvers, Emily

Effectiveness of Inpatient Glucose Control with a Correctional Only Regimen Compared to a Basal-Bolus Insulin Regimen for Hospitalized Medical Patients

Corvers, Emily - Author[1]; Brunson, Allison - Co-Author[2]; Burton, Ginger - Co-Author[2]; Baird, Mallory - Co-Author[2]

[1]Baptist Memorial Hospital-Memphis, [2]Baptist Memorial Hospital – Memphis

Conclusions

Reactive regimens demonstrated poorer control compared to basal-bolus regimens. However, median BG readings were higher among scheduled patients indicating use only in patients with higher glucose readings. Initiating basal-bolus provides more proactive glycemic control without causing more hypoglycemia.

Results

Of 973 patients screened, 185 patients were included: 82 in the basal-bolus group and 103 in the SSI group. The primary endpoint, median blood glucose during stay, was higher in scheduled patients compared to SSI only (248.14 mg/dL vs 157.35 mg/dL, $p < 0.05$). This differs from secondary endpoints showing SSI with significantly more BG readings <40 mg/dL ($p=0.04$), >200 mg/dL ($p<0.05$), and >300 mg/dL ($p<0.05$) compared to basal-bolus. However, basal-bolus had significantly more patients with >1 day of BG >300 mg/dL compared to SSI (78.05% vs. 27.18%; $p<0.05$). There was no significant difference in BG readings <70 mg/dL ($p=0.09$).

Methods

This is a single-center, retrospective chart review of insulin-naïve patients with diabetes who received insulin for inpatient glycemic control. Patients were identified via the electronic health record.. Patients were included if admitted to the hospital between July 1, 2017 and July 31, 2022 and were 18 years or older with history of type 2 diabetes mellitus. Patients were excluded if they received insulin prior to admission, or had an ICU admission or surgical intervention. The primary outcome of glycemic control was assessed by calculating average blood glucose during admission. All statistical analyses were completed using Microsoft Excel and STATA®. Continuous variables were analyzed with Wilcoxon Rank Sum or student's unpaired t-test, as appropriate. Categorical data was reported using Kruskal-Wallis test (H test), and demographics were assessed with interquartile ranges. During analysis, p-values <0.05 were considered statistically significant.

Background/Purpose

At this institution, pharmacological protocols are utilized once a patient's glucose exceeds the 2022 American Diabetes Association (ADA) guidelines' targeted range of 140-180 mg/dL. This study's aim is to assess the difference in glycemic control between sliding-scale only vs. basal-bolus insulin regimens in insulin naive patients measured by mean hospitalization blood glucose. This analysis could support previous data showing safety and superiority of scheduled insulin over reactive regimens, resulting in fewer complications related to poor glycemic control.

Davis, Kajohna

Late Versus Early Stress-Dose Steroids in Patients with Septic Shock and Ongoing Vasopressor Requirements (LESS-PRESS)

Davis, Kajohna - Author[1]

[1]Methodist University Hospital

Conclusions

No significant differences were found in the rate of shock reversal or mortality in patients with septic shock and ongoing vasopressor requirements that received stress dose steroids within 0 to 8 hours compared to patients who received steroids later. Patients who achieved shock reversal received significantly longer days of therapy with steroids.

Results

Forty-seven patients were included: 37 patients in the early phase group (78.7%) and 10 in the late phase group (21.3%). The rate of shock reversal was higher with early initiation of stress dose steroids but was not statistically significant (78.4% vs. 60.0%; p = 0.25). On average, patients who achieved shock reversal received a significantly longer duration of steroids compared to patients who did not have shock reversal (7.6 days vs. 4.4 days; p = 0.017). The rate of mortality reported was 45.9% in the early group compared to 60.0% in the late phase group (p = 0.49).

Methods

A multi-center, retrospective chart review was conducted of adults admitted within the Methodist Le Bonheur Health System for initial treatment of septic shock requiring norepinephrine ≥ 20 mcg/min between January 1, 2012, to September 1st, 2022. Patients who received stress dose steroids within 8 hours of reaching norepinephrine requirements ≥ 20 mcg/min were defined as early administration, with patients receiving stress dose steroids > 8 to 24 hours later as late administration. Patients were excluded if they died within 48 hours of arrival, required inotropic support, had an active COVID infection during admission, or were immunocompromised.

Background/Purpose

In adults with septic shock and an ongoing requirement for vasopressors, 2021 Surviving Sepsis Guidelines suggest using intravenous (IV) corticosteroids at a dose of 200 mg/day given as 50 mg IV every 6 hours or as a continuous infusion. Commencement of IV corticosteroids should begin when patients require norepinephrine or epinephrine doses ≥ 0.25 mcg/kg/min continuously for 4 or more hours. The optimal dose, timing of initiation, and duration of corticosteroids remain uncertain. The purpose of this study is to determine if stress dose steroids initiated within in the early stages of septic shock and ongoing vasopressor requirements improves patient outcomes.

Davis, Lyndsey

Assessing Discharge Durations of Oral Antimicrobial Therapies: ADD-OATs Study

Davis, Lyndsey - Author[1]; Wells, Drew - Co-Author[1]; Ursic, David - Co-Author[1]; Snow, Kayla - Co-Author[2]; Cutshall, Tate - Co-Author[1]

[1]Methodist University Hospital, [2]Cooper Green Mercy Health Services Authority

Conclusions

The duration of therapy for CAP was frequently extended beyond what is recommended per available literature and guidelines. In patients that received the appropriate duration of therapy there was no statistical difference in readmissions or recurrences of pneumonia compared to patients who received an inappropriate duration of therapy. The high rate of inappropriate duration of therapy observed in this patient population warrants prescriber education and brings forward opportunity for pharmacists to play a vital role in the discharge process.

Results

The 174 patients included were predominantly male (58%), African American (68%), with a mean age 56±18 years. Baseline characteristics were similar.The primary outcome showed there were 153 (88%) in the IT group and 21 (12%) in the AT group. There was no statistically significant difference in 30-day all-cause readmissions (5.2% vs 0%, p=0.28) or 30-day pneumonia recurrence (1.3% vs 0%, p=.6). There was a statistical significance in DOT between the two groups (8.4±2.3 vs 4.8±0.5 days, p= <0.001).

Methods

This was a retrospective analysis conducted at all adult hospitals in the Methodist LeBonheur Healthcare system from January 2017 – November 2022. Patients who received inpatient antibiotic therapy for CAP and discharged on oral antibiotic therapy were included. The primary outcome was to evaluate the percentage of appropriateness based on the days of therapy (DOT) for treatment. Appropriate treatment was defined as 5 DOT with inpatient and outpatient therapy combined, and patients were placed into two groups [inappropriate treatment, (IT)] or [appropriate treatment (AT)]. Additional secondary outcomes included the occurrence of 30-day all-cause readmissions, 30-day pneumonia recurrence, and total DOT.

Background/Purpose

Antimicrobial stewardship programs (ASPs) have grown and evolved significantly in recent years to combat the unnecessary use of antibiotics. While ASPs primarily focus on inpatient use of antibiotics, it is estimated that 50-70% of antibiotics at discharge are inappropriate. This study evaluated inpatient and outpatient prescribing patterns for antibiotics indicated for community acquired pneumonia (CAP).

Decareaux, Ian

Impact of Point-of-Care A1C Testing in a Community Pharmacy on Patient Follow-up

Decareaux, Ian - Author[1]; White, Lindsay - Co-Author[1]; Brewster, Amy - Co-Author[1]

[1]Baptist Memorial Hospital - Memphis, TN

Conclusions

No conclusions are available at this time.

Results

No results are available at this time. Results will be described.

Methods

This study is a single-center, retrospective chart review of patients who received A1C testing at Baptist Memorial Hospital – Memphis' outpatient pharmacy through the Point-of-Care service after implementation in October 2022 and through January 1, 2023. Initially, at the time of the A1C testing, the patient's age, gender, height, weight, telephone number, and provider's information is collected. As a result of an elevated A1C, a form with the patient's A1C result is faxed to their primary care provider or endocrinologist. If a patient has an elevated A1C, the 30-day follow-up phone call is then completed and patient-reported outcomes are documented. The primary outcome is the rate of provider follow-up appointments within 30 days of an elevated A1C, as assessed by a 30-day follow-up call. Secondary outcomes include the percentage of patients with medication therapy added or adjusted within 30 days of an elevated A1C and patient reported satisfaction with the A1C service. The primary and secondary outcomes will be analyzed using descriptive statistics.

Background/Purpose

Uncontrolled diabetes remains a major driver of morbidity and mortality. Point-of-Care (POC) testing improves patient adherence and timeliness of interventions. In 2022, Baptist Memorial Hospital – Memphis implemented a POC A1C testing program in their outpatient pharmacy. If a patient has an elevated A1C result, a pharmacist will provide education, complete a medication reconciliation, and relay the result to their provider. A 30-day follow-up call is then conducted to evaluate any changes in medication therapies as a result of their elevated A1C result. This study aims to track the impact of POC A1C testing within a community pharmacy on provider follow-up and patient engagement in self-management.

Dong, Minh

EVALUATION OF THE EFFECTIVENESS OF CALCITONIN EDUCATION AMONG PHARMACISTS ON LOWERING CALCITONIN USAGE WITHIN THE HOSPITAL SYSTEM

Dong, Minh - Author[1]; Hicks, Jeremy - Co-Author[1]; Snyder, Alydia - Co-Author[1]
[1]Jackson-Madison County General Hospital

Conclusions

Pending

Results

Pending

Methods

This study received Institutional Review Board approval, and informed consent was waived. Calcitonin education for pharmacists was conducted between October 25th, 2022 and November 8th, 2022. Patients were retrospectively identified based on calcitonin orders from the electronic medical record. The search included patients which received calcitonin for hypercalcemia treatment from November 8th, 2021 to February 28th, 2023. The data collection was divided into two groups: pre-education and post-education group. Fifty four patients were included. A medical record review was conducted to collect the following information: calcium level, days of therapy, pharmacy intervention, calcitonin doses, additional interventions for hypercalcemia, and relevant information on appropriate utilization. Descriptive statistics will be complied for each of the categories listed above, and basic inferential statistics will be used to evaluate the appropriateness of calcitonin orders and the effectiveness of pharmacy education on lowering the usage in the hospital.

Background/Purpose

Calcium is the most abundant mineral of the body with 99% used for bone/teeth formation. The remaining circulating calcium is responsible for blood coagulation, platelet adhesion, neuromuscular activity, electrophysiology of the smooth muscles, and other important bodily functions. However, certain conditions like hyperparathyroidism, malignancy, or medications (thiazide, lithium, etc.) can disrupt homeostasis and cause hypercalcemia. Symptomatic manifestations of moderate-severe hypercalcemia often lead to hospitalization. Among the available treatments, calcitonin is used for acute management to lower calcium levels rapidly. Unfortunately, the medication's efficacy usually diminishes within 48-72 hours, rendering further doses inappropriate. This increases expense for both the patient and the hospital. The purpose of the study is to evaluate the effectiveness of pharmacy education on decreasing calcitonin usage for the treatment of hypercalcemia at a tertiary community hospital.

Donovan, Spencer

Opioid exposure in pediatric trauma patients requiring mechanical ventilation: A retrospective chart review

Donovan, Spencer - Author[1]
[1]Children's Hospital New Orleans

Conclusions

Opioid consumption and sedation closely correlated with PICU and hospital length of stay, as well as PICU ventilator days. The proposed MMAS protocol remains a viable alternative to the existing opioid-centric analgesia and sedation protocols currently employed in clinical practice.

Results

741 pediatric patients with trauma diagnoses were reviewed, of which 23 patients met inclusion criteria for the proposed MMAS protocol. Median cumulative opioid consumption was 1838 mg oral MME (403-6833 mg) per admission. Nonopioid sedation was most frequently achieved using midazolam (n=20) with a median of 538 mg (138-1496 mg) administered per admission. All-cause in-hospital mortality was 21.7% (n=5). The median length of stay in the PICU was 7 days (4-15 days) and 14 days in the hospital (7-23 days). Patients had a median of 4 PICU ventilator days (4-14 days) per admission. On linear regression analysis cumulative opioid exposure correlated significantly with PICU ventilator days (R^2=0.5165), as well as length of stay in the PICU (R^2=0.7475) and in the hospital (R^2=0.6514). A significant correlation was also identified between midazolam exposure and PICU ventilator days (R^2=0.5964), as well as length of stay in the PICU (R^2=0.8071) and in the hospital (R^2=0.7484).

Methods

A retrospective chart review was conducted to identify pediatric patients admitted over a nine month period with trauma diagnoses. The primary outcome was oral morphine milliequivalents (MME) consumed. Secondary outcomes included criteria for exclusion from the proposed MMAS protocol, types and durations of infusions utilized for sedation or analgesia, in-hospital mortality, PICU and hospital length of stay, and PICU ventilator days. Linear regression analyses were conducted to observe correlations between clinical characteristics and observed outcomes and a p value of < 0.05 was used to determine statistical significance.

Background/Purpose

In order to decrease opioid-related adverse effects that may prolong or worsen recovery in trauma patients, a multimodal analgesia and sedation (MMAS) protocol was proposed for implementation at Children’s Hospital New Orleans. The purpose of this two-part study is to observe the impact of a multimodal analgesia and sedation protocol on opioid consumption in mechanically ventilated pediatric trauma patients admitted to the pediatric ICU (PICU).

Duffey, Sawyer

Evaluation of Post-Operative Opioid Prescribing Patterns at a Large Community Hospital System Compared to Recent Procedure-Specific Recommendations

Duffey, Sawyer - Author[1]; Mills, Liz - Co-Author[1]; Powell, Meghan - Co-Author[1]; Tiemann, Maria - Co-Author[1]
[1]Baptist Memorial Hospital - Memphis

Conclusions

Based on recent procedure-specific recommendations, approximately half of the included patients who underwent orthopedic surgery were overprescribed opioids at discharge. Due to the limitations of this study, future research is needed to further discern the impact of overprescribing within the orthopedic surgery population.

Results

A total of 200 patients were screened and included – 73 (36.5%) underwent total knee arthroplasty (TKA) and 127 (63.5%) underwent total hip arthroplasty (THA). Overall, 103 (51.5%) patients met recent OPEN recommendations based on total morphine milligram equivalents prescribed at discharge. Median MME at discharge was 300 (IQR, 0-500) for TKA patients and 250 (IQR, 0-375) for THA patients. The 30- and 90-day readmission rates were 7% and 5.5%, respectively. Median quantity of multimodal medications administered post-operatively was 1 (IQR, 0-2). Only one patient was readmitted for adverse effects directly associated with opioids.

Methods

This study is a multi-center, retrospective chart review of total knee and total hip arthroplasty patients seen at Baptist-Memphis and Baptist-Collierville between July 1, 2021 – July 31, 2022. Patients will be included if they are 18 years or older and have a diagnosis of total knee or total hip arthroplasty defined by ICD 9 or ICD 10 code. The primary outcome is quantity of morphine milligram equivalents prescribed after total knee or total hip arthroplasty. Secondary outcomes include 30- and 90-day readmission rates and quantity of multimodal medications administered after total knee or total hip arthroplasty. The primary and secondary objectives will be analyzed using descriptive statistics. This study was approved by the Baptist Institutional Review Board.

Background/Purpose

Patients undergoing surgery are often prescribed opioids at discharge to manage their pain. Although an effective addition to post-operative pain regimens, the adverse effects of opioids have been well documented. In the post-operative period, balancing effective pain control without overprescribing opioids can be challenging for providers. Institutions have documented success in reducing opioid prescribing by implementing initiatives to match prescribing patterns to procedure type. Recently, the Opioid Prescribing Engagement Network (OPEN) issued procedure specific opioid prescribing recommendations for discharge. This study aims to evaluate opioid prescribing patterns following orthopedic surgical procedures at Baptist-Memphis and Baptist-Collierville compared to the published recommendations.

Dunigan, Cherish

Impact of Pharmacist-Led Transitions of Care Program on 30-Day Readmission Rates of Patients with Heart Failure at a Community Hospital

Dunigan, Cherish - Author[1]; Davis, Andrea - Co-Author[1]; Taylor, Prisca - Co-Author[1]
[1]St. Bernards Medical Center

Conclusions

Pending.

Results

In the post-intervention group, 35 patients of 137 patients screened were included in the study. For the pre-implementation group, an equal number of 35 heart failure patients admitted in September 2022 were randomized and included in the study. Data collection is ongoing.

Methods

This retrospective, pre- and post-intervention study included adult patients, 18 years or older, with a diagnosis of heart failure. The study intervention was implementation of a month-long transitions of care pilot program in November 2022. The pre-implementation group consisted of patients who were admitted to the hospital prior to the pilot program's implementation (September 2022). Patients in the pre-intervention group were identified with the utilization of the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes. The post-implementation group was comprised of patients that received medication counseling and/or had a clinical intervention made either during their hospital admission or from review of their discharge medication reconciliation. Patients were excluded if they discharged to hospice or against medical advice, or expired during their hospital stay. The primary outcome will be a comparison of the proportion of patients readmitted to the hospital within 30 days before and after implementation of the pilot transitions of care program. Secondary outcomes will include the proportion of patients readmitted to the hospital within 30 days specifically due to heart failure and mean number of interventions made by the pharmacist during the hospital admission or on discharge medication reconciliations in the post-implementation group.

Background/Purpose

Heart failure is a leading cause of hospital readmissions nationwide, resulting in significant healthcare costs. Studies have shown that pharmacist-led transitions of care programs can positively impact these outcomes. A month-long transitions of care pilot program was implemented at a community hospital targeting patients with heart failure. Patients received counseling on their medications by the pharmacist. The pharmacist also reviewed discharge medication reconciliations in an attempt to correct errors with the provider when identified. The purpose of this study is to evaluate the impact that a pharmacist-led transitions of care program has on 30-day readmission rates of heart failure patients.

Ferber, Marisa

Evaluation of a Meds to Beds Service and its Impact on 30-day Readmission Rates Among Patients with Heart Failure

Ferber, Marisa - Author[1]; White, Lindsay - Co-Author[1]; Waddell, Dawn - Co-Author[1]
[1]Baptist memorial Hospital-Memphis

Conclusions

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC)

Results

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC)

Methods

This is a single-center, retrospective chart review of patients who were admitted to the Baptist Hospital – Memphis for heart failure from October 1, 2021, to October 31, 2022. The primary endpoint is the number of 30-day all-cause readmissions among patients who received bedside medication delivery versus matched control patients.The secondary endpoints are 30-day and 90- day all-cause and HF readmissions.. Patients were excluded who left against medical advice, required home inotropes, or are undergoing or have a history of LVAD or heart transplant. Patients were also excluded ifdischarged to hospice or along-term care, skilled nursing, rehabilitation, or correctional facility . The primary and secondary objectives will be analyzed using descriptive statistics.

Background/Purpose

Hospital readmissions are associated with a higher degree of patient mortality and an increased financial burden for hospital systems. One in four patients with heart failure (HF) is readmitted to the hospital within 30 days, making heart failure one of the leading disease states for readmissions. Barriers to medication accessand lack of medication education contribute to nonadherence and hospital readmissions. Some common access barriers include medication affordability, transportation, insurance coverage issues, and lack of understanding medication health benefits. A Meds to Beds service was developed at Baptist Hospital – Memphis to increase medication complaince and decrease readmission rates.This service, offered through an onsite outpatient pharmacy, entails coordination with the hospital care team and a pharmacist delivering and educating a patient on their discharge medications. By ensuring patients receive discharge medications and education before they leave the hospital, it increases opportunities for successful medication compliance. The purpose of this study is to evaluate the impact of a Meds to Beds service on 30-day unplanned hospital readmissions in HF patients.

Fitts, Olivia

Effects of Cardiologist Initiation of Empagliflozin for Heart Failure Prior to Discharge at a Small Regional Hospital

Fitts, Olivia - Author[1]
[1]Sumner Regional Medical Center

Conclusions

Among patients admitted for heart failure at SRMC, initiation of empagliflozin prior to discharge was associated with decreased hospital readmission at ninety and thirty days.

Results

Thirty-eight patients were analyzed in each group. Readmission within 90 days of discharge occurred in 9 patients (23.7%) without empagliflozin initiation and in 6 patients (15.8%) with empagliflozin initiation. Readmission within 30 days of discharge occurred in 6 patients (15.8%) without empagliflozin initiation and in 2 patients (5.3%) with empagliflozin initiation.

Methods

A medication use evaluation (MUE) was completed to identify patients who were ordered empagliflozin during the enrollment period, starting June 1, 2022, and ending December 1, 2022. Additionally, the electronic medical record was used to identify patients admitted for heart failure during this enrollment period. Both groups were screened for inclusion and exclusion criteria using medication claims history and provider documentation. The heart failure group without empagliflozin initiation was matched to the empagliflozin group based on sex and age using pivot tables and excel randomization. Patient demographics, admission and discharge dates, and readmission rates were analyzed.

Background/Purpose

Over one million hospitalizations are attributed to heart failure annually, with an estimated cost of 30.7 billion dollars in 2012. To mitigate preventable hospital readmissions, Centers for Medicare & Medicaid Services (CMS) uses claims and administrative data to calculate the 30-day risk-standardized mortality, 30-day risk-standardized readmission, 30-day excess days in acute care, and payment measures for heart failure. Due to the high prevalence and economic impact, newer treatment options have been developed to improve patient outcomes. According to the 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure, sodium-glucose cotransporter-2 (SGLT2) inhibitors, such as empagliflozin, are recommended for patients with Heart Failure with Reduced Ejection Fraction (HFrEF) and Heart Failure with Preserved Ejection Fraction (HFpEF) to reduce heart failure hospitalization and cardiovascular mortality. Based on these recommendations, the Pharmacy and Therapeutics Committee at Sumner Regional Medical Center (SRMC) approved the formulary addition of empagliflozin, restricted to Cardiology, for heart failure. The purpose of this study is to retrospectively assess ninety and thirty-day readmission rates associated with cardiologists' initiation of empagliflozin for heart failure prior to discharge.

Foster, Zuri

Evaluation of the efficacy of atracurium versus cisatracurium for the treatment of acute respiratory distress syndrome

Foster, Zuri - Author[1]; Daniel, Brittany - Co-Author[2]; Teare, Katherine - Co-Author[2]; Heiing, Austin - Co-Author[2]; Spivey, Katherine - Co-Author[2]; Jarman, Danah - Co-Author[2]

[1]Ascension Saint Thomas Rutherford, [2]Ascension St Thomas Rutherford

Conclusions

Both agents can be considered for neuromuscular blockade in mechanically ventilated patients with ARDS.

Results

There was no statistically significant difference in change of PaO2/FiO2 from baseline to 72 hours after NMB initiation between the two groups. PaO2/FiO2 increased by 30.4 and 32.2 in the cisatracurium and atracurium groups, respectively. The between-group difference was 0.98, IQR(-35.1 to 31.4, p= 0.98). No statistically significant differences in secondary and safety outcomes between treatment groups was found.

Methods

This is a single-center, retrospective, observational study of patients admitted to a medical ICU who received either atracurium or cisatracurium for the treatment of ARDS between September 2021 and February 2022. A retrospective chart review was conducted for all study participants. Information collected includes, but is not limited to, receipt of atracurium or cisatracurium, time to administration of IV neuromuscular blockade from ARDS diagnosis, COVID-19 status, and duration of mechanical ventilation. The primary outcome is improvement in oxygenation, demonstrated by comparing PaO2/FiO2 at baseline (time of diagnosis of ARDS) to PaO2/FiO2 at 72 hours from initiation of neuromuscular blockade (atracurium or cisatracurium). Secondary outcomes include ventilator free days at 28 days, ICU length of stay, in-hospital mortality, and rates of hypotension and bradycardia

Background/Purpose

There are a number of complications that can occur in patients admitted to a medical intensive care unit (ICU). One such complication is acute respiratory distress syndrome (ARDS). During the COVID-19 pandemic, the number of patients with ARDS in the ICU setting increased worldwide. Neuromuscular blockers (NMB) are utilized in ARDS to prevent ventilator dyssynchrony and reduce work of breathing. Two major clinical trials assess use of cisatracurium in ARDS, but little data exists on other NMBs. While there are studies evaluating the use of neuromuscular blockers in ARDS, there is little published literature comparing efficacy of atracurium and cisatracurium in the treatment of ARDS. Therefore, the primary objective of this study is to compare the efficacy of atracurium versus cisatracurium for the treatment of ARDS in ICU patients.

Garner, Bailey

Incidences of Adverse Glucose Events in End Stage Renal Disease Patients on Hemodialysis Compared to Normal Renal Function in the Treatment of Diabetic Ketoacidosis

Garner, Bailey - Author[1]
[1]Methodist South Hospital

Conclusions

Patients with ESRD on HD are more likely to have an adverse glucose event compared to patients with normal renal function when treating DKA using a standard protocol. Patients with ESRD on HD have lower insulin requirements and thus should be initiated on an insulin drip at a lower rate.

Results

Results are in progress. Preliminary data evaluating 30 patients in each group show significantly more adverse glucose events in patients with ESRD on HD compared to patients with normal renal function (73 vs 29, $p < 0.05$). To date, there are no significant differences for secondary endpoints.

Methods

This is a retrospective cohort study comparing patients with ESRD (on HD ≥ 3 months) and patients with normal renal function (creatinine clearance ≥ 60 mL/min upon discharge). Inclusion criteria was a diagnosis of DKA and an insulin infusion running for a minimum of one hour. Patients were excluded for the following reasons: pregnancy, less than 18 years of age, transfer from an outside hospital, withdrawal of care within 24 hours of admission, cardiac arrest on presentation, peritoneal dialysis or continuous renal replacement therapy, and treatment outside of the health system DKA protocol. The primary outcome is incidences of adverse glucose events defined as a blood glucose < 70 mg/dL or a decrease in blood glucose ≥ 100 mg/dL within a one hour period. Secondary outcomes include time to resolution of DKA, difference in total regular insulin dose (units/kg/hour), incidences of severe hypoglycemia (blood glucose < 40 mg/dL), and total number of fluid boluses administered.

Background/Purpose

Standard treatment of diabetic ketoacidosis (DKA) involves aggressive fluid resuscitation, insulin administration, and electrolyte replacement. Patients with end stage renal disease (ESRD) are at an increased risk of hypoglycemic episodes and fluid overload with this standard treatment approach. Currently, there are limited studies evaluating the treatment of DKA in patients with ESRD on hemodialysis (HD). The purpose of this study is to evaluate incidences of adverse glucose events in patients with ESRD on HD receiving a standard DKA treatment protocol.

Giggy, Amanda

Impact of a Pharmacy-Led Transitions of Care Service on Completion Rates of Postdischarge Follow-up Appointment Among High Risk Patients

Giggy, Amanda - Author[1]; Nguyen, John - Co-Author[1]; Anderson, Garraway - Co-Author[1]; Campbell, Jennifer - Co-Author[1]; Armstrong, Drew - Co-Author[1]

[1]Regional One Health

Conclusions

Conclusion will be described.

Results

A total of 220 patients were included in this study, with 110 patients in each group. Results will be described.

Methods

This study is a single-center, retrospective chart review of patients who were admitted to ROH and enrolled in the pharmacist-led TOC service from 8/1/22-11/30/22 and compared to a matched cohort admitted from 8/1/21-11/30/21, prior to service implementation. Those enrolled in the TOC service include adults admitted with heart failure, chronic obstructive pulmonary disease, uncontrolled diabetes, or those on anticoagulation or dual-antiplatelet therapy. The primary endpoint is completion rates of postdischarge follow-up appointment within 7-14 days of discharge. Secondary endpoints include follow-up appointment scheduled prior to discharge, receipt of discharge medications from ROH outpatient pharmacy prior to discharge, and pharmacist-identified discrepancies in medication histories. Patients were excluded from the study if they left against medical advice, had follow up at on outside facility, or were discharged to an outside facility.

Background/Purpose

Regional One Health (ROH) is a public safety-net hospital which services a large indigent population. In order to streamline the transition of care for patients, a pharmacist-led transitions of care service (TOC) was implemented in 2022 as part of a residency research project. This service focuses on patients admitted with high-risk condition including heart failure, diabetes, and conditions requiring anticoagulation. The service provides admission medication history, promotes bedside medication services, and assists with follow-up phone calls and outpatient hospital discharge clinic appointments. Patients who received follow-up appointments within one week of hospital discharge are shown to have lower 30-day readmission rates. The aim of this study is to assess the impact of a pharmacist-led transitions of care service on continuing care with the organization.

Giroir, Chelsea

Continuation Rate of Antipsychotics Initiated in the Intensive Care Unit at Discharge

Giroir, Chelsea - Author[1]; Daly, Jennifer - Co-Author[1]; Austin, Ethan - Co-Author[1]; DeWitt, Alexandra - Co-Author[1]; Aymond, Katherine - Co-Author[1,2]; Bellfi, Lillian - Co-Author[1]

[1]University Medical Center New Orleans, [2]University of Louisiana Monroe

Conclusions

Antipsychotics were continued 28% of the time, and over half were not discontinued until the patient was stepped down from the ICU. Additionally, 9.4% of patients experienced an adverse drug event. Both findings highlight the potential benefit for the addition of clinical pharmacist services to aid in transitions of care.

Results

Of the 361 charts reviewed, 180 met inclusion criteria. Patients were predominantly male (72%) with an average age of 49.6 years old. Twenty-eight percent (n=51) of patients initiated on an antipsychotic were prescribed at discharge. Of the 129 patients that had their antipsychotics discontinued, 22 (17%) were discontinued in the ICU, 33 (25.6%) at ICU step down, and 74 (57.4%) were stopped on the floor. The average duration of therapy was 19.2 days, with an ICU length of stay of 18.7 days, and a hospital length of stay of 31.9 days. Documented adverse drug events requiring a discontinuation of the drug occurred in 17 (9.4%) patients including QTc prolongation in 3 (1.7%) patients and oversedation in 14 (7.7%) patients.

Methods

An IRB-approved, single-centered, retrospective chart review was conducted from January 2021 through December 2021 at an academic medical center. For inclusion, patients were at least 18 years of age and received at least three days of a scheduled atypical antipsychotic for acute agitation or delirium while admitted to an ICU. Patients were excluded if they had a previous diagnosis of a psychiatric condition or considered a vulnerable population. The primary outcome assessed the incidence of patients discharged from the hospital with an antipsychotic initiated in the ICU for acute agitation or delirium. Secondary outcomes included duration of therapy, phase of care at discontinuation, and adverse drug events.

Background/Purpose

Antipsychotics are frequently initiated in the intensive care unit (ICU) for acute agitation and delirium. Literature has shown that these medications are often inappropriately continued at discharge and can lead to unnecessary medications on a patient's medication list, polypharmacy, or adverse drug events. The purpose of this study was to assess the incidence of antipsychotics prescribed at discharge after initiation in the ICU for acute agitation or delirium.

Golden, Emily

Effect of Desmopressin in Antiplatelet-associated Intracranial Hemorrhage

Golden, Emily - Author[1]

[1]TriStar Skyline Medical Center

Conclusions

N/A

Results

Results are currently being analyzed and will be described on presentation.

Methods

In this single-center retrospective cohort study conducted at a level II trauma center, the electronic medical record will be used to identify patients on antiplatelet therapy with traumatic ICH seen on computed tomography (CT) imaging between January 2018 and December 2022. Patients who received desmopressin will be compared to those who were untreated using matched pairs. Patients on pre-injury anticoagulation therapy, with non-traumatic ICH or with known coagulopathy disorders will be excluded. The primary outcome will be the incidence of hematoma growth within the first 24 hours on repeat CT. Secondary outcomes will include neurologic function assessed by the modified Rankin Scale, the incidence of new thrombotic events (defined by thromboembolic events, myocardial infarction, or new ischemic stroke), and the incidence of hyponatremia within 24 hours following desmopressin administration. The following data will be collected as available: patient age, sex, weight, initial systolic blood pressure, baseline Glasgow Coma Score, baseline ICH score, baseline sodium level, platelet function (measured by VerifyNow assay), hematoma location, hospital length of stay, use of dual antiplatelet therapy, receipt of platelet transfusion, and receipt of neurosurgical intervention prior to follow-up CT. All data will be recorded without patient identifiers to maintain confidentiality.

Background/Purpose

Pre-injury antiplatelet therapy has been shown to increase morbidity, mortality, and hematoma expansion in patients with intracranial hemorrhage (ICH). Additionally, patients on antiplatelet therapy prior to injury are more likely to be discharged to long-term care facilities and require higher rates of neurosurgical intervention. Desmopressin has been shown to improve platelet aggregation, especially in patients with platelet dysfunction. Guidelines conditionally suggest a single dose of desmopressin for ICH associated with cyclooxygenase-1 inhibitors or adenosine diphosphate receptor inhibitors based on low-quality evidence. This study aims to determine the effect of desmopressin on the incidence of hematoma expansion in antiplatelet-associated traumatic ICH.

Goodman, Victoria

Failure to Fail: The Impact of Preceptor Perceived Support on Hesitancy to Fail Students During Advance Pharmacy Practice Experience Rotations

Goodman, Victoria - Author[1]; Rhett, Anna - Co-Author[2]; Pate, Adam - Co-Author[3]; Fleming, Laurie - Co-Author[2]

[1]University of Mississippi School of Pharmacy, [2]University of Mississippi School of Pharmacy, Jackson, MS, [3]University of Mississippi School of Pharmacy, Oxford, MS

Conclusions

The findings suggest that the majority of preceptors have not failed a student even though some reservations to passing the student exist. It could be suggested by the study results that the lack of institutional support can give a preceptor more pause in the decision to fail a student or to allow a failing student to continue . Future research into types of support available from institutions would be beneficial to preceptors. This also highlights the opportunity for preceptor development for adequate preparation and support.

Results

There were 721 recruitment emails dispersed and 404 questionnaires completed, a response rate of 56%. Of the preceptors that responded, only 32 (7.9%) that reported to have failed a student. A majority of preceptors (318, 78.7%) reported not having failed a student and 54 (13.4%) claimed they should have failed a student. Of the individuals that have failed a student, all felt that they would be supported by their colleagues in this decision and 86% felt they would be supported by their institution. There were similar responses among those that have never failed a student, 97% felt they would have colleague support and 84% institution support. Among those who felt they should have failed a student, only 51% felt supported by their institution and 92% by their colleagues.

Methods

All preceptors at the University of Mississippi School of Pharmacy (UM) and the University of Arkansas for Medical Sciences College of Pharmacy (UAMS) were recruited via email to complete a 23-item Qualtrics survey. The questionnaire included questions evaluating preceptor experience reporting a failing grade for a student, perceived support, and fear of student retaliation. For each question, response was optional. Data collected was analyzed using descriptive statistics.

Background/Purpose

The fourth year of pharmacy education consisting of Advanced Pharmacy Practice Experiences (APPEs) is a time students utilize didactic training and hone practical skills. The purpose of this study was to investigate the existence and possible reasons for preceptor hesitancy to fail a student in the APPE year. Another purpose of this research was to explore if preceptor perceived support by their institution or colleagues influenced preceptors' decision to fail a student.

Gossett, Jacey

Assessment of Provider Knowledge and Therapeutic Approaches for Reducing Stroke Risk in Patients with Non-valvular Atrial Fibrillation

Gossett, Jacey - Author[1]; Carruba, Shelley - Co-Author[2]; Morgan, Alice Kelly - Co-Author[2]; Montgomery, Natalie - Co-Author[3,4]; Jenkins, Anastasia - Co-Author[3,4]; Crumby, Trey - Co-Author[3]

[1]Baptist Memorial Hospital-North Mississippi, [2]Pfizer Inc, New York, New York, [3]Baptist Memorial Hospital-North Mississippi, Oxford, MS, [4]University of Mississippi School of Pharmacy, Oxford, MS

Conclusions

Preliminary results are pending the completion of data collection and will be described.

Results

Preliminary results are pending the completion of data collection and will be described.

Methods

This study was observational in design in which healthcare providers were asked to voluntarily complete a questionnaire. The survey questions were developed by Pfizer. The survey consisted of questions about providers including their knowledge and confidence in managing patients with NVAF. The inclusion population consists of healthcare providers identified who practice at Baptist Memorial Hospital-North Mississippi that complete the survey. These providers may include emergency room practitioners, cardiologists, hospitalists, family medicine practitioners, medical residents, nurse practitioners, physician assistants, pharmacists, nurses, and other practitioners. Providers such as nephrologists, oncologists, infectious disease specialists, pulmonologists, and other specialists that do not routinely prescribe medications for patients with NVAF are not included. Data collected includes answers to the survey questions such as providers' demographic information, training, knowledge, and confidence in managing patients with NVAF. Data are aggregated and analyzed using Microsoft Excel. The completed, de-identified questionnaires are provided to the Pfizer Medical Outcomes and Analytics colleague who processed the data and analyzed/evaluated the results.

Background/Purpose

The prevalence of atrial fibrillation (AF) continues to rise. AF is a term used for an irregular heart rhythm and non-valvular AF (NVAF) is AF that is not caused by a problem with a heart valve. NVAF puts patients at an increased risk of stroke. Anticoagulants are used to decrease this risk in patients with NVAF. However, there are still gaps in the management of NVAF patients. Tools have been developed to stratify the risk of bleeding and stroke, allowing the provider to identify those that are appropriate for anticoagulant therapy. Two surveys were completed. The initial pre-survey's purpose was to evaluate providers' baseline knowledge and confidence with the use of anticoagulants to manage patients with non-valvular atrial fibrillation. The final post-survey aimed to assess the closure of knowledge gaps identified from the pre-survey after providing education to pre-survey takers.

Graves, Jordan

Optimization of Lipid-Lowering Medications for Secondary Prevention of Cardiovascular Disease in Patients at Family Medicine Clinics

Graves, Jordan - Author[1]; Robertson, Amy - Co-Author[2]; Hudson, Jonell - Co-Author[2]
[1]UAMS College of Pharmacy, [2]UAMS Family Medicine Clinic

Conclusions

Conclusion will be determined after results are complete and have been analyzed.

Results

Of 45 patients identified, 19 patients were found to meet inclusion criteria. Of those 19 patients, 10 identify as female. The mean age of eligible patients is 63 years old. Results and data analyzation are ongoing and will be described when complete.

Methods

This is a prospective, pre-post study to evaluate the impact of pharmacist-led optimization of lipid-lowering therapy in patients with established ASCVD already on statin therapy. The study was conducted in two family medicine clinics. Patients were included in the study if they were not meeting their patient-specific LDL goal. Based on patient medication evaluation and a collaborative practice agreement, patients were scheduled for a visit with the study investigator who either increased current statin dosage, switched patient's statin to appropriate intensity therapy, and/or initiated ezetimibe as an additional non-statin agent for LDL-lowering. A lipid panel was obtained at baseline and subsequently performed every 4-6 weeks as recommended by ACC guidance. The primary outcome is the change in LDL at week 12. Secondary outcomes include the number of patients meeting their LDL goal at week 12, number of pharmacist interventions, and number of adverse events. The primary outcome will be analyzed using a paired t-test.

Background/Purpose

Hyperlipidemia increases atherosclerotic cardiovascular disease (ASCVD) risk in adults. Guidelines recommend low-density lipoprotein (LDL) goals to reduce the risk of ASCVD. A large study found that sixty-seven percent of patients on a statin alone did not meet their LDL goal. The 2022 American College of Cardiology (ACC) Expert Consensus Decision Pathway emphasizes non-statin therapies to target an LDL goal less than 55 mg/dL for adults with ASCVD at very high risk on statin therapy. Several new medications have received approval for lipid-lowering, but are costly for patients. Ezetimibe remains a preferred add-on therapy, carries a lower cost, and is well-tolerated.

Guastella, Veronica

Implementation of a Pharmacist-Driven Medication Reconciliation Upon Discharge in an Inpatient Adult Medicine Patient Population

Guastella, Veronica - Author[1]; Phillips, Sarah - Co-Author[1]; Griffin, Holly - Co-Author[1]
[1]North Mississippi Medical Center

Conclusions

Implementation of a pharmacist-driven medication reconciliation upon discharge in an inpatient adult medicine population can increase prescription pick-up and reduce related hospital readmissions.

Results

A total of 183 patients received pharmacist-led discharge counseling. Nine of the 183 patients were excluded from the analysis as they either exclusively received prescriptions as needed, which did not relate to the admission, or over-the-counter products with unconfirmed receipt. Of patients who received medication counseling, 82.18% (143/174) picked up their prescriptions within 3 days of discharge as compared to 69.59% (119/171) of pre-implementation patients. Hospitalization due to a similar or related diagnosis occurred in 8.05% (14/174) of patients in the post-implementation group versus 12.28% (21/171) in the pre-implementation group.

Methods

Identified patients were counseled on new medications, medication discontinuation, medication frequency changes, and medication dosage changes. After discharge, student and/or resident pharmacists called the patient's pharmacy to ensure the patient was able to obtain their prescriptions within 3 days of discharge. Post-implementation data was collected from August through November 2022. This data was compared to pre-implementation data of patients discharged from the designated adult medicine unit between April and July 2022. Patients were included if they were 18 years or older and discharged from the adult medicine unit with a new prescription. Patients were excluded if they were discharged to a nursing home, skilled nursing facility, or hospice. Patients were also excluded from the post-implementation group if they were unable to be reviewed for pharmacist intervention. The results were analyzed using descriptive statistics.

Background/Purpose

A critical component of patient care during a hospitalization is the effective transition home. An evaluation of the discharge process at this institution revealed that many patients did not obtain new medications upon discharge. It is important to ensure that patients understand medication changes so that adverse health events are prevented. The purpose of this study is to evaluate the impact of a pharmacy-led discharge medication reconciliation process on an adult medicine unit. Secondary objectives include an evaluation of medication-related issues at discharge and 30-day readmission rates.

Hairston, Brian

An evaluation of sodium glucose co-transporter-2 inhibitor induced hospital admission due to urinary tract infections, mycotic genital infections, and Fournier's gangrene

Hairston, Brian - Author[1]
[1]North Mississippi Medical Center

Conclusions

Incidence of UTI in this facility is similar to documented rates among men and women aged 65 and older. However, rates of Fournier's gangrene are well above the documented incidence of this disease state.

Results

The primary outcome was 9.62 %, 3.21 %, and 0 % for UTI, Fournier's gangrene, and MGI, respectively. The secondary outcomes for UTI were 26.7 % for MDR organisms, 13.3 % for mortality, and 20.0 % for 90-day readmission. The secondary outcomes for Fournier's gangrene were 60% for MDR organisms and 0 % for both mortality and 90-day readmission.

Methods

Patients were screened using retrospective chart review. Inclusion criteria were patients 18 years of age or older who were admitted to the hospital while taking an SGLT2 inhibitor as a home medication. Patients who were on chronic dialysis or were pregnant at the time of admission were excluded. Utilizing electronic health record data from April 2020 to April 2022, it was determined whether a patient experienced one of the three adverse events as documented per the ICD-10 codes for the admission. The primary outcome was the rate of admission for patients with one of the adverse events, which were compared to national data. Secondary outcomes included rates of multi-drug resistant (MDR) organisms, inpatient mortality, and 90-day readmission for patients with one of the adverse events.

Background/Purpose

Sodium Glucose Co-Transporter-2 (SGLT2) inhibitors are favorable drugs in heart failure, type II diabetes, and chronic kidney disease (CKD). However, these agents have been linked to urinary tract infections (UTI), mycotic genital infections (MGI), and Fournier's gangrene. The goal of this study was to assess the occurrence of UTIs, MGIs, and Fournier's gangrene in patients taking SGLT2 inhibitors prior to hospital admission.

Hall, Erica

StrengthsFinder-based Groups vs Student-selectedGroups: Comparing Student Perceptions of Group Dynamic

Hall, Erica - Author[1]; Aymond, Katherine - Co-Author[1]; Hoh, Jennifer - Co-Author[1]
[1]University of Louisiana Monroe- New Orleans Campus

Conclusions

Strengths-based work groups can be considered to improve student perception of efficiency in group work in the Doctor of Pharmacy curriculum. Based on the results of this study, strengths-based groups had similar rates of perceived conflict and distractions. Further research is needed to determine if strength-based groups should be regularly incorporated into the Doctor of Pharmacy curriculum.

Results

A total of 52 second-year pharmacy students were included in this data analysis. Students agreed their strengths-based group worked more efficiently than their student selected group (n=22, 42.31% and n=17, 32.69% respectively), while they reported neutrality on distractions and conflict. There were more A's in the student selected groups with 82.69% and 73.08% in the strength-based group, and students perceived the effort in their student selected group to be distributed more evenly (n=41, 73%) than in their strengths-based group (n=30, 57%).

Methods

This is a survey-based study of second-year pharmacy students enrolled simultaneously in a case-based recitation course and pharmacy therapeutics module. Students completed a 20-question survey comparing their experiences working in strengths-based and in self-selected groups in each course. Survey questions aimed to assess students' perception of group dynamics as well as overall effort and performance. Data was analyzed using descriptive statistics.

Background/Purpose

The CliftonStrengths assessment is a personal development tool with thirty-four different strengths or "themes" that are discovered via survey. Survey participants receive their top five strengths in descending strength order. Themes are divided into four domains, executing, influencing, relationship building, and strategic thinking, which describe how those individuals work together to accomplish goals. The purpose of this study was to gauge students' perception of how well a group works, using two comparator groups, student selected, or student assigned based on the StrengthsFinder assessment with diversified domains. Our primary objective is to assess the student's perception of both the student selected group and strength-based group dynamics. Our secondary objectives are to compare student's grades on team assignments and students' perceived effort.

Hall, Kaylee

Vasopressor requirements in patients receiving intravenous milrinone for treatment of cerebral vasospasm after aneurysmal subarachnoid hemorrhage

Hall, Kaylee - Author[1]; Herrmann, Brennan - Co-Author[1]; Warnock, Laken - Co-Author[1]; Mamdani, Anand - Co-Author[1]; Bhatia, Kunal - Co-Author[1]; Leon, Kyla - Co-Author[1]

[1]University of Mississippi Medical Center

Conclusions

Data analysis is currently ongoing.

Results

The cohort included 21 patients who were treated with milrinone for cerebral vasospasm following aSAH. Of the 21 patients, 10 patients required vasopressors to maintain mean arterial pressure, 6 of which were initiated after the initiation of milrinone. The most commonly initiated vasopressors were norepinephrine and phenylephrine with a median duration of 5.5 days.

Methods

This was a single-center retrospective cohort study designed to evaluate the vasopressor requirements in patients receiving IV milrinone for cerebral vasospasm after aSAH. Patients 18 years and older were included based on a diagnosis of aSAH and if they received intravenous milrinone from January 2020 to January 2023. Patients were excluded if they had a CrCl < 20 ml/min or a diagnosis of end stage renal disease, if they were incarcerated at the time and if they were pregnant at the time of enrollment. The primary objective was to characterize vasopressor requirements in patients receiving milrinone. Secondary objectives included assessing the incidence of hypotension, arrhythmias, hypokalemia and hyponatremia.

Background/Purpose

The efficacy of milrinone for treatment of cerebral vasospasm after aneurysmal subarachnoid hemorrhage (aSAH) has been recently evaluated and was associated with a positive impact on long-term neurological and radiological outcomes. Hypotension is a recognized side effect after administering milrinone intravenously and vasopressors may be required to maintain mean arterial pressure. However, there is paucity of data on the vasopressor requirements and its effects in patients with aSAH after starting milrinone. The purpose of this study was to assess the vasopressor requirements of patients receiving intravenous milrinone and the adverse drug events associated with the addition of milrinone.

Harrell, Emily

Impact of Sepsis Management Improvements on Time to Antibiotic Administration in the Emergency Department

Harrell, Emily - Author[1]
[1]Regional One Health

Conclusions

See above

Results

Median time from alert to antibiotic administration was reduced by 40 minutes in the post-intervention group, however, this was not significant (p=0.08). The percent of patients receiving antibiotics within 3 hours of alert, and therefore meeting SEP-1 compliance, increased from 67% to 75% (p=0.118). Arrival time to administration time was significantly different between the pre- and post-intervention groups, 273 minutes vs 207 minutes, respectively (p=0.006). Linear regression showed that power plan usage was a strong predictor of time from arrival to antibiotic administration. There were no significant differences in mortality between the groups

Methods

This single-center, retrospective, electronic chart review evaluated patients admitted to the Regional One Health Emergency Department who triggered a severe sepsis or septic shock alert and received antibiotics. Patients in the control group were admitted in April, May, June, and July of 2021, interventions were implemented in January and February of 2022, and patients in the intervention group were admitted in April, May, June, and July of 2022.

Background/Purpose

At least 1.7 million adults in America develop sepsis, and nearly 270,000 of those adults die each year. Timely antibiotic administration is essential to improving patient outcomes and reducing mortality. The Centers for Medicare and Medicaid Services (CMS) include administration of empiric antibiotics within 3 hours of sepsis presentation in the Core Measure SEP-1, an early management bundle for severe sepsis/septic shock. The Surviving Sepsis Campaign Guidelines also recommend administration of broad-spectrum antibiotics within 1 hour of presentation of septic shock or within 3 hour of presentation of sepsis without shock. To improve core measure compliance, new order sets, optimization of Omnicell antibiotic stock, and education of ED staff were implemented at the study institution. The purpose of this study is to evaluate the effect of these changes on time to antibiotic administration in sepsis patients. We will also look at the usage of the ED sepsis power plan and inpatient mortality rates.

Harris, Spencer

Comparison of Low and High Dose Four-Factor Prothrombin Complex Concentrate vs Andexanet Alfa for the Reversal of Factor-Xa-Inhibitor-Associated Bleeding: A Retrospective Multicenter Cohort Study

Harris, Spencer - Author[1]; Mitchell, Jonathan - Co-Author[2]; Stoltz, Judson - Co-Author[2]; Money-Williams, Taylor - Co-Author[2]

[1]Baptist Memorial Hospital - DeSoto, [2]Baptist Memorial Hospital - DeSoto, Southaven, MS

Conclusions

Results are preliminary and will be described at the time of presentation.

Results

Results are preliminary and will be described at the time of presentation.

Methods

This is a multi-centered retrospective cohort study at 22 hospitals in the Baptist Memorial Healthcare system. Inclusion criteria are for patients aged 18 years or older who received andexanet alfa or 4FPCC for the reversal of FXaB from January 2014 to March 2022 at any Baptist Memorial Healthcare hospital. Exclusion criteria are for patients who used an anticoagulant other than rivaroxaban or apixaban within 7 days of admission, are pregnant, or received both reversal agent. The primary endpoint is the time to hemostatic efficacy. The secondary endpoints are hospital mortality, length of stay, ICU length of stay, and administration of an additional dose of the same reversal agent. Safety outcomes are thrombotic events within 30 days, the volume of blood transfusions received after hemostatic efficacy was achieved, and the time to the restart of anticoagulation. Data will be evaluated using ANOVA for continuous data or chi-square test or Fisher's exact test for nominal data.

Background/Purpose

Factor-Xa-inhibitor-associated bleeding (FXaB) is a common reason for presentation to emergency departments. Andexanet alfa and four-factor prothrombin complex concentrate (4FPCC) are commonly utilized reversal agents, but only andexanet alfa has this as a labeled indication. Additionally, there is a lack of studies comparing thrombotic risk. 4FPCC has literature to support its use at a low dose as well as a high dose, but there is no consensus on the most appropriate dosing. Currently, there is a need for data comparing the two drugs to determine if 4FPCC at either dose is a suitable alternative to andexanet alfa.

Hartsfield, Emily

The Effect of Pharmacist-led Transitions of Care Services on 30-day Readmission Rates

Hartsfield, Emily - Author[1]
[1]Baptist Memorial Hospital - Memphis

Conclusions

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Results

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Methods

This study is a single-center retrospective chart review of patients with COPD exacerbations discharged from the hospital from July 1, 2019 to November 30, 2022 who received pharmacy transitions of care services compared to patients who did not. The primary endpoint will be 30-day all-cause hospital readmission rates. The secondary endpoint is 30-day COPD exacerbation-related hospital readmissions. This study has been submitted to the institutional review board for approval. This study has been submitted to the Institutional Review Board for approval.

Background/Purpose

COPD is the third-leading cause of hospital readmissions in US adults. This has profound effects on patient morbidity, mortality, and quality of life for over 16 million patients nationwide with this disease. Policies like the Hospital Readmissions Reduction Program (HRRP) have instituted financial penalties for hospitals with excessive COPD readmissions. Pharmacy-lead transition of care services aim to prevent potential barriers to regimen adherence by providing medication counseling to COPD patients and patient assistance program enrollment. Inhaler technique education along with disease state counseling at discharge can also be used to decrease hospital readmissions. At Baptist Memorial Hospital Memphis (BMH-Memphis), this type of service has been implemented in hopes of decreasing medication non-adherence. The multidisciplinary nature of this program allows physicians and pharmacists to work closely together while optimizing patient drug regimens.

Pharmacists at BMH-Memphis identified patients admitted for COPD exacerbations and investigated potential barriers to medication adherence due to health literacy, financial strain, or other causes. Pharmacists then interviewed patients admitted for COPD-related complications. Per P&T protocol, pharmacists then adjusted prescribed inhalers within the same class to increase medication regimen affordability or patient access as appropriate. Inhaler counseling with demo inhalers and smoking cessation tools were provided as needed by pharmacists to increase patients' understanding of their disease state and treatments. 11 refills of maintenance inhalers were provided, and initial prescriptions of new COPD medications were delivered to bedside by a pharmacist prior to patient discharge. Phone calls were provided 7-days after discharge from hospital as an additional component of the service to assess patient adherence and regimen efficacy. This will allow pharmacists to assess patient readmission, medication adherence, access to therapy, and treatment response.

Hawkins, Kristen

Evaluation of the Impact of a Diabetes Management Team on Glycemic Control in the Intensive Care Unit

Hawkins, Kristen - Author[1]
[1]Mississippi Baptist Medical Center

Conclusions

In this review, patients managed by the DMT were less likely to have hypoglycemic or hyperglycemic events. The DMT intervened on all patients who had a hyperglycemic event.

Results

Using an IT-generated list, 380 patients were identified, and 85 patients met inclusion criteria. The DMT was consulted on 14 of those patients. From the DMT group, six patients had hypoglycemic events accounting for 13 total events, an average of 0.93 events per patient. A total of 131 hypoglycemic events occurred in 33 patients seen by other providers for an average of 1.87 events per patient. For hyperglycemic events, DMT patients had an average of 1.92 events during their stay while patients not managed by the DMT had an average of 3.27 hyperglycemic events. After two consecutive hyperglycemic events, DMT patients had basal insulin initiated or titrated 100% of the time versus 52% of the time for non-DMT. Of the remaining 48%, half did not have basal insulin initiated and remained only on sliding scale insulin.

Methods

This was a retrospective chart review. Patients included were aged 18-75 and were admitted to the ICU at MBMC between July 2022 and September 2022. Outcomes were compared when the DMT was consulted versus when not consulted. Exclusion criteria included patients whose ICU stay was less than 48 hours or exceeded 14 days or were pregnant. Primary outcome measures were number of hypoglycemic events (blood glucose <70 mg/dL) and number of hyperglycemic events (blood glucose >250 mg/dL). A secondary outcome included addition or titration of scheduled basal insulin after two or more hyperglycemic events.

Background/Purpose

In 2008 Mississippi Baptist Medical Center (MBMC) established the inpatient Diabetes Management Team (DMT) to care for patients with diabetes. The pharmacist-led team is a consult-driven service that manages patients throughout the hospital. The hospital has earned an advanced disease-specific certification in diabetes from The Joint Commission since the formation of the DMT. This review evaluates the impact of a diabetes management team on glycemic control in the intensive care unit.

Heintz, Kelsey

Analysis of Antiepileptic Drugs After Benzodiazepine and Levetiracetam Administration in Status Epilepticus Patients in the Emergency Department

Heintz, Kelsey - Author[1]; Reichert, Michael - Co-Author[1]; Negrete, Ana - Co-Author[1]
[1]Methodist University Hospital

Conclusions

Incidence of seizure termination were similar between subsequent AED agents, but time of administration with lacosamide was significantly faster.

Results

A total of 134 patients were included, 73 received lacosamide and 61 received fosphenytoin/phenytoin. Both lacosamide and fosphenytoin/phenytoin had similar seizure termination rates (56.2% vs 45.9%, p=0.237). The median time from order verification to AED administration was significantly decreased with lacosamide compared to fosphenytoin/phenytoin (23 minutes vs 48 minutes, p <0.001). Rates of refractory SE with continuous infusions were similar between groups. There were no significant differences in safety outcomes.

Methods

A retrospective chart review was conducted from January 12, 2017 to June 29, 2022. Patients ≥ 18 years old diagnosed with SE who received an initial therapy including a benzodiazepine (lorazepam dose ≥ 4 mg IV or midazolam ≥ 5 mg IV/IM) and loading dose of levetiracetam (≥ 3000 mg IV) within 1 hour of patient triage in the ED were included. Patients had to also receive a loading dose of subsequent therapy including lacosamide (≥ 200 mg IV) or fosphenytoin/phenytoin (≥ 15 mg/kg IV) within 2 hours of levetiracetam administration. Patients who received two subsequent AEDs within 30 minutes of each other, were pregnant or breastfeeding, transferred from a hospital outside of our healthcare system, or had seizures secondary to a CNS infection were excluded. The primary outcome was incidence of seizure termination after subsequent therapy. Seizure termination was defined as not requiring additional AEDs or benzodiazepines within 12 hours following administration of adequate initial and subsequent therapy. Secondary outcomes included time from order verification to AED administration and number of patients who progressed to refractory SE requiring continuous infusion agents. Safety outcomes included rate of intubation, bradycardia (defined as HR <50), and hypotension (defined as SBP <90).

Background/Purpose

Guidelines recommend patients with status epilepticus (SE) receive urgent therapy with antiepileptics (AEDs) if benzodiazepines are unsuccessful in seizure termination. Conflicting data exists on which urgent control agent is the most effective. This study seeks to compare rates of seizure termination of subsequent AEDs administered after adequate initial therapy with a benzodiazepine and levetiracetam in SE patients in the emergency department (ED).

Heitz, Nathan

Evaluation of Febrile Neutropenia Management in a Tertiary Care Hospital Emergency Department

Heitz, Nathan - Author[1]; Wells, Lyn - Co-Author[1]; Halford, Zachery - Co-Author[2]

[1]West Tennessee Healthcare, [2]Union University

Conclusions

Approximately two-thirds of patients with FN received appropriate regimens. Overuse of vancomycin was identified as the leading cause of inappropriate antibiotic utilization at our institution, likely attributable to concerns surrounding antibiotic resistance in the region. Limited provider familiarity with managing FN may also explain the observed disparities. To mitigate these issues, enhancing provider education on guideline-directed antibiotic treatment and updating order sets to support the provision of optimal patient care could be promising strategies.

Results

Out of 454 patient encounters, 33 were included for assessment of empiric antibiotics. Among these patients, 25 (76%) had an ANC ≤500 cells/mL. A total of 21 patients (64%) received appropriate antibiotic regimens. Among the inappropriate regimens identified, 6 patients received vancomycin unnecessarily, 5 patients received inadequate antibiotic coverage, and 1 patient received an incorrect dose of antibiotic therapy due to renal dysfunction. On average, the time taken for antibiotic administration was 1 hour and 31 minutes, with empiric antibiotic duration of 3.9 days and length of hospital stay of 5.8 days.

Methods

In this single-center retrospective study, we identified adult patients presenting to the emergency department with a diagnosis code of neutropenia or FN. Patients who did not meet the criteria for FN, defined by an ANC less than 1000 cells/mL and a temperature greater than 38.0 C, were excluded. Our study evaluated the appropriateness of empiric antibiotic therapy by comparing it to the agents and doses recommended in the clinical practice guidelines developed by NCCN, ASCO, and IDSA. The primary endpoint was the concordance of antibiotic therapy with guideline recommendations, while secondary endpoints included length of hospital stay and antibiotic therapy duration.

Background/Purpose

Febrile neutropenia (FN) occurs in approximately 5-30% of patients undergoing chemotherapy for solid tumors, and up to 80% of those undergoing bone marrow transplantation. Among these cases, around 40-50% of patients will have an infectious source, with 10-30% resulting in a bloodstream infection. Early initiation of appropriate antibiotics can significantly reduce risk of patient mortality. The primary purpose of this study is to evaluate provider patterns for management of FN and identify areas for improving antimicrobial stewardship.

Hoang, Kristine

Implementation of Long-acting HIV Treatment in a Ryan-White Funded Clinic

Hoang, Kristine - Author[1]
[1]Regional One Health

Conclusions

CAB/RPV is an effective and well-tolerated HIV treatment option for patients wishing to avoid daily tablets. Implementation of CAB/RPV requires multidisciplinary buy-in and clinic resources dedicated to prior authorizations and financial assistance, administration, and close follow-up to ensure adherence.

Results

Of 21 patients referred, 18 patients were included. As of publication, 10 patients (55.5%) have received CAB/RPV injections. Of remaining the 8, 4 are awaiting first injection and 4 are pending approval. Patients received a median of 3 injections. There was one missed injection appointment, and the patient was started on an oral ART bridge. For patients with available follow-up labs, there were no virologic failures. Soreness at injection sites was the most common adverse effect. Six out of 7 survey respondents reported greater convenience as their reason for switching. Three patients received the drug via ADAP. All other patients received CAB/RPV through their medical insurance. Five patients utilized financial assistance. Results presented are preliminary.

Methods

This is a single-center, prospective study assessing initiation of LAI CAB/RPV in a HIV clinic. Enrollment in the study spanned from Oct 20th, 2022 to Mar 5th, 2023. Included patients were non-pregnant PLWH who were virally suppressed for $\geq$3 months, HbsAg negative, LFTs $\leq$3 times ULN, no INSTI or NNRTI resistance, and no history of virologic failure. Patients lost to follow-up prior to initiation were excluded. Insurance coverage was pursued with preference for buy-and-bill. Viral loads were obtained at months 1 and 5. Patient satisfaction surveys were collected throughout treatment.

Background/Purpose

Patients living with HIV (PLWH) have a variety of oral and injectable antiretroviral treatment (ART) options. Cabotegravir-rilpivirine (CAB/RPV), was approved in January 2021 as the first long-acting injectable (LAI) ART. Given as in-office IM injections every 1-2 months, CAB/RPV allows patients to reduce pill burden and maintain privacy. Clinics implementing LAI CAB/RPV may face barriers including changes in workflow and staff training. This project aims to describe the process and clinical impact of implementing LAI CAB/RPV in an HIV clinic.

Holley, Elizabeth

De-labeling Allergies of Penicillin by Pharmacist Led Experimental Service (DAPPLES)

Holley, Elizabeth - Author[1]; Kennedy, Kaley - Co-Author[1]; McCrory, Kim - Co-Author[1]

[1]North Mississippi Medical Center

Conclusions

In conclusion, pharmacists are able to de-label allergies, which can lead to more appropriate antibiotic selection. Several patients were classified with a moderate to severe risk and unable to be de-labeled. Further allergy testing is necessary for additional de-labeling, but unfortunately, patients did not follow through with referral. It was clear that having a penicillin allergy listed can drive antibiotic costs up by having to use more broad-spectrum antibiotics. Pharmacists are well-positioned to de-label allergies, make interventions for antibiotic de-escalation, and promote cost-savings.

Results

Over the five-month period, there were eighty-eight screenings conducted. Eight patients (9%) were excluded. Forty-five patients' (56%) reaction occurred greater than ten years ago or was unknown. De-labeled patients totaled twenty (25%). Seven antibiotic interventions were made. Three readmitted patients were started on penicillin antibiotics. Fifty-eight patients (72.5%) were given an immunology referral, however, zero referred patients followed-up with immunology services. The antibiotic class with the highest cost was the cephalosporins, totaling over $3,000. The outlier was ceftaroline, costing $172.90 per dose; excluding the outlier, aztreonam was the highest at approximately $2,000.

Methods

A retrospective chart review was conducted evaluating patients at a rural community hospital identified with a penicillin allergy in which an interview was completed. Patients included were 18 years or older with a listed penicillin allergy per electronic health record (EHR) and admitted to a general medicine floor. Patients excluded from the study included patients with altered mental status, admission to nursing home or hospice, or 90 years or older in age. The study was conducted over approximately five months beginning August 2022 through December 2022. Results were analyzed using descriptive statistics to evaluate the number of interventions made by staff pharmacists and estimate the cost benefit.

Background/Purpose

Inaccurate allergy labeling of penicillin allergies has led to unintended negative health consequences including increased use of broad-spectrum antibiotics, suboptimal therapy, costs, adverse effects, and higher rates of resistant organisms. This study evaluates the implementation of a pharmacy-led penicillin de-labeling service and its effectiveness in reducing unintended health consequences and costs of inaccurate penicillin allergy labeling.

Hoot, Diana

Outcome Evaluation of Obstetrical Hemorrhage Management Within a Large Healthcare System

Hoot, Diana - Author[1,2]; Warren, Carley - Co-Author[3]

[1]University of Tennessee Health Science Center College of Pharmacy, [2]HCA Healthcare, [3]HCA Healthcare/University of Tennessee

Conclusions

Conclusion pending final data analysis.

Results

Final results pending.

Methods

The study population includes labor and delivery patients within the health-system who experienced obstetrical hemorrhage as identified by ICD-10 coding, administration of obstetrical hemorrhage medication, or administration of > 4 units of packed red blood cells from January 2021 to December 2021. Patients with a coded history of coagulation defects have been excluded. Datapoints collected for each patient will include blood component ratios, activation of a massive transfusion protocol, gestational age, delivery method, total oxytocin dose, admission source, and other demographic data, such as age, race, parity, and payer class. The primary outcome of this statistical analysis is maternal mortality, with a focus on comparison of delivery methodology. Delivery methods include vaginal, primary C-section, repeat C-section, and vaginal birth after C-section (VBAC). Secondary outcomes will include intensive care unit admission, hysterectomy, estimated blood loss, and length of stay. Statistical analyses will be performed on each outcome to evaluate any statistically significant differences between delivery methods. This study has been submitted and approved by the University of Tennessee Health Science Center Institutional Review Board.

Background/Purpose

Worldwide postpartum hemorrhage continues to be a leading cause of maternal mortality; in the US, it contributes to 11% of all pregnancy-related deaths and hemorrhage leading to blood transfusion remains the leading cause of severe maternal morbidity. Patients undergoing caesarean section have an increased risk of experiencing postpartum hemorrhage, but it is unclear if these patients are more likely to experience poor outcomes as a result. The purpose of this study is to evaluate outcomes of obstetrical hemorrhage within a large health-system, through comparison of patient-specific factors with a focus on method of delivery.

Hooter, Alyssa

Assessing the Role of Pharmacists in Reducing Hospital Readmissions through Medication Reconciliations

Hooter, Alyssa - Author[1]; Jaeger, Beth - Co-Author[1]; Stuckey, Jameika - Co-Author[1]
[1]University of Mississippi Medical Center

Conclusions

In conclusion, there were less discharge medication discrepancies found in the pharmacist cohort, with less patients experiencing hospital readmissions. By expanding pharmacists' involvement in the discharge medication reconciliation process, hospital readmissions could be greatly reduced.

Results

Three hundred and fifty-two patients were screened with 100 patients meeting inclusion criteria. Each cohort consisted of 50 patients. The average number of discharge medication discrepancies found in the pharmacist cohort and the non-pharmacist cohort were 1.7 (SD of 2.72), and 1.86 (SD of 2.39), respectfully**.** Thirty-two percent of patients in the pharmacist cohort were never readmitted versus 28 percent of patients in the non-pharmacist cohort. In both cohorts there were 26% of patients readmitted within 30 days, with 40% readmitted after 30 days in the pharmacist cohort and 46% readmitted after 30 days in the non-pharmacist cohort.

Methods

This is a single-center, retrospective cohort study. The two cohorts for this study are the pharmacist cohort, where patients had their discharge medication reconciliation completed by a pharmacist, and the non-pharmacist cohort, where patients had their discharge medication reconciliation completed by a non-pharmacist. The pharmacist cohort was randomly selected from completed medication reconciliations within the pharmacy department. The non-pharmacist cohort was randomly selected through medical record numbers that were admitted to UMMC between January 2017 - June 2022 with the ICD-10 diagnosis codes for heart failure, chronic obstructive pulmonary disorder, and/or diabetes mellitus.

Background/Purpose

Hospital readmissions are estimated to cost $26 billion annually, with 82% of Medicare-funded hospitals receiving readmission penalties.[1] Data has shown that these readmissions can be medication-related, many being potentially preventable discharge medication errors.[2] This study assesses the clinical significance of pharmacists in the discharge process. The primary objective was to assess the number of discrepancies identified in patients who had discharge medication reconciliations completed by a pharmacist versus non-pharmacist. The secondary objective is to assess the number of days to unplanned readmission. This research is especially important for the University of Mississippi Medical Center (UMMC) because not only is it a Joint Commission accreditation standard, but as process improvement for our institution while these efforts continue to evolve.

Hubbard, Candra

Comparison of Effervescent Potassium Bicarbonate-Citric Acid and Potassium Chloride Liquid in Hypokalemic Patients

Hubbard, Candra - Author[1]; Twilla, Jennifer - Co-Author[1]; Broyles, Joyce - Co-Author[1]; Finch, Christopher - Co-Author[2]; Hudson, Joanna - Co-Author[2]

[1]Methodist University Hospital, [2]University of Tennessee Health Science Center

Conclusions

While this study found a statistically significant difference between PBCA and PCL, we do not believe this is a clinically significant difference. Given the limited clinical impact, PBCA continues to be an appropriate and less costly alternative.

Results

A total of 2,440 PCL and PBCA orders were reviewed to include 250 patients (n=125 for each group). Baseline demographics were mean age of 66±18 years, 68% female and 58% African American. The mean change in potassium levels was 0.51±0.43 mEq/L in the PCL group and 0.39±0.39 mEq/L in the PBCA group (p=0.021). This change reflects an average TDD of 45±15.9 mEq (PCL group) and 42±14.3 mEq (PBCA group). The mean time between potassium levels was 21 hours and 22 hours, respectively, with 73.2% achieving normokalemia. In patients receiving PBCA, the mean change in serum bicarbonate was 0.25±2.4 mEq/L (p=0.029). Subgroup analysis of patients with CKD found a mean difference in potassium levels of 0.33±0.27 mEq/L and a mean difference in bicarbonate levels of 0.07±0.88 mEq/L.

Methods

Adult patients admitted to MLH who received PCL in 2017 or PBCA in 2019 were screened. Inclusion criteria: ≥18 years, received PCL or PBCA, admitted for ≥24 hours, and a serum potassium level <3.5mEq/L. Data collected: patient demographics, labs, medications, and disease states that may affect potassium. The primary objective was to evaluate the absolute change in potassium achieved with repletion using PCL versus PBCA. Secondary objectives included time to normokalemia, differences in total daily dose (TDD), absolute change in serum bicarbonate levels, and change in potassium and bicarbonate levels in patients with chronic kidney disease (CKD).

Background/Purpose

Hypokalemia is a common electrolyte disturbance in the inpatient setting, affecting 20-40% of patients. Adequate repletion of potassium is necessary to avoid severe consequences. In 2018, Methodist LeBonheur Healthcare (MLH) switched from potassium chloride liquid (PCL) to effervescent potassium bicarbonate-citric acid (PBCA) tablets given the associated cost savings. While both formulations are accepted strategies for potassium replacement, there is limited comparison of efficacy. The purpose of this study is to compare the effectiveness of PBCA and PCL for potassium repletion in hospitalized hypokalemic patients.

Huddleston, Eleese

A Review of the Treatment of Acute Alcohol Withdrawal in Patients Hospitalized within a Large Healthcare System

Huddleston, Eleese - Author[1]; Wiggins, Elizabeth - Co-Author[2]; Perry, Alicia - Co-Author[2]; Loput, Charity - Co-Author[2]; Davenport, Elizabeth - Co-Author[2]

[1]HCA Healthcare / The University of Tennessee, [2]HCA Healthcare

Conclusions

Pending

Results

Pending

Methods

This retrospective study will be capturing de-identified patient data through an electronic data collection. The time frame of this data collected will be January 1, 2020 to December 31, 2022. Patients involved in this study include the following: age 18-89 years, alcohol withdrawal diagnosis indicated by ICD-10 codes, and orders for medications to treat/prevent alcohol withdrawal. Patients will be stratified by AWS treatment modalities that include benzodiazepines, phenobarbital, gabapentin, and oral or intravenous alcohol. Primary endpoint will be to identify various treatment modalities. Secondary endpoints will include length of stay, transition to higher level of care, and alcohol withdrawal complications (e.g., delirium tremens, seizure).

Background/Purpose

Alcohol withdrawal syndrome (AWS) is a clinical emergency that may arise during unintentional or voluntary episodes of abstinence from alcohol. Based on previous internal analysis of treatment practices for AWS in the hospital setting, a lack of consensus, uniformity, and variable practices were identified. Previous findings warranted further study into the current treatment practices for AWS. The primary goal of this study is to analyze the current practices involved in the treatment of AWS within a large health-system using contemporary data. A secondary goal for this project is to gain a better understanding of which treatment modalities are associated with the most favorable outcomes among groups.

Ittner, Regina

A Retrospective Evaluation of Clinical Outcomes and Cost Data Associated with Extended-Interval Versus Standard Infusion of Piperacillin-Tazobactam

Ittner, Regina - Author[1]; Parsons, Lyle - Co-Author[1]; Fussell, Jacob - Co-Author[1]
[1]Henry County Medical Center

Conclusions

Conclusions will be made upon completion of data collection and reporting of results.

Results

Pending

Methods

Piperacillin-tazobactam inpatient administration data from January 1, 2022 through December 31, 2022 will be collected using barcode scanning reports generated in Paragon. Clinical outcomes data will be collected from the electronic medical record for each included patient. Cost data will be collected from McKesson. Clinical outcomes data will be compared to those found in the literature for 4-hour extended-interval infusion of piperacillin-tazobactam.

Inclusion Criteria	Exclusion Criteria
Inpatients ≥ 18 years of age Receiving piperacillin-tazobactam infused over 30 minutes every 6 hours Piperacillin-tazobactam therapy initiated between 01/01/2022 and 12/31/2022	Receiving piperacillin-tazobactam for < 48 hours Receiving piperacillin-tazobactam for surgical prophylaxis

Primary Endpoint: Duration of therapy
Secondary Endpoints: In-hospital mortality, hospital length of stay, ICU length of stay, expenses related to piperacillin-tazobactam use (piperacillin-tazobactam administered, diluent used)

Background/Purpose

Piperacillin-Tazobactam is most effective at killing bacteria when the free drug level is greater than the minimum inhibitory concentration for the pathogen for more than 50% of the dosing interval. 4-hour extended-interval infusions are commonly used in an effort to achieve this target. Multiple studies have evaluated the clinical efficacy and safety 4-hour infusion compared with 30-minute infusion of piperacillin-tazobactam for a variety of infections in patients in and out of the intensive care unit (ICU) as well as compared the cost of the two strategies. The literature surrounding clinical efficacy outcomes has been conflicting which suggests there may be clinical benefit to extended-interval infusions compared to standard infusions. Several studies have reported similar rates of adverse drug reactions between the two administration strategies. Many studies have also shown that extended-interval infusion of piperacillin-tazobactam is associated with lower cost. The objective of this study is to retrospectively evaluate clinical outcomes and costs associated with 30-minute infusion of piperacillin-tazobactam and compare clinical outcomes to those associated with 4-hour infusion seen in the literature.

Jackson, Lauren

Significance of the Loading Phase Duration of Apixaban on Bleeding Events in Patients Treated for Newly Diagnosed Venous Thromboembolism After Initial Parenteral Anticoagulation

Jackson, Lauren - Author[1]; Gillion, Amanda - Co-Author[1]; Marler, Jacob - Co-Author[1]
[1]Lt. Col. Luke Weathers, Jr. VA Medical Center

Conclusions

Conclusions are pending final data analysis.

Results

Seventy-eight patients were included in the control and 65 in the study group. Overall average age was 68, most patients were male (96%), received anticoagulation for treatment of PE (72%), and received parenteral therapy with enoxaparin (71%). The primary composite outcome of major and non-major bleeding was higher in the study group (18.5% vs 5.1%; P<0.02). Length of stay (5 days vs 4 days; P=0.04) and hospital mortality were increased (6% vs 0%; P=0.04) in the study group, with no difference in VTE recurrence.

Methods

This is a retrospective cohort study of patients treated within the Veterans Affairs Healthcare System from January 1st, 2011, to April 14th, 2022. Adult patients were included if they received 24 hours of parenteral anticoagulant therapy followed by therapeutic loading dose apixaban for the treatment of VTE. Patients were divided into two groups based on the duration of apixaban loading dose, < 7 days (study group) compared to 7 days (control group). Data collected included baseline characteristics, length of hospitalization, duration of apixaban loading dose, administration of medications affecting bleeding or VTE risk, or affecting the pharmacokinetics of apixaban, and components of the International Society on Thrombosis and Haemostasis criteria for bleeding. Exclusion criteria included apixaban held for > than 24 hours or discontinued for a reason other than bleeding, receiving anticoagulation at baseline, and patients with prothrombotic genotypes. Incidence of bleeding events within 3 months of anticoagulation initiation was compared between groups.

Background/Purpose

The approved apixaban VTE treatment regimen uses a higher 7-day lead-in dose. It is unknown if clinicians adhere to the 7-day loading phase, especially in patients pretreated with parenteral anticoagulation or those with higher bleeding risk. The objective of this study was to examine the incidence of bleeding (composite of major and non-major bleeding) within 3 months of the initiation of anticoagulation among patients treated with loading dose apixaban for 7 days compared to those treated for < 7 days.

James, Chelsea

Incidence of Hypertriglyceridemia in ICU Patients Undergoing Continuous Propofol Infusions

James, Chelsea - Author[1]
[1]Touro Infirmary

Conclusions

Descriptive statistics will be used to analyze the collected data

Results

Results will be described

Methods

This study was a retrospective chart review of mechanically ventilated ICU patients at Touro Infirmary between May 1, 2018 to May 1, 2019 receiving continuous propofol infusions for a minimum of 24 hours. Patients were identified using the electronic medical record and divided into two categories, individuals receiving a continuous propofol infusion for 24 hours and individuals receiving a continuous propofol infusion for over 24 hours. Patients were included if they had lipid panel or AST/ALT levels available prior to starting continuous propofol infusion, received propofol for 24 or more hours, and greater than or equal to 18 years of age. Patients were excluded if no lipid panel or AST/ALT levels were available prior to starting continuous propofol infusion, received propofol for less than 24 hours, or less than 18 years of age. Patients were included if they had lipid panel or AST/ALT.

Background/Purpose

Propofol is an intravenously administered, short-acting, lipophilic sedative agent, commonly used for sedation in mechanically ventilated ICU patients. Propofol is highly protein bound, binding to 97%-99% of protein. Mechanically ventilated ICU patients receiving continuous propofol infusions are at an increased risk for developing hypertriglyceridemia, defined as a serum triglyceride level of ≥400 mg/dL. Patients receiving propofol infusions at a rate of 4 mg/kg for a time period of over 48 hours are also at risk for developing propofol infusion syndrome.

Janes, Morgan

Patient factors associated with successful use of dexmedetomidine as the primary agent for sedation in the pediatric intensive care unit.

Janes, Morgan - Author[1,2]
[1]Le Bonheur Children's Hospital, [2]UTHSC

Conclusions

Conclusions will be described.

Results

Results will be described.

Methods

This is a retrospective review of mechanically ventilated pediatric patients that received continuous sedation with dexmedetomidine at a tertiary and surgical referral pediatric hospital from January 2021 through November 2022. Patients will be excluded if they were admitted for management of status epilepticus, chemically paralyzed, greater than 18 years of age, or transferred in from an outside ICU. For this study, primary agent has been defined as successful use without the escalation to a continuous benzodiazepine. The primary outcome is patient factors associated with successful continuous sedation with dexmedetomidine as the primary agent ("success") versus patients that required escalation to a continuous benzodiazepine infusion ("failure"). Factors being assessed include age, weight, sex, pediatric risk of mortality (PRISM) score, past medical history, hemodynamic profile, chief complaint, and reason for PICU admission. The secondary outcomes include hospital length of stay, PICU length of stay, duration of mechanical ventilation, duration of sedation, and incidence of delirium. Statistical analysis will include descriptive statistics for demographics, univariate analysis for each patient factor and continuous sedation regimen group, and multivariate analysis of patient factors with significant association to either the success or failure group.

Background/Purpose

Dexmedetomidine has had an evolving role in continuous sedation for intensive care unit patients of all ages. In the early 2000s, the use of dexmedetomidine in the pediatric intensive care unit (PICU) was limited to short durations. However by the end of the 2010s, its use for prolonged sedation was being explored. In 2022, the Society of Critical Care Medicine (SCCM) released the first clinical practice guideline on prevention and management of pain, agitation, neuromuscular blockade, and delirium (PANDEM) in critically ill pediatric patients. Within these guidelines, it is now suggested that dexmedetomidine be used as the primary sedative agent in mechanically ventilated patients. However, there is limited literature to support this recommendation, and patients often receive multiple agents with sedative properties. The purpose of this study is to identify patient factors associated with successful use of dexmedetomidine as the primary agent for sedation in our institution's PICU.

Jankeel, Nabhan

Impact of Proton Pump Inhibitors and Acetaminophen with Immune Checkpoint Inhibitors on Tumor Growth

Jankeel, Nabhan - Author[1]; Fleming, Melinda - Co-Author[1]; McElroy, Laura - Co-Author[1]; Hasford, Erika - Co-Author[1]; Binkley, Jeff - Co-Author[1]

[1]maury regional health

Conclusions

Based on the preliminary result, the addition of PPIs or APAP to ICI treatment did not impact tumor growth.

Results

48 patients met inclusion criteria. 26 did not use PPIs or APAP, and 22 did use PPIs or APAP. A preliminary result has been completed based on t-test analysis, which showed no statistically significant difference between the two groups in terms of tumor growth with a P-value of 0.445 (95% CI (-2.13, 5.17)). Additional results are pending and will be described

Methods

This study is a retrospective cohort study. Patients admitted to Maury Regional Cancer Center (MRCC) with a primary diagnosis of cancer, who are on pembrolizumab or nivolumab, were identified through electronic medical records from January 1, 2018 through July 31, 2022. Patients who received chemotherapy within 2 months of starting the ICIs, or who expired four months after initiating them were excluded. The following data was collected on eligible patients: patient medical record number (MRN), patient financial identification number (FIN), age, sex, race, treatment (ICIs, APAP, and PPIs) start and end date, last day of therapy, and tumor size before and after treatments. The primary outcome was the overall survival (OS) defined as the time from the start of treatment until death or last patient contact. The secondary outcome was progression-free survival (PFS) defined as the time from the start of treatment until disease progression. The data will be analyzed using a student t-test and a hazard ratio.

Background/Purpose

Immune checkpoint inhibitor (ICI) use is associated with varying degrees of response in terms of cancer survival. There is an unmet medical need to determine the variables that influence ICI's effectiveness and their underlying mechanisms. Recent research studies have shown that several concomitant medications during ICI treatment may lower their efficacy, such as proton pump inhibitors (PPIs) and acetaminophen (APAP). This study aims to evaluate the impact of the ongoing use of PPIs and/or APAP on ICI's efficacy.

Johnson, Lauren

The Economic Impact of Pharmacists' Clinical Interventions in a Community Teaching Hospital

Johnson, Lauren - Author[1]; Ezell, Dustin - Co-Author[1]; Hamilton, Eric - Co-Author[1]
[1]Baptist Health Medical Center- North Little Rock

Conclusions

To expand clinical pharmacy services and obtain additional resources, it is important to show that pharmacists are vital to the success of our health systems. Although there are limitations associated with using cost avoidance to highlight pharmacy services, it is evident that pharmacists have a positive economic impact on healthcare. Resources should be allocated to support pharmacy clinical services.

Results

Over the two month study period 2,887 pharmacist interventions were collected. A total of 2,843 interventions were included in the final cost avoidance analysis. This was associated with a total of $635,560.82 avoided by pharmacists' interventions which is annualized to a total cost avoidance of approximately $3.8 million.

Methods

This prospective review included pharmacists' interventions that were documented from November 1, 2022 through December 31, 2022 at a community teaching hospital. Pharmacists' interventions were divided into 20 distinct categories and assigned a monetary value based on cost avoidance data from the scoping review Hammond et al. The primary outcome of this study was total cost avoidance associated with pharmacist interventions.

Background/Purpose

Unlike other healthcare professionals, many services provided by pharmacists are unable to generate revenue making it difficult to justify the resources needed to provide critical pharmacy services. Pharmacists primarily contribute to hospitalized patient care by preventing unnecessary costs and avoidable patient safety events associated with medication resource utilization and adverse drug events. The purpose of this study is to assess the impact of pharmacists' interventions on cost avoidance in a community teaching hospital.

Johnson, Niasha

A+ Education: The Effect of Pharmacist-Led Discharge Medication Counseling on 30 Day Heart Failure Readmission Rates

Johnson, Niasha - Author[1]; Breite, Lauren - Co-Author[1]
[1]Mississippi Baptist Medical Center

Conclusions

Pending

Results

Pending

Methods

This was a retrospective, case control study conducted at Mississippi Baptist Medical Center between August and November 2022 comparing readmission rates for patients that were educated by a clinical pharmacist on heart failure medications prior to discharge (case group) to those who did not receive education by a clinical pharmacist prior to discharge (control group). Patients included had a diagnosis of new onset heart failure or exacerbation that warranted admission and were 18 years of age or older. Patients that were not admitted, were under the age of 18, or the diagnosis of heart failure was ruled out were excluded. Electronic medical records were reviewed to collect information regarding the reason for readmission, as well as whether the patient was enrolled in the Meds to Beds program upon discharge. Data regarding the number of medication changes from admission to discharge and time spent educating was also collected. Groups were compared for the primary outcome of hospital readmission.

Background/Purpose

When a pharmacist performs post-discharge medication reconciliation, medication adherence increases and hospital readmission rates decrease. These interventions usually take place within a week after the patient has been discharged from the hospital, leaving room for missed contact opportunities. This retrospective case-control study aims to evaluate the effect on 30-day readmission rates for pharmacist-led heart failure medication counseling prior to discharge.

Jolley, Allison

Nicardipine continuous infusion efficacy for blood pressure lowering in intracerebral hemorrhage (NiCE-ICH)

Jolley, Allison - Author[1]; Bone, Rachel - Co-Author[1,2]; Kimmons, Lauren - Co-Author[1,2]

[1]Methodist University Hospital, [2]University of Tennessee Health Sciences Center College of Pharmacy

Conclusions

At our institution, on average nicardipine was not initiated within the recommended 2 hours and took longer than the recommended hour to achieve target SBP. Rates of hypotension were low. While limited by its retrospective nature, our study sheds light on the practicality of nicardipine use and its efficacy in acute blood pressure lowering. Larger retrospective cohort studies are needed to fully determine nicardipine's effectiveness on acute blood pressure lowering in intracerebral hemorrhage.

Results

85 patients were included for analysis. Patients were aged 62 years, 55% male, and 84% African American. 49 patients (58%) met the target SBP at 1 hour after starting nicardipine ($p = 0.179$). The average time between presentation and starting nicardipine was 129 minutes ($p = 0.913$). The average time to achievement of the target SBP was 78 minutes ($p = 0.118$). SBP variably at 24 hours was 22 ± 10 mmHg ($p = 0.07$). Of the 85 patients included, only 5 patients experienced hypotension which lasted on average 26 minutes.

Methods

We conducted a retrospective chart review of patients who presented to Methodist University Hospital with intracerebral hemorrhage between January 2021 and January 2023. Our primary objective was to determine the efficacy and safety of nicardipine for acute blood pressure lowering to a target systolic blood pressure (SBP). Secondary objectives included evaluation of time from presentation to initiation of treatment, time from treatment initiation to achievement of target SBP, variability in SBP over 24 hours, and rates and predictors of hypotension (SBP < 90 mmHg).

Background/Purpose

Intracerebral hemorrhage (ICH) accounts for the highest morbidity and mortality among stroke types. The first 6 hours of blood pressure management are crucial to prevent hematoma expansion and improve prognosis. Recent guideline updates provide new recommendations for acute blood pressure lowering in these patients. Our study aims to add to the body of evidence for nicardipine use in ICH.

Jones, Latia

Impact of congenital anomalies of the kidney and urinary tract on nephrotoxin-medication-associated acute kidney injury prevalence in the neonatal intensive care unit

Jones, Latia - Author[1]; Alvira-Arill, Gustavo - Co-Author[1]; Kusmierz, Kerri - Co-Author[1]; Weems, Mark - Co-Author[1]; Stultz, Jeremy - Co-Author[1]

[1]Le Bonheur Children's Hospital/UTHSC

Conclusions

Conclusions will be described.

Results

Results will be described.

Methods

The experimental design consists of obtaining diagnostic coding and medication administration reports from patients seen in our neonatal intensive care unit from Discern Analytics 2.0, a Cerner application. Patients with a diagnosis code for any congenital anomaly of the kidney and urinary tract and nephrotoxin exposure for at least 48 hours were included. These patients were then reviewed to confirm presence of anomalies and if an AKI occurred during nephrotoxin exposure. CAKUT type and other baseline characteristics will be compared with chi-square or student's t-test between patients that did or did not experience an acute kidney injury during nephrotoxin exposure. Mixed effects logistic regression will be performed to determine the odds of acute kidney injury development while controlling for confounding variables; random effects are being accounted for as multiple courses per patient will be included in the model. For all statistical comparisons, a $p < 0.05$ will be considered statistically significant.

Background/Purpose

Congenital anomalies of the kidney and urinary tract (CAKUT) are embryonic disorders that arise during fetal development and result in defects of the kidneys, ureters, bladder, or urethra. Specifically, they are defined macroscopically as change in kidney size, shape, position, or number and/or microscopically as a reduced number of nephrons and/or abnormal histology. These anomalies occur in about 4 to 60 per 10,000 live births and are often seen in patients cared for in neonatal intensive care units. It is unclear if any anomaly puts one at more risk of developing an acute kidney injury (AKI) than another. However, it is known that patients with these anomalies develop chronic kidney failure. Ongoing quality improvement endeavors for prevention of neonatal AKIs advocate for more frequent renal function monitoring and preemptive avoidance of nephrotoxic medications in these high-risk patients. However, since some anomalies have lesser risk for AKI, it may not be appropriate to preemptively avoid all nephrotoxins if these medications provide the greatest efficacy in managing other disease states.Therefore, this project will examine the impact of various CAKUTs on nephrotoxin-medication associated AKI.

Kennedy, Chelsey

Assessing the Incidence of Acute Kidney Injuries in Obese Patients When Given Vancomycin in Combination With Piperacillin/Tazobactam

Kennedy, Chelsey - Author[1]; Burns, Betty - Co-Author[1]; Arnold, Jon - Co-Author[1]
[1]Memorial Hospital at Gulfport

Conclusions

Conclusion to be presented

Results

Results to be discussed

Methods

This study is a retrospective cohort study of patients admitted to Memorial Hospital between October 01, 2021 and October 01, 2022. The study will compare patients who are classified as obese based on BMI with patients who are not obese. To qualify for the study, all patients must receive vancomycin in combination with PT. The patients will be further divided into two groups, obese patients with a BMI ≥ 30 or non-obese patients with a BMI < 30. Data will be collected for all patients admitted to Memorial Hospital who received combination therapy of vancomycin and PT. The study will include and compare obesity classification, age, sex, comorbid conditions, antibiotic duration, infection source, initial vancomycin doses, supratherapeutic trough levels, and need for dialysis. All patients 18 years and older who received vancomycin in combination with PT for at least 24 hours will be included in the study. Patients will be excluded for any of the following reasons: length of antibiotic therapy less than 24 hours, patients less than 18 years of age, patients with an AKI before initiation of antibiotic therapy, renal replacement therapy before initiation of antibiotics, chronic kidney disease on admission, baseline SCr > 1.5 or CrCl < 30, or cardiac arrest during antibiotic therapy.

Background/Purpose

Vancomycin and piperacillin/tazobactam (PT) are commonly used within this institution as empiric therapy for suspected bacterial infections. Studies have shown that this combination may lead to an increased risk of developing an acute kidney injury (AKI). Obesity should also be considered when evaluating acute kidney injury (AKI) risk due to differences in pharmacokinetic properties demonstrated within this patient population. The purpose of this study is to compare the incidence of AKI in patients being treated with vancomycin plus PT in the obese population versus the non-obese population. Ensuring optimization of therapy, while minimizing toxicities, can be challenging when dosing vancomycin in all patients. This study may help guide vancomycin treatment specifically in the obese population by identifying potential risks that may lead to AKI.

Keveryn, Charles

Weight Management Medications for Chronic Use Medication Use Evaluation

Keveryn, Charles - Author[1]
[1]G.V. (Sonny) Montgomery VAMC

Conclusions

Conclusions for this study will be described once results are available.

Results

Results for this study are not yet available and will be described once available.

Methods

This medication use evaluation was a retrospective chart review that included Veterans who were newly prescribed WMMs from March 1, 2020 through March 31, 2022. The primary endpoint is mean weight loss at 3, 6, 12, and >12 months. The secondary endpoints will include adverse drug events (ADEs) leading to discontinuation of WMM, concomitant use of medications with potential for weight gain, and adherence with lifestyle interventions.

Background/Purpose

An estimated 78% of Veterans are overweight or obese, which puts this population at a higher risk of developing certain diseases, such as diabetes and cancer, and having a lower quality of life. Guidelines recommend pharmacologic weight loss therapy in conjunction with lifestyle interventions for patients with a body mass index (BMI) > 30kg/m2 or BMI > 27kg/m2 with certain obesity associated comorbidities. The VA offers the following weight management medications (WMM) with a Criteria For Use (CFU): liraglutide, naltrexone/bupropion, orlistat, phentermine/topiramate, and semaglutide. Several studies have shown effective weight loss with good tolerance within the Veteran population, but that is not the case for newer agents like semaglutide. For example, in the phase 3 trial for semaglutide for weight loss, the study population was predominantly female with an average age of 46 years. This is less relevant when compared to the Veteran population. These WMMs come with the possibility of severe adverse effects, such as suicidality, making it important to determine not only which WMMs are the most effective, but also the safest for the Veteran population.

Kim, Sofia

Evaluation of Inpatient Insulin Regimens and Associated Outcomes for Glucose Control in a Community Hospital

Kim, Sofia - Author[1]; Hinson, Elizabeth - Co-Author[1]; Butler, Robert - Co-Author[1]; Gibbs, Rebecca - Co-Author[1]; McElroy, Laura - Co-Author[1]; Binkley, Jeff - Co-Author[1]

[1]Maury Regional Medical Center

Conclusions

Proper glucose control during hospitalization is vital to achieve desired patient outcomes. Previous studies have shown that basal insulin with mealtime bolus and/or correctional insulin provide better glucose control. Based on preliminary results, patients are not achieving target range glucose measurements on insulin regimens prescribed. Further conclusions will be based on analysis of outcomes.

Results

Preliminary results show that patients did not spend a majority of their hospital stay within target glucose range of 140-180 mg/dL. Preliminary results also showed that over 50% of patient glucose measurements were above target range. Statistical analysis of all outcomes is pending.

Methods

This study was approved by the hospital's Institutional Review Board. It is a retrospective cohort study of patients 18 years and older with a diagnosis of type II diabetes treated with insulin from July 1, 2021 to June 30, 2022. Patients were identified through electronic medical records. The exclusion criteria include those admitted to the ICU, new diabetes diagnosis during hospitalization, admission diagnosis for diabetic ketoacidosis or hyperosmolar hyperglycemic state, insulin pump or oral antidiabetic agents used during admission, those on home insulin U-500 regimen, patients receiving peritoneal dialysis or total parenteral nutrition. The primary outcome was the percentage of patient's glucose readings within target range (140-180 mg/dL) during their hospital stay. The secondary outcomes included percentage of days spent on insulin therapy, hypoglycemic events, severe hypoglycemic events, average glucose readings, and highest glucose readings. The data will be analyzed using Chi-squared and independent t-tests.

Background/Purpose

Improper diabetes management during inpatient hospital stays can lead to poor patient outcomes. Hyperglycemia can lead to increased risk of infections, prolonged hospital stays, and increased mortality risks. The American Diabetes Association guidelines recommend both critically ill and non-critically ill hospitalized patients have a glucose target range of 140-180 mg/dL once insulin therapy has been initiated. Despite these recommendations, hospitals may not target stringently due to fears of hypoglycemia. The purpose of this study is to evaluate insulin regimens and associated outcomes at a 255-bed community hospital.

Kinyua, Gertrude

Evaluation of Continuation of Prior-to-Admission Antidepressants on Sedation Related Outcomes in Mechanically Ventilated Patients.

Kinyua, Gertrude - Author[1]
[1]Baptist Health Medical Center Little Rock

Conclusions

This study did not show a significant difference in weight-based sedation requirements or new-start antipsychotics between cohorts that had prior-to-admission antidepressants resumed within 48 hours of intubation or resumed more than 72 hours after intubation.

Results

A total of 375 patients were screened, and approximately 28% (n = 104) met the predetermined inclusion criteria. The early resumption cohort consisted of 55 patients, while the late consisted of 49 patients. There was no statistically significant difference in the primary endpoint of sedation requirements reported as weight-based midazolam equivalents (0.83 [0.57-1.33] vs 0.80 [0.39-1.58], p = 0.720) or new-start antipsychotics (13 [24%] vs 13 [27%], p = 0.734). There were also no significant differences between the two cohorts in any of the secondary endpoints.

Methods

This is a single-center retrospective cohort study of patients admitted to BHMC ICUs between October 1, 2017, to June 30, 2022. Patients were eligible for inclusion if they had documentation of prior-to-admission antidepressants and were intubated for ≥ 72 hours. Patients were divided into two groups depending on the time to resumption of their antidepressant relative to the time of intubation. The early group included patients that had their antidepressants resumed within 48 hours, and the late group included patients that had their antidepressants resumed 72 hours after intubation. Groups were compared to determine differences in the primary outcome of weight-based sedation requirements and the number of new start antipsychotics. Secondary outcomes included ICU and hospital length of stay, cumulative opioid requirements, and ventilator-free days.

Background/Purpose

Abrupt discontinuation of antidepressants has been shown to lead to antidepressant discontinuation syndrome (ADS), which is associated with symptoms such as agitation, and insomnia with a mean onset of 2 days after discontinuation. In mechanically ventilated intensive care unit (ICU) patients, ADS could mimic agitation leading to higher levels of sedation requirements resulting in prolonged and deep sedation which is associated with negative outcomes such as fewer ventilator-free days and prolonged hospital stays. The current guidelines recommend targeting light levels of sedation but do not address the resumption of prior-to-admission neuropsychiatric medications as a strategy to facilitate light sedation.

Kneemueller, Lydia

To Clot or Not to Clot; A Deeper Dive: A study examining patients who have a breakthrough stroke while prescribed DOAC

Kneemueller, Lydia - Author[1]; Stuckey, Jameika - Co-Author[1]; Singh, Carissa - Co-Author[1]; Benton, Madison - Co-Author[1]

[1]University of Mississippi Medical Center

Conclusions

While the deeper dive of the study helped provide insight into patient characteristics playing a role in breakthrough strokes, future prospective studies are needed. The biggest cause remains unknown, which is consistent with the original study results. Of note, in the unknown group 50% had diabetes, 50% had afib, and 38% had a previous stroke. Future studies that are prospective and have a larger population are needed to evaluate potential characteristics more.

Results

A total of 60 patients were included in the study results. After taking another look to evaluate patient characteristics that could play a role in breakthrough strokes, we found that 30% of the breakthrough strokes could be attributed to patient characteristics including BMI, weight, and previous Covid-19 infection. The most commonly prescribed DOAC was apixaban which is consistent with the original study, followed by rivaroxaban, and dabigatran.

Methods

This was a single center, retrospective study that examined DOAC failures and potential causes of failure. Potential causes explored included incorrect dose prescribed, noncompliance, drug interactions, BMI, previous Covid-19 infection, history of stroke and time from initiation of therapy to recurrent stroke. A patient list was obtained using ICD-10 codes via data request from the Center for Informatics and Analytics for the study period of 01/01/18 to 12/12/2021.

Background/Purpose

Timely initiation of an anticoagulant following a diagnosis of atrial fibrillation, DVT or PE is vital to preventing a patient's progression to cardiovascular events and future strokes. In the last 10 years, direct oral anticoagulants (DOAC) have paved the way for a more convenient management of anticoagulation therapy. With minimal monitoring required, DOACs became appealing to both patients and prescribers. However, the literature shows limited information on patients with a BMI >40kg/m2 or >120kg so there is concern for a lack of efficacy in this patient population due to the standard dosing of DOACs. DOACs are lipophilic drugs which have a larger volume of distribution and a lower serum concentration in obese patients leading to potential subtherapeutic therapy.

Kossan, Cody

Assessment of Community Acquired Pneumonia Treatment in Non-critically Ill Patients

Kossan, Cody - Author[1]; Crawford, Allie - Co-Author[1]; Moore, Sarah - Co-Author[1]; Tiemann, Maria - Co-Author[1]
[1]Baptist Memorial Hospital - Memphis

Conclusions

The prescribing of outpatient antibiotics led many patients to receive more than 7 days of antibiotic therapy. The appropriate selection of antibiotic therapy in the ED leads to a significantly higher incidence of appropriate antibiotic therapy in the hospital.

Results

A total of 591 patients were screened, and 150 patients were included. Only 26% of patients received appropriate antibiotic therapy and duration of therapy. The prescribing of outpatient antibiotics led many patients (65%) to receive more than 7 days of antibiotics. Further analysis showed that initiation of appropriate antibiotic therapy in the emergency department (ED) led to a significantly higher incidence of appropriate antibiotic therapy inpatient (92%).

Methods

This IRB-approved study is a single-center, retrospective chart review of adult patients admitted to Baptist Memorial Hospital-Memphis from June 1, 2017 to June 30, 2022 for non-severe CAP. Patients were excluded if they had a Methicillin resistant *S. aureus* (MRSA) or *P. aeruginosa* positive sputum culture within 12 months prior to admission, additional antibiotic indications, admission to any intensive care unit (ICU) during hospitalization, COVID-19 infection during admission, or were discharged with hospice.
The primary outcome is the incidence of appropriate antibiotic selection and duration for CAP treatment defined as combination therapy with a beta-lactam plus a macrolide or monotherapy with a respiratory fluoroquinolone and duration of therapy less than 7 days. Secondary outcomes include duration of antibiotic therapy, 30 and 90-day readmission rates, length of stay, incidence of *Clostridium difficile*, and the utilization of MRSA nasal swabs for appropriate de-escalation of antibiotics. The primary and secondary outcomes were analyzed using descriptive statistics and chi squared.

Background/Purpose

Community acquired pneumonia (CAP) is a frequent and deleterious infection with significant morbidity and mortality. More than 1.5 million adult patients are hospitalized with CAP each year in the US, and CAP causes more than 100,000 deaths annually. Furthermore, studies have shown that CAP is often misdiagnosed and inappropriately treated due to variable clinical presentations as well as antibiotic resistance. The purpose of this study is to evaluate appropriate antibiotic selection and duration of therapy for CAP treatment in non-critically ill patients.

Krebs, Caleb

Determining the Incidence of Acute Kidney Injury for a First-order Pharmacokinetics Vancomycin Area Under the Curve Dosing Calculator

Krebs, Caleb - Author[1]; Strozyk, William - Co-Author[1]; Schirmer, Lori - Co-Author[2]; Walters, Dana - Co-Author[1]; Norris, Christopher - Co-Author[2]

[1]Fort Sanders Regional Medical Center, [2]Cardinal Health

Conclusions

The incidence of AKI using the first-order pharmacokinetics vancomycin AUC calculator was 8.70%.

Results

A total of 968 patients received vancomycin during the defined timeframe. 554 patients were excluded since they did not meet the 72 hour inclusion criteria. Of the remaining 414 patients, 300 were evaluated with 161 meeting inclusion criteria. 14 patients (8.7%) experienced an AKI as defined above while receiving vancomycin. Baseline characteristics were similar to those who did not experience an AKI including age; gender; SCr, blood urea nitrogen (BUN), and creatinine clearance (CrCl) upon vancomycin initiation; number of concomitant nephrotoxins; and initial predicted AUC.

Methods

A retrospective chart review of patients who received vancomycin between June 21, 2022 and October 31, 2022 was performed. Data was collected utilizing the hospital's electronic medical record. Inclusion criteria include the following patients: at least 18 years of age, received vancomycin for at least a 72 hour period, and had a vancomycin level drawn within 96 hours of initiation. Exclusion criteria include the following patients: diagnosed with AKI prior to initiating vancomycin, diagnosed with end-stage renal disease (ESRD), prescribed vancomycin for surgical prophylaxis or urinary tract infection (UTI), charted baseline serum creatinine (SCr) of greater than or equal to 2 mg/dL, or no documented use of the pharmacokinetic calculator. AKI will be defined as an increase in SCr of at least 0.3 mg/dL in a 48 hour period or increase of 1.5 times baseline during a 7 day period. This definition is consistent with Kidney Disease Improving Global Outcomes (KDIGO) guidelines.

Background/Purpose

Multiple studies have reported an association between vancomycin and acute kidney injury (AKI) when vancomycin is used alone and in combination with other nephrotoxins. In 2020, the vancomycin consensus guidelines were revised. These guidelines recommend using area under the curve (AUC) dosing since it is reported to have a lower rate of AKI as compared to trough dosing. This study aims to determine the incidence of vancomycin-associated AKI following the implementation of a first-order pharmacokinetics vancomycin AUC calculator at Fort Sanders Regional Medical Center.

Kwon, Oh Joon

Evaluation of Early Oral Antibiotic Step Down Therapy in Streptococcus Bacteremia

Kwon, Oh Joon - Author[1]; Derringer, Jon - Co-Author[2]; Heiles, Jared - Co-Author[2]; Ezell, Dustin - Co-Author[2]; Hamilton, Eric - Co-Author[2]

[1]Baptist Health Medical Center-North Little Rock, [2]Baptist Health Medical Center - North Little Rock

Conclusions

Patients with uncomplicated streptococcus bacteremia who had early clinical response and adequate source control should be evaluated for early IV to oral step-down of antibiotics. In non-critically ill patients, early transition to oral antibiotics was associated with no difference in 30-day all-cause mortality and significantly shorter length of hospital stay.

Results

Among 141 eligible patients, 70 were stratified into the early oral step down group and 71 were stratified into the continued parenteral therapy group. Top sources of bacteremia included pulmonary (87 patients [61.7%]), skin and soft tissue (29 [20.6%]), and urinary tract (13 [9.2%]). The oral step down group had a lower 30-day all-cause mortality, no difference in 30-day hospitalization or 30-day rehospitalization, and shorter total length of stay in hospital (2.9% vs 23.9%, $p<0.001$; 8.6% vs 11.3%, $p=0.592$; 8.6% vs 4.2%, $p=0.326$). The IV group had higher Pitt Bacteremia Scores (0 [0-1] vs 1 [1-3], $p<0.001$) and a greater percentage of patients admitted to the ICU on day 1 (22.9% vs 46.5%, $p=0.003$). Majority of patients in the early oral step down group were transitioned to levofloxacin (73.2%).

Methods

This study was a retrospective, cohort study that included four community tertiary care hospitals in Arkansas. Adult patients with streptococcal bacteremia with adequate source control within 5 days of positive blood culture were included in this study. Patients were grouped into one of two categories: IV to PO antibiotic step down within the first 5 days and continued IV antibiotic treatment. Primary outcome was 30-day all-cause mortality. Secondary outcomes evaluated were total length of stay in hospital, 30-day rehospitalization, and 30-day recurrence of bacteremia.

Background/Purpose

Streptococcal bloodstream infections are associated with high mortality and limited data exists on intravenous (IV) to oral step down. This study aims to evaluate the clinical outcomes of IV to oral step down antibiotic therapy in streptococcal bloodstream infections.

Lamb, Nathan

Primary Prophylaxis with Oral Vancomycin to Prevent Clostridioides difficile Infection in Recipients of Allogeneic Hematopoietic Stem Cell Transplantation

Lamb, Nathan - Author[1]; Hendrix, Rachel - Co-Author[1]

[1]UAMS Medical Center

Conclusions

Oral vancomycin 125 mg BID effectively prevents CDI incidence in patients undergoing alloHSCT without increasing rates of VRE. No difference in rates of GVHD or overall mortality were detected.

Results

CDI occurred in none of the patients 30 days post-transplant in the cohort receiving vancomycin compared to 7 patients in the cohort not receiving prophylactic vancomycin (0% vs 12.9%; p = 0.024). The overall incidence of CDI at any timepoint was 4 in the prophylaxis group compared to 17 in the group that did not receive prophylaxis (11.1% vs. 31.5%; p = 0.025). The incidence of VRE bacteremia 180-days post-transplant was lower in the group receiving prophylaxis (5.6% vs. 24.1%; p = 0.021). There was no difference in overall GVHD (57.8% vs. 40.7%; p = 0.261) or overall gastrointestinal GVHD (11.1% vs. 20.4%; p = 0.248) between the two cohorts. No difference in 30-day survival (97.2% vs. 92.6%; p = 0.348) or overall survival (61.1% vs. 57.4%; p = 0.726) were detected.

Methods

This was a single-center, retrospective chart review of adult alloHSCT patients from June 2020 to June 2022 at the University of Arkansas for Medical Sciences. Patients either received vancomycin 125 mg twice daily (started on admission for alloHSCT and continued until discharge) or did not receive CDI prophylaxis at the discretion of the attending oncologist. The primary outcome of interest for this study was the association between prophylactic oral vancomycin and the development of CDI. Secondary outcomes included the occurrence of GHVD, vancomycin-resistant enterococcus (VRE) bacteremia, and overall survival.

Background/Purpose

Patients undergoing allogeneic hematopoietic stem cell transplant (alloHSCT) are at an increased risk of *Clostridioides difficile* infection (CDI), which is the leading cause of infectious complications in this patient population. The risk for acute graft-versus-host-disease (aGVHD) associated with CDI is particularly concerning. We sought to evaluate the effects of primary prophylaxis with oral vancomycin on the incidence of CDI in patients undergoing alloHSCT.

Leav, Kristina

Evaluating glycemic variability associated with hydrocortisone administration (continuous infusion vs intermittent bolus) in patients with septic shock

Leav, Kristina - Author[1]
[1]Regional One Health

Conclusions

There was less glycemic variability when hydrocortisone was given via intermittent bolus compared to continuous infusion. There was no difference in norepinephrine equivalence or vasopressor dependency index between the different types of hydrocortisone administration.

Results

123 patients were included in the data analysis; demographics were evaluated separately and compared based on J-index score. Of the patients included, about 37% (n= 46) had a J-index > 40 which reflects very high blood glucose levels with very high levels of variation. Total amounts of insulin given and average insulin given per day were less in the J-index < 40 group ($p < 0.001$ for both). The J-index for the bolus hydrocortisone group was less than that of the continuous infusion group ($p = 0.016$). There was no significant difference between hydrocortisone administration type and norepinephrine equivalence or vasopressor dependency index.

Methods

Retrospective, electronic chart review evaluating patients receiving hydrocortisone (continuous infusion or intermittent bolus) from March 2020 to August 2022; patients were excluded if they met one of the following criteria: 1) history of type 1 diabetes mellitus; 2) < 18 years old; 3) incarcerated; 4) pregnant; 5) not admitted to the medicine ICU floor.

Background/Purpose

Septic shock has one of the highest 30-day mortality rates in most hospitals across the world. The recent Surviving Sepsis guidelines recommend a dose of hydrocortisone 200 mg/day in catecholamine refractory septic shock, but do not specify how this dose should be given. Common methods include 50 mg bolused intravenously every 6 hours or as a continuous infusion running at 8-10 mg/hr. Hyper- and hypoglycemia are associated with increased morbidity and mortality, and blood glucose variability may be an important risk factor for critically ill patients. In this study, J-index was used to evaluate and describe glycemic control and variations as it has a high sensitivity for both components and allows for the comparison of blood glucose control data from different centers and clinics. The aim of this study is to retrospectively evaluate the extent of glucose variability associated with the administration of hydrocortisone as a bolus or as a continuous infusion in patients with septic shock.

Lee, Joseph

Evaluation of Infectious Outcomes in Obese Liver Transplant Recipients that Receive Anti-Thymocyte Globulin (rATG) Induction Therapy

Lee, Joseph - Author[1]; Sakaan, Sami - Co-Author[1]; Duhart, Benjamin - Co-Author[1]; Cummings, Carolyn - Co-Author[1]

[1]Methodist University Hospital—Memphis, TN

Conclusions

Rates of infection, as well as discontinuation rates of immunosuppressants and anti-infective agents, were similar in the obese and non-obese group. Although the obese group received a significantly higher dose of rATG, this did not affect infection outcomes.

Results

A total of 150 adult LT recipients (75 obese and 75 non-obese patients) were analyzed. The mean total rATG dose was 225.33mg in the non-obese group and 300.67mg in the obese group. At 1, 3 and 6 months, the rates of infections were as follows: 14 patients in the obese group and 19 patients in the non-obese group (42.4% vs 57.6%; p=0.324), 7 patients in the obese group and 6 patients in the non-obese group (53.8% vs 46.2%; p=0.772) and 2 patients in the obese group and 1 patient in the non-obese group (66.7% vs 33.3%; p=1.0), respectively. Immunosuppressants were discontinued in 24 patients in the obese group and 20 patients in the non-obese group (54.5% vs 45.5%; p=0.473). Prophylactic anti-infective agents were discontinued in 6 patients in the obese group and 10 patients in the non-obese group (37.5% vs 62.5%; p=0.290).

Methods

This retrospective study performed between 2017 to 2022 included LT recipients who received at least one dose of rATG as induction therapy. Adults 18 years and older who received solitary LT were included. Patients with intra-abdominal solid organ transplant other than liver, simultaneous liver/kidney recipients, and patients re-transplanted within 7 days were excluded. Patients were divided into two groups according to their BMI.

Background/Purpose

Although the use of induction immunosuppression in liver transplant (LT) recipients is less common, it can delay calcineurin inhibitor initiation to prevent postoperative acute kidney injury and avoid steroid maintenance immunosuppression. At Methodist University Hospital, the LT immunosuppression protocol utilizes 2 doses of rATG (1.5mg/kg) using actual body weight without dose restrictions. Optimization of rATG doses in obese patients (BMI $\geq$ 30) has not been assessed in LT recipients. The purpose of this evaluation is to assess the incidence of infection and discontinuation of immunosuppressants and prophylactic anti-infective agents in obese and non-obese LT recipients receiving rATG at 1, 3 and 6 months.

Leon, Kyla

Nicardipine vs Clevidipine for Blood Pressure Management in Intracerebral Hemorrhage

Leon, Kyla - Co-Author[1]; Herrmann, Brennan - Co-Author[1]; Warnock, Laken - Co-Author[1]; Cannon, McCall - Co-Author[1]; Bhatia, Kunal - Co-Author[1]; Mamdani, Anand - Co-Author[1]

[1]University of Mississippi Medical Center

Conclusions

The remaining results of this study are currently being analyzed.

Results

Fifty-eight patients were included in the study with 38 receiving nicardipine and 20 receiving clevidipine. There was no difference in the primary endpoint with a median time to blood pressure goal of 73 minutes in the nicardipine group compared to 85 minutes in the clevidipine group. (p=0.915).

Methods

This was a single-center, retrospective cohort study of patients with ICH admitted to the intensive care unit from January 2019 to January 2022, who received either nicardipine or clevidipine for at least 2 hours. The primary outcome was the time to goal blood pressure range as specified in the antihypertensive order. Secondary outcomes included the number of as-needed antihypertensive medications, hematoma expansion, ICU length of stay, incidence of acute kidney injury, hypotension, and atrial fibrillation.

Background/Purpose

Strokes are one of the leading causes of morbidity and mortality in the United States each year and of those strokes approximately 10% are intracerebral hemorrhages (ICH). Guidelines for the management of ICH recommend lowering blood pressure to a systolic pressure of 140 mmHg. However, there are no recommendations for the antihypertensive agent used to achieve this goal. Studies have found that two of the agents commonly used, nicardipine and clevidipine, have no statistical difference in time to systolic blood pressure goal in patients with all types of strokes. The purpose of this study was to evaluate the time required to reach blood pressure goals with nicardipine versus clevidipine in ICH patients and the incidence of adverse events.

Lessenberry, Brooke

Evaluation of psychotropic medications in patients frequently presenting to a pediatric emergency department for behavioral health indications

Lessenberry, Brooke - Author[1,2]; Elchynski, Amanda - Co-Author[1]

[1]Arkansas Children's Hospital, [2]Univeristy of Arkansas for Medical Sciences - College of Pharmacy

Conclusions

Majority of patients with >/= 3 ED encounters for behavioral conditions presented to the ED for psychiatric evaluation and were not on an optimized psychotropic drug regimen.

Results

Patients were an average 14.4 years old, predominantly female (53%), white (48.5%), and non-Hispanic (95%), with the majority presenting with a chief complaint of psychiatric evaluation (30%) and an encounter diagnosis of suicidal ideation (31.6%). Only 35.3% of patients were on psychotropic drug regimens with optimized dosing and 20.3% were on no psychotropic medication therapy. There was no difference between groups (3 visits vs. >3 visits) for optimized regimens (p=0.89).

Methods

This was a retrospective chart review analyzing the optimization of psychotropic medications in patients presenting for behavioral health indications at Arkansas Children's Hospital ED from October 1, 2020 -October 31, 2022. Overall, 133 patients met the inclusion criteria of < 18 years old with >/= 3 ED visits for behavioral health reasons. Data collection included demographics, social history, chief complaint/diagnosis, and medication history at time of visit. Demographics were reported as descriptive statistics and clinical characteristics were compared between patients who visited the ED 3 times and >3 times, utilizing Chi-square for nominal data.

Background/Purpose

Children and adolescents with behavioral health conditions may be at risk for other long-term mental disorders, difficulty with school and social relationships, self-harm, and suicide. Along with increased prevalence, pediatric behavioral health visits to the emergency department (ED) are on the rise. Insufficient medication adherence to psychotropic medications is documented in the pediatric population and is especially common in adolescents with psychiatric disorders. Potential factors leading to non-adherence rates of psychotropic drugs include intolerable adverse effects, variable drug response, delayed onset to effect, suboptimal dosing, drug-drug interactions, and drug-gene interactions. This study aimed to evaluate psychotropic medication regimens of patients frequently presenting to the ED for behavioral health indications to identify potential gaps in therapy to be addressed in future studies to improve adherence and reduce ED visits.

Loden, Erica

A Retrospective Review to Assess Antibiotic Prescribing Practices To Treat Uncomplicated, Lower Urinary Tract Infections caused by Enterococcus Species in Patients Within a Healthcare System

Loden, Erica - Author[1]; Martin, Robert - Co-Author[1]; Welch, Ron - Co-Author[1]
[1]Baptist Memorial Hospital Golden Triangle

Conclusions

In process.

Results

1,013 participants were identified with 103 included. 71/103 (68.9%) were prescribed inappropriate antimicrobial therapy. 62/71 (87.3%) of the inappropriate antibiotics were too broad while 9/71 (12.7%) provided inadequate coverage. 86/103 (83.5%) had ampicillin-sensitive Enterococcus species isolated. Among participants with ampicillin-sensitive Enterococcus 56/86 (65.1%) of antibiotic therapy was inappropriate while in the ampicillin-resistant Enterococcus group 15/17 (88.2%) of therapy was inappropriate.

Methods

This is a retrospective electronic health record review of inpatients with Enterococcus-isolated UTIs who were admitted throughout the Baptist Memorial Hospital Healthcare System from July 1, 2020 to June 30, 2022. Patients were excluded if they were pregnant, inmates, admitted to intensive care units, received vasopressors, had an indwelling catheter at admission, a previous urine culture with pathogen speciation in past 3 months, and/or a concomitant systemic infection. The primary outcome was to identify antibiotic prescribing patterns for Enterococcus uncomplicated, lower UTIs. Data collected included patient demographics, urine cultures and sensitivities during admission, urine cultures within 3 months of admission, antimicrobial regimens prescribed during admission, labs, vital signs, admitting diagnosis, and length of stay. Data will be analyzed using statistics for continuous and nominal data.

Background/Purpose

One of the most common causative pathogens for urinary tract infections (UTIs) is Enterococcus species. Cephalosporin antibiotics are commonly selected empirically to treat UTIs in the inpatient setting, however, Enterococcus species harbor intrinsic resistance to cephalosporin antibiotics. Amoxicillin and ampicillin are drugs of choice for treating Enterococcus. However, we have observed cephalosporin antibiotics and unnecessarily, broad-spectrum antibiotics being prescribed. The primary goal of our study is to identify antibiotic selection in the management of uncomplicated, lower UTIs caused by Enterococcus species to ensure guideline-directed and adequate selection of antibiotics. Penicillin antibiotics display time-dependent killing, and an optimal response will occur as long as the urine concentration is above the minimum inhibitory concentration (MIC) for at least 50% of the dosing interval. Therefore, we can reasonably conclude that therapeutic doses of amoxicillin and ampicillin will exceed the MIC of ampicillin-resistant Enterococcus species and be effective in treating ampicillin-resistant Enterococcus UTIs.

Ly-Ha, Amy

Patient Perceptions Regarding Shortages of Glucagon-Like Peptide-1 Receptor Agonists (GLP-1 RAs) for the Treatment of Type 2 Diabetes Mellitus (T2DM)

Ly-Ha, Amy - Author[1]; Davis, Courtney - Co-Author[1]
[1]The University of Mississippi School of Pharmacy

Conclusions

The conclusion of this study will be described at the time of the presentation.

Results

Application for exemption from The University of Mississippi's Institutional Review Board is currently processing, and data collection is pending. The results will be described at the time of the presentation.

Methods

This single-center study will be conducted at a diabetes management-specialized clinic located in Flowood, Mississippi. This study will target individuals 18 years or older who are using GLP-1 RAs for the treatment of T2DM and who are established patients of Vigilant Health's clinic. Patients who meet the eligibility criteria will be identified and recruited in the clinic. Patients will be provided a consent form for review before enrollment in the study. After consent is provided, patients will be given a brief paper survey consisting of questions regarding their perceptions of the recent GLP-1 RAs shortage and its impact. Information collected will be anonymous. Patients' quality of care will not be affected if they choose not to participate or if they withdraw consent before submitting the survey. The collected data will be assessed using qualitative analysis.

Background/Purpose

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are glucose-lowering medications approved for the treatment of patients with type 2 diabetes mellitus (T2DM). These pharmacologic agents also possess added benefits of weight loss and improved cardiovascular health. The rising demand for this drug class has resulted in shortages, thus affecting the ability of many patients with T2DM to obtain these medications. The purpose of this study involves identifying patient perceptions regarding the impact of the recent GLP-1 RA shortages. Information gathered from this study could emphasize the importance of avoiding shortages and inform potential ideas to navigate future drug shortages.

Mack, Kaci

Impact of Pharmacist-led Hypertension Clinic on Patients' Hypertension Control

Mack, Kaci - Author[1]; Hendrix, Hayden - Co-Author[1]
[1]UAMS Medical Center

Conclusions

Conclusions will be determined once data is available.

Results

The results of the investigation will be presented as they are gathered and assessed.

Methods

This was a single-center, retrospective chart review of adult patients who were seen at the UAMS Internal Medicine and Capital Mall Neighborhood clinics with a diagnosis of hypertension between July 1, 2020 and January 31, 2023. Patients were included if they were ≥ 18 years old, had a diagnosis of hypertension, and had a PCP appointment or a pharmacist-led clinic appointment. Pharmacist-led appointments were completed either in person or via telephone. Patients were excluded if no objective blood pressure measurements were available at or following their pharmacist-led clinic appointment within the study timeframe. The primary outcome is the percent of patients that reach goal blood pressure of ≤ 140/90 when managed by a pharmacist-led clinic versus PCP alone. Secondary outcomes include the difference in blood pressure before and after pharmacist-led clinic, the number of pharmacist touch points, and the number and type of interventions made by the pharmacist.

Background/Purpose

In 2020, there were more than 670,000 deaths in the United States with hypertension as a primary or contributing cause. Nineteen million of the 34 million adults in the United States who have been prescribed medication for hypertension have a blood pressure greater than 140/90 mmHg. In Arkansas, an average of 48% of adults have hypertension, and 29.2% of those have uncontrolled hypertension. A study from 2014 shows the mean reduction in systolic blood pressure was significantly greater in a pharmacist-led clinic at six months compared to the usual care by a primary care provider (PCP). A study published in 2021 showed 80% of patients experienced blood pressure reductions from baseline in a rural pharmacist-led primary care clinic. Our purpose was to evaluate the impact the UAMS the pharmacist-led has had on decreasing patients' blood pressure to goal.

Mahon, Madeline

Predictors of Hospital Readmission Following Kidney Transplantation

Mahon, Madeline - Author[1]; Derringer, Darby - Co-Author[1]; White, Amy - Co-Author[1]; Morgan, Emily - Co-Author[1]

[1]UAMS Medical Center

Conclusions

Conclusion to be described.

Results

Results to be described.

Methods

This study aims to identify risk factors associated with 30-day hospital readmission rates following kidney transplantation at an academic medical center. This is a single center, retrospective chart review of adult patients at UAMS Medical Center who have received a kidney transplant between January 1, 2021 and December 31, 2021. Patients will be excluded if they received a multiorgan transplant, died within 30 days of transplantation, or had graft failure prior to discharge from index admission. For patients included, pertinent medical history, social and educational background, transplant characteristics, and relevant donor characteristics will be recorded. Incidence of readmission within 30 days will serve as the primary outcome. Secondary outcomes will include incidence of multiple readmissions within 30 days, readmission indication, and the cost associated with readmission visit. A multivariable logistic regression analysis will then be performed to identify possible factors associated with hospital readmission following transplantation.

Background/Purpose

Kidney transplantation is often considered the most desired modality of renal replacement therapy in patients with end-stage renal disease, however, it does not come without risk. Studies conducted using data from the Organ Procurement and Transplantation Network, Medicare, and the United States Renal Data System (USRDS) estimate around one third of kidney transplant patients return to the hospital within the first 30 days following transplantation. Not only are these hospital visits associated with poor clinical outcomes, the financial burden placed on both the patient and the healthcare system is high. The Center for Medicare and Medicaid Services (CMS) uses hospital readmissions as an important metric for assessing health care quality. Given the incidence of readmission and the impact these hospital visits can play on cost and overall healthcare burden, a deeper look into possible predictors of readmission following kidney transplant is warranted.

Mangum, Blake

Aminoglycoside Monotherapy vs. Beta-Lactam Monotherapy for the Treatment of Gram-Negative Blood Stream Infections in the Neonatal ICU

Mangum, Blake - Author[1]
[1]University of Mississippi Medical Center

Conclusions

The results of this study did not demonstrate a statistically significant difference in treatment failure between aminoglycosides and beta-lactams for the treatment of neonatal GN BSI.

Results

A total of 45 patients were included in this study with 9 patients in the aminoglycoside group and 35 in the beta-lactam group. Thirteen patients experienced the primary outcome of treatment failure, 33.3% of the beta-lactam cohort (n = 12) and 11.1% of the aminoglycoside cohort (n = 1) (p = 0.25).

Methods

This is a single-center, retrospective cohort study of patients in the neonatal intensive care unit (NICU) being treated for GN BSI during the first year of life. Patients admitted to the NICU from July 1, 2012 to June 3, 2022 with a GN BSI treated with an aminoglycoside or beta-lactam monotherapy were eligible for inclusion in this study. The primary objective of this study was the incidence of treatment failure defined as a composite of death, escalation in antimicrobial therapy, or recurrence of the same infection within 30 days of infection onset. The secondary objectives were to compare each component of the composite primary endpoint and evaluate the safety and efficacy of each treatment modality.

Background/Purpose

Neonatal gram-negative bloodstream infections (GN BSI) are commonly treated with either beta-lactams or aminoglycosides. Beta-lactams are the antibiotics of choice for many infections, but certain agents, including third-generation cephalosporins, have been associated with an increased risk of candidiasis in neonates. Aminoglycosides have a long history of use in neonates, however, evidence in the adult population shows that the use of aminoglycosides as monotherapy is associated with longer lengths of hospitalization and increased mortality when treating GN BSIs. The data to support or refute the use of aminoglycoside monotherapy for GN BSI in the neonatal population is lacking. This study aims to bridge this gap in the literature and evaluate the safety and efficacy of aminoglycoside monotherapy to beta-lactam monotherapy for the treatment of GN BSI in neonates.

Massengale, Mariah

Implementation of Vancomycin Area Under the Curve to Minimum Inhibitory Concentration Dosing in a Community-based Hospital

Massengale, Mariah - Author[1]; Nguyen, Quyen - Co-Author[1]; Kent, Chloe - Co-Author[1]
[1]Cookeville Regional Medical Center, Cookeville, TN

Conclusions

Results are currently being analyzed and will be available at the time of presentation.

Results

Results are currently being analyzed and will be available at the time of presentation.

Methods

A pharmacist protocol was developed to establish a standardized process for the use of vancomycin AUC:MIC dosing in patients who met criteria. Live sessions were held for pharmacists to educate the therapeutic change, and an online competency was assigned. Healthcare providers and nursing were educated on the process changes. Upon implementation, prospective data was collected and compared to traditional trough-based dosing regimens to assess the effect of AUC:MIC dosing on average total daily dose of vancomycin. An online survey was distributed to all pharmacists to evaluate satisfaction and comfortability with utilization of the AUC:MIC dosing protocol.

Background/Purpose

Vancomycin remains a mainstay of therapy for methicillin-resistant *Staphylococcus aureus* (MRSA) infections, though it does require therapeutic drug monitoring to aid in predicting efficacy and evaluating safety. The 2020 Infectious Disease Society of America (IDSA) guidelines for therapeutic monitoring of vancomycin recommend utilizing area under the curve to minimum inhibitory concentration (AUC:MIC) dosing. This recommendation was made based on evidence from recent literature that shows a reduction in exposure and toxicity of vancomycin while maintaining similar efficacy rates when targeting AUC:MIC goals. The purpose of this study is to implement and educate AUC:MIC dosing within a community-based hospital.

Mathews, John

Use of Potassium Containing Fluids in Diabetic Ketoacidosis Patients

Mathews, John - Author[1]; Reid, Stefanie - Co-Author[1]; Vaughn, Rachel - Co-Author[1]; Wheeler, Sperry - Co-Author[1]; Granger, Nancy - Co-Author[1,2]

[1]Fort Sanders Regional Medical Center, [2]Cardinal Health

Conclusions

Adding 20 mEq of potassium to maintenance IV fluids during DKA treatment with an insulin drip resulted in fewer incidences of hypokalemia and insulin drip rate changes due to hypokalemia without an increased incidence of hyperkalemia.

Results

Of the 13 patients with 20 mEq of potassium added to maintenance fluids, there was only 1 occurrence of hypokalemia. This was found to be significant when compared to 31 incidences of hypokalemia in 31 patients treated without potassium (p=0.0349). Of these hypokalemic incidences, 25 required an insulin dose reduction, compared to 1 insulin drip rate change in the treatment group (p=0.0363). Outcomes with no significance included insulin drip stoppages due to hypokalemia, incidences of subsequent hyperkalemia, insulin drip duration, hospital LOS, ICU LOS, and total mEq of potassium administered in the first 48 hours of insulin use.

Methods

This project is approved by the Institutional Review Board. In this single-center trial, we evaluated the incidence of hypokalemia in DKA patients treated with non-potassium containing maintenance fluids compared to ones given potassium containing fluids. Inclusion criteria were a formal diagnosis of DKA treated with an insulin drip. Exclusion criteria was an initial potassium greater than 5.0 mmol/L, estimated glomerular filtration rate less than 30 mL/min and ESRD patients. The primary outcome was the incidence of hypokalemia (K < 3.3 mmol/L). Secondary outcomes included insulin drip stoppages due to hypokalemia, rate changes due to hypokalemia, incidences of subsequent hyperkalemia, insulin drip duration, hospital LOS, ICU LOS, and total mEq of potassium administered in the first 48 hours of insulin use.

Background/Purpose

Diabetic ketoacidosis (DKA) is a severe complication of diabetes resulting in hyperglycemia, metabolic acidosis and ketosis. Lowering blood glucose with insulin causes potassium to shift intracellularly, resulting in an increased risk of hypokalemia. At our institution, insulin therapy cannot be initiated if potassium is less than 3.3 mmol/L. If a patient's potassium drops below this level while on an insulin drip, insulin must be altered until the potassium level is corrected. The purpose of this study is to determine if the use of potassium containing maintenance fluids decreases the incidence of hypokalemia when treating diabetic ketoacidosis.

McCarron, Megan

Readmission Rates in Patients with HFrEF Receiving GDMT at a Large Community Hospital

McCarron, Megan - Author[1]; Moore, Sarah Beth - Co-Author[1]; Crawford, Allie - Co-Author[1]; Burton, Ginger - Co-Author[1]

[1]Baptist Memorial Hospital - Memphis

Conclusions

This study demonstrated no difference in all-cause 30-day readmission rates, all-cause 90-day readmission rates, or HF readmissions. Further studies with a larger study population and longer duration are needed.

Results

A total of 617 patients were screened with 147 patients included. Of these patients, 52 received all GDMT (29.89%), 111 received partial GDMT (63.79%), 11 (6.32%) received no GDMT at discharge. All-cause 30-day readmission rates were not statistically different between patients who received all, partial, or no GDMT (46.5% vs 41.8% vs 11.6%; p=0.07). No difference was found for all-cause 90-day readmission rates between those on optimal vs suboptimal therapy (40.7% vs 50%; p=0.21), heart failure 30-day readmissions (15.1% vs. 21.5%; p=0.27) or heart failure 90-day readmission (30.2% vs. 37.%; p=0.31). However, a statistical difference was found for all-cause 90-day readmission rates in patients who received all four GDMT compared to those who received partial and no GDMT (p=0.02).

Methods

This is a single-center, retrospective chart review of patients with heart failure admitted to Baptist– Memphis. Screening included adult patients with a primary diagnosis of a heart failure admitted to Baptist-Memphis between May 1, 2022 and November 31, 2022. Individuals who were 18 years of age and older with a primary diagnosis of HFrEF as defined by ICD-10 codes were included in this study. Patients receiving dialysis, outpatient inotrope therapy, history of evaluation or waitlisted for a heart transplant or VAD, scheduled admissions, pregnant, and hospice care were excluded. The primary objective was to assess all-cause 30-day readmission rates. The secondary objectives included all-cause 90-day readmission rates, heart failure 30-day and 90-day readmissions, GDMT analysis of 4-pillar GDMT vs. partial GDMT vs. no GDMT. Statistical analysis included Chi squared or Fisher's exact and ANOVA.

Background/Purpose

According to the 2022 AHH/ACC/HFSA update, guideline directed medical therapy (GDMT) supports the use of four medication classes in heart failure patients with reduced ejection fraction (HFrEF), including renin-angiotensin-aldosterone-system inhibition, beta-blockers, mineralocorticoid receptor antagonists, and sodium-glucose transport inhibitors. Utilization of GDMT decreases mortality, reduces hospitalizations, and improves outcomes. The primary aim of this study is to assess all-cause 30-day readmission rates in patients with HFrEF on 4-pillar GDMT.

McClanahan, Taylor

Evaluation of Aspirin Use for Primary Prevention of Cardiovascular Disease

McClanahan, Taylor - Author[1]; Liddell, Kodi - Co-Author[1]
[1]UAMS Medical Center

Conclusions

Conclusion will be described.

Results

Results will be described.

Methods

This study is a retrospective medical chart review of patients from 7 primary care clinics within the UAMS Health healthcare system. Eligible patients were 18 years or older with a current aspirin prescription and at least one cardiovascular (CV) risk factor. Those using aspirin for secondary prevention and those with contraindications to aspirin were excluded from this study. The primary outcome is the number of patients appropriately prescribed aspirin without cardiovascular disease from June 2022 to November 2022. The first occurrence of a major CV event, time to individual components of each CV event, all-cause mortality, and major bleeding will also be evaluated.

Background/Purpose

Aspirin use for secondary prevention of cardiovascular disease has been the standard of care among providers, however, its indication for primary prevention has been controversial. The controversy stems from conflicting results from three landmark trials that sought to evaluate the efficacy and safety of aspirin use for primary prevention. As a result, guideline-directed medical therapy (GDMT) recommends against the use of aspirin for primary prevention in adults 70 years or older and some recommend against its use in adults 60 years or older. GDMT recommends viewing aspirin initiation as a more individualized decision, favoring those with increased cardiovascular risk and low risk of bleeding.

McClure, Shannon

Comparison of the Safety and Efficacy of Vancomycin Area Under the Curve Over 24 Hours to Vancomycin Minimum Inhibitory Concentration (AUC/MIC) Versus Traditional Trough Dosing

McClure, Shannon - Author[1]; Gugkaeva, Zina - Co-Author[1]; McElroy, Laura - Co-Author[1]; Summers, Karen - Co-Author[1]; Perry, David - Co-Author[1]; Binkley, Jeff - Co-Author[1]

[1]Maury Regional Medical Center

Conclusions

AUC/MIC dosing was not associated with significantly lower risk of AKI compared with traditional trough dosing in this study, but was associated with significantly fewer supratherapeutic vancomycin trough levels. AUC/MIC dosing was also not significantly associated with a greater number of subtherapeutic trough levels. Limitations of this study include its retrospective nature and lack of consistency in AUC/MIC dosing. More in-depth analyses of vancomycin trough timing and AUC/MIC data may be useful for further study.

Results

616 patients from the trough-only dosing group and 584 patients from the AUC/MIC dosing group were included. For the primary outcome, 132 patients (22.6%) from the AUC/MIC dosing group and 164 patients (26.6%) from the trough-only dosing group experienced AKI during treatment, relative risk, 0.849; 95% confidence interval (CI) 0.696 to 1.04; P=0.107. Vancomycin trough levels were supratherapeutic in 272 of 1368 troughs (19.9%) in the AUC/MIC dosing group and in 347 of 1241 troughs (28%) in the trough-only dosing group, relative risk, 0.711; 95% CI, 0.619 to 0.817; P<0.0001. No significant difference was found between groups for subtherapeutic trough levels, relative risk, 1.04; 95% CI, 0.864 to 1.25; P=0.677.

Methods

This is a retrospective cohort study of adult patients with stable renal function who received at least 3 days of intravenous vancomycin at Maury Regional Medical Center from June 1, 2019-May 31, 2020, when traditional trough-only dosing was used, and from June 1, 2021-May 31, 2022, when AUC/MIC dosing was used. Study subjects were identified using clinical surveillance software. Patients who were pregnant, pediatric, on renal replacement therapy, or received pulse-dosed or perioperative vancomycin were excluded. The primary outcome was AKI occurrence during treatment. The secondary outcomes were analyses of vancomycin trough levels. Relative risk calculations were performed for all outcomes.

Background/Purpose

Vancomycin is an essential medication for methicillin resistant *Staphylococcus aureus* infections in hospitalized patients, yet nephrotoxicity is a major risk. AUC/MIC dosing of vancomycin is preferred over trough-only dosing to minimize risk for acute kidney injury (AKI). This study compares the safety and efficacy of vancomycin AUC/MIC and trough-only dosing in a 255-bed community hospital.

McConnell, Lauren

Evaluation of a Pilot Vancomycin Model-Informed Precision Dosing Protocol

McConnell, Lauren - Author[1]; Montgomery, Natalie - Co-Author[1,2]; Jenkins, Anastasia - Co-Author[1,2]; Crumby, Trey - Co-Author[1]

[1]Baptist Memorial Hospital - North Mississippi, [2]University of Mississippi School of Pharmacy

Conclusions

Preliminary results are pending completion of data collection and will be described.

Results

Preliminary results are pending completion of data collection and will be described.

Methods

A prospective review of admissions to Baptist Memorial Hospital – North Mississippi (BMH-NM), from January 2023 to March 2023, includes patients who receive intravenous vancomycin for suspected or definitive methicillin resistant *Staphylococcus aureus* (MRSA) infection. In addition to the pre-specified diagnoses, one vancomycin trough level must be resulted. Following approval from the Baptist Memorial Health Care Corporation-Institutional Review Board (Baptist IRB), data collected from all patients are de-identified prior to analysis. Primary efficacy analyses evaluate the appropriate use of weight-based loading doses and AUC target attainment. Exploratory safety analyses will evaluate the risk of vancomycin-associated acute kidney injury (VA-AKI) by trending serum creatine levels and evaluating the frequency of vancomycin use with other nephrotoxic agents.

Background/Purpose

Completion of a retrospective study conducted from January 2022 to June 2022 fostered an internal transition from trough-guided vancomycin dosing alone at Baptist Memorial Hospital – North Mississippi (BMH-NM). This study showed that of the 522 patients identified, 75.5% of pharmacists' initial vancomycin dose and frequency selection was based on current pharmacy protocol and compliance with the current protocol resulted in 52.3% of predicted areas-under-the-curve (AUCs) being > 600 mg*hr/L. The subsequent addition of a Bayesian software program integrated into the BMH-NM electronic medical record prompted comparison of pre- and post-implementation impact of piloting a new protocol. Therefore, the purpose of this study is to evaluate the use of a model-informed precision dosing protocol, created specifically for implementation within the BMH-NM Pharmacy Department, by quantifying impact and usability prior to formal adoption.

McCullough, Sara

Use of basal insulin while NPO during a hospital stay: Impact on episodes of hyper and hypoglycemia

McCullough, Sara - Author[1]; Montgomery, Natalie - Co-Author[1]; McMorris, Tressa - Co-Author[2]; Jenkins, Anastasia - Co-Author[1]; Crumby, Trey - Co-Author[1]

[1]Baptist Memorial Hospital - North Mississippi, [2]University of Mississippi School of Pharmacy

Conclusions

Conclusion pending data collection and analysis.

Results

Preliminary results are pending data collection and analysis

Methods

This single-center, retrospective chart review will include patients admitted to Baptist Memorial Hospital - North Mississippi between January 2022 – February 15, 2023 who are 18 years of age and older that have type 2 diabetes mellitus diagnosis as identified via International Classification of Disease, Ninth Revision (ICD-9) and Tenth Revision (ICD-10) codes. Patients will also be included if having a documented NPO order during their hospitalization, are prescribed outpatient basal insulin determined by either recent pharmacy fill history or updated medication reconciliation upon admission, and who have received at least one dose of basal insulin while being hospitalized.

Data to be collected includes: inpatient and outpatient insulin regimen, dose of insulin given prior to and during NPO status, amount of time patient was NPO, and glucose levels over the following 12-24 hours. Hyperglycemia will be defined as glucose > 180 mg/dL and hypoglycemia as glucose < 70 mg/dL.

Background/Purpose

Patients with type 2 diabetes mellitus (T2DM) that require insulin therapy use basal insulin with or without bolus insulin for meal coverage. The importance of glycemic control in hospitalized diabetic patients is well documented. If admitted to the hospital, insulin is often continued in order to maintain blood glucose control, but interruptions to a patient's usual diet may also warrant changes to their insulin therapy. Currently, there is no general consensus on the appropriate approach for insulin management in this patient population.

The impact of continuing versus discontinuing home basal insulin in patients who are NPO in the hospital may impact episodes of hyper and hypoglycemia. A previous study evaluated basal insulin dose reductions in hospitalized patients with diabetes while unable to eat. Our facility currently lacks a protocol for augmenting basal insulin when diets are held. The goal of this study is to evaluate patients using basal insulin for type 2 diabetes mellitus prior to admission to determine if continuation of their home dose of basal insulin prior to and during NPO periods has an impact on episodes of hyper and hypoglycemia.

McGlaughlin, Brent

Achievement of Therapeutic aPTT in Patients Receiving Unfractionated Heparin Infusions

McGlaughlin, Brent - Author[1]
[1]Regional One Health

Conclusions

Will be reported.

Results

In progress, to be analyzed.

Methods

This single-center, prospective study assessed patients admitted from August 22, 2022 to February 28, 2023 who received unfractionated heparin infusions at our institution. Demographic data collected included age, gender, height, and weight. Data evaluated included baseline and protocol aPTTs, time to goal aPTT, and anticoagulation related adverse drug events. Patients included received one of the three heparin protocols and had a minimum of three aPTTs obtained at six hour intervals within the first 24 hours. aPTTs were analyzed at the study institution using an Instrumentation Laboratories - ACL Top 550 analyzer. Patients were excluded if they were less than 18 years of age, received concurrent anticoagulation therapy other than heparin infusion, had active bleeding, a baseline aPTT > 40 seconds, incomplete data, were pregnant, or were incarcerated.

Background/Purpose

Achievement of therapeutic aPTT within the first 24 hours after initiation of heparin is associated with better outcomes. Our institution has recently updated our heparin protocols due to the obtainment of new reagent and instrumentation. These protocols, which guide providers in dosing heparin based on indication and weight range, now have different starting rates and therapeutic aPTT goals. The purpose of this study is to evaluate the attainment of goal aPTT with our new protocols within the first 24 hours as well as adverse events.

McKnight, Madison

Evaluation of Empiric Antibiotic Therapy in Meningitis

McKnight, Madison - Author[1]; Dekerlegand, Alaina - Co-Author[1]; Marjoncu, Dennis - Co-Author[1]; Clark, Kacie - Co-Author[1]

[1]Methodist University Hospital

Conclusions

We found that 80% of patients studied did not have appropriate EAT for bacterial meningitis. The most common reason for inappropriate EAT was inappropriate dosing, seen most often with vancomycin. Future implementations of this data will include the creation of a dosing protocol which will aid providers in ordering initial treatment. This data can also be utilized in pre-post studies in the future to measure the utility of pharmacist-led standard order sets.

Results

Of the 80 patients enrolled in this study, 64 (80%) patients fell into at least one of three categories for inappropriate EAT. There were a total of 79 reasons for inappropriate EAT. Of these, dose was the most frequent (59%). The next most common reasons for inappropriate reason for EAT was age (37%), followed by healthcare-associated (4%). The most common dosing offense was with vancomycin. Errors with vancomycin dosing were related to loading dose (28%), ordering pharmacist consult (28%), or a mixture of both (45%). Additionally, we found no significant difference in outcomes between the two groups, including in-hospital mortality and length-of-stay.

Methods

This is a retrospective cohort study of patients admitted to Methodist Le Bonheur adult hospitals who received antimicrobials for suspected bacterial meningitis. Patients with admission or discharge diagnosis for meningitis, determined by ICD-10 codes, were screened and collected in reverse chronological order from May 31, 2022. Patients were then categorized as having appropriate or inappropriate EAT based on specific definitions for age, risk factors, and dose.

Background/Purpose

The 2004 Infectious Diseases Society of America (IDSA) Bacterial Meningitis guideline aids clinicians in choosing appropriate empiric antibiotic therapy (EAT) based on the patient's age and predisposing conditions. This was followed by a second set of guidelines in 2017 which focused on recommendations for healthcare-associated ventriculitis and meningitis. Antimicrobial therapy for meningitis may include up to three antibiotics which can complicate empiric regimens. There are currently no standard orders amongst Methodist Le Bonheur adult hospitals to aid in the treatment decisions when there is suspicion of meningitis. The purpose of this project is to evaluate prescribing patterns associated with EAT to determine if development of an order set is warranted.

McMahon, Victoria

Evaluation of 23.4 % Hypertonic Saline versus 3% Hypertonic Saline in Traumatic Intracranial Hemorrhage

McMahon, Victoria - Author[1]
[1]TriStar Skyline Medical Center

Conclusions

From these findings, it can be concluded that 23.4% hypertonic saline may be more efficacious in prevention of hematoma expansion, and additionally may benefit overall patient outcomes.

Results

77 patients were included, with 57 patients in the 3% hypertonic saline group and 20 patients in the 23.4% hypertonic saline group. Baseline characteristics revealed that the median age was 51 years in the 3% hypertonic saline group and 35 years in the 23.4% group. The median length of hospital stay was 12 days in the 3% hypertonic saline group and 9.5 days in the 23.4% hypertonic saline group. 49.1% of patients in the 3% hypertonic saline group and 35% of patients in the 23.4% hypertonic saline group had hematoma expansion on repeat imaging (adjusted odds ratio 0.8; 95% confidence interval [CI], 0.62 to 1.03; P=0.08).

Methods

In this single center, retrospective cohort study conducted at a Level 2 trauma center all adult patients admitted for traumatic intracranial hemorrhage between January 1, 2018 to December 31, 2021 receiving at least one dose of either 23.4% hypertonic saline or 3% hypertonic saline were included. Secondary outcomes include mortality rate, length of stay in the ICU, length of hospital stay, time to serum sodium of 145 to 160 mEq/L, time to serum osmolality of 300 to 320 mOsm/kg, incidence of hypernatremia as defined as a serum sodium greater than 160 mEq/L, incidence of acute kidney injury as defined by RIFLE criteria, and need for surgical intervention.

Background/Purpose

Hypertonic saline is widely regarded as an effective therapy for the initial resuscitation and management of intracranial hemorrhage in trauma patients. Recent studies show hypertonic saline solutions are associated with reduced intracranial hemorrhage burden and improved 90-day mortality. However, data supporting 23.4% versus 3% as the ideal concentration of hypertonic saline for traumatic intracranial hemorrhage is limited. The purpose of this study is to compare the effects of 23.4% hypertonic saline versus 3% hypertonic saline utilization for prevention of hematoma expansion in traumatic intracranial hemorrhage.

Miller, Katelyn

The Effect of Emergency Medicine Pharmacist Interventions on Sedation in the Emergency Department

Miller, Katelyn - Author[1]; Beatrous, Kelsey - Co-Author[1]; Goodfellow, Katherine - Co-Author[1]
[1]St. Dominic Memorial Hospital

Conclusions

The conclusion of this study is pending final results.

Results

A total of 354 patient charts will be reviewed for inclusion in this study. Data collection is in progress, and results will be described once finalized.

Methods

In this retrospective cohort study, adult patients who were intubated in the ED and had a target of light sedation were reviewed. Patients were excluded if they were post-cardiac arrest, post-cardiovascular surgery, receiving chronic/home ventilation, or had a neurologic injury. Patients who experienced death, discontinuation of mechanical ventilation, or life support withdrawal within 24 hours of presentation were also excluded. The primary outcomes of this study were incidence of pharmacist intervention and sedation regimen guideline compliance. Secondary outcomes included ICU length of stay, hospital length of stay, duration of mechanical ventilation, and 30-day or discharge disposition.

Background/Purpose

Sedation is an essential component of care for patients that are mechanically ventilated, and for close to 250,000 patients in the US annually, sedation will be initially managed in the Emergency Department (ED). Sedation has been identified as a modifiable factor that independently contributes to clinical outcomes with deep sedation and use of continuous benzodiazepines (i.e., midazolam) being associated with increases in mortality, length of stay, and incidence of delirium. Guidelines recommend targeting light sedation in mechanically ventilated patients and using nonbenzodiazepine sedatives, like propofol or dexmedetomidine, to achieve it. Studies have demonstrated the benefit of clinical pharmacists in the ED, such as a reduction in the time interval between intubation and initiation of analgesia and sedation; however, the relationship between pharmacist presence at intubation and appropriateness of sedation regimen has not been established. Therefore, this study aimed to assess Emergency Medicine (EM) pharmacist interventions on light sedation in the ED and the impact of interventions.

Milwee, Rachel

Treatment of Toxin-Negative Clostridioides difficile

Milwee, Rachel - Author[1]; Carroll, David - Co-Author[1]; Turner, Ben - Co-Author[1]; Wininger, Brittany - Co-Author[1]

[1]Ascension Saint Thomas Rutherford

Conclusions

The primary outcome of time to resolution of diarrhea or discharge significantly favored those who did not receive treatment. It is possible that subjects in the group who were not treated did not meet criteria for Clostridioides difficile testing. It is also possible that subjects who received treatment experienced an extended length of hospital stay in order to complete treatment. The results of this study suggest that treatment of Clostridioides difficile toxin-negative diarrhea was not associated with improved clinical outcomes, including time to diarrhea resolution and hospital length of stay, or a reduction in readmission within 30 days. The results of this study support recommendations to withhold treatment in this population.

Results

Resolution of diarrhea occurred significantly sooner in the group who received supportive care (2.63 + 1.52 days), compared with the group who received standard of care antibiotics (4.16 + 2.68 days, p value = 0.0001). There was no difference between 30-day readmission rates between the two groups. Approximately one-third of patients in both groups were readmitted to our health system within 30 days of discharge (34.2 vs 32%, p value = 0.7934).

Methods

This is a multicenter, retrospective observational study of patients admitted to our health system with Clostridioides difficile toxin-negative diarrhea between June 2021 and June 2022. The primary outcome is time to resolution of diarrhea in patients with a positive Clostridioides difficile GDH test and a negative Clostridioides difficile toxin test measured in days from Clostridioides difficile test result to resolution of diarrhea or hospital discharge. The secondary outcome is a comparison of 30-day readmission rates to our health system between the two aforementioned groups.

Background/Purpose

Available data support withholding antibiotics in favor of providing supportive care for patients with a positive Clostridioides difficile glutamate dehydrogenase (GDH) test and a negative Clostridioides difficile toxin test. Despite this, patients are often treated with antimicrobial agents. The purpose of this study is to determine if treatment with anti-Clostridioides difficile agents have any effect on resolution of diarrhea and 30-day readmission rates in patients with a GDH positive, toxin negative Clostridioides difficile test result.

Mitchell, Clayton

Impact of Pharmacist-Physician Collaboration within the Tennessee Heart Health Network on Blood Pressure Control Among Patients with Hypertension

Mitchell, Clayton - Author[1]; Campbell, Tavajay - Co-Author[1]; Jain, Kajal - Co-Author[1]; Hughes, Jonathan - Co-Author[1]

[1]Ascension Saint Thomas

Conclusions

Patients whose hypertension was managed via pharmacist-physician collaboration had a numerically greater decrease in SBP at 6 months compared to those managed by physician only, and were nearly twice as likely to achieve their goal blood pressure.

Results

Data was collected on a total of 800 patients who met inclusion criteria. The two study groups were similar in composition with an average age of 56 years, an even division of male versus female patients, and similar rates of patients identified as Hispanic or Latino. The pharmacist-physician collaboration group consisted of 78 patients while the physician only managed group consisted of 722 patients. The pharmacist-physician collaboration group had a mean change in systolic blood pressure of -17.6 mmHg (SD 19.3) versus -13.2 mmHg (SD 21.5) in the physician only managed group (difference in difference -4.4 mmHg, p=0.083). At 6 months 64.1% of patients in the pharmacist-physician collaboration group had a most recent follow-up blood pressure less than 140/90 mmHg compared to 34.5% of patients in the physician only managed group (RR 1.85, p<0.0001).

Methods

Eligible patients included adults greater than 18 years of age with a previous diagnosis of hypertension, baseline blood pressure >140/90mmHg, and at least two visits with a clinic primary care provider. Patients in the pharmacist-physician collaboration group were required to have at least two visits with a pharmacist for hypertension. The primary outcome was the difference in difference of systolic blood pressure relative to baseline between the two groups at 6 months. Secondary outcomes included the percentage of patients achieving blood pressure < 140/90 mmHg.

Background/Purpose

The chronic and often complex nature of hypertension leads ambulatory care pharmacists to be uniquely positioned to assist in the collaborative management of this patient population. Previous studies have established the effectiveness of pharmacists in managing hypertension in the ambulatory care setting. This study will seek to assess the effectiveness of pharmacist-physician collaboration versus physician only management in improving blood pressure control as participants in the Tennessee Heart Health Network.

Molotsky, Kelsey

Use of alternative calcium-gluconate in normal saline during shortage of calcium-gluconate small-volume vials for neonates and infants less than one-year-old on parenteral nutrition

Molotsky, Kelsey - Author[1]; Herrera, Oscar - Co-Author[2,1]; Christensen, Michael - Co-Author[2,1]; Mabry, William - Co-Author[1]

[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Science Center

Conclusions

In conclusion, approximately 30% of patients developed moderate or severe hypocalcemia when using calcium-gluconate in normal saline alongside their parenteral nutrition. Calcium-gluconate in normal saline could be a viable alternative during shortage of calcium-gluconate small-volume vials for at least seven days in children requiring parenteral nutrition.

Results

A total of 39 patients were included in the study. Calcium-gluconate ran alongside parenteral nutrition for a median of seven days. Hypocalcemia occurred in 18 of patients overall. Six patients experienced mild hypocalcemia, nine experienced moderate hypocalcemia, and three experienced severe hypocalcemia.

Methods

This is a retrospective review of the electronic health record for all patients 0 – 1 years from March 1, 2022 through May 31, 2022 who received parenteral nutrition and a continuous calcium-gluconate in normal saline infusion at our institution. Patients who received a one-time calcium-gluconate in normal saline replacement bolus were excluded. Information collected includes patient demographics, such as age, sex, race, and weight, patient unit, admission and discharge date, date parenteral nutrition started and discontinued, date calcium-gluconate in normal saline started and discontinued, serum and ionized calcium concentrations, phosphorus, sodium, and albumin levels, calcium-gluconate dosing and dose modifications, date transitioned to oral calcium carbonate supplementation and doses, date transitioned to calcium chloride infusion, number of patients transferred from the floor to the intensive care unit to start calcium chloride, and adverse effects including incidence of hypernatremia and serum calcium and phosphorus abnormalities.

Background/Purpose

The coronavirus pandemic led to many supply chain shortages including electrolytes and parenteral nutrition components, and for our institution, a critical shortage of small-volume calcium gluconate vials. Our institution was required to use a different product, calcium-gluconate in normal saline, and due to lack of specific gravity data, it could not be placed as an additive in our compounder and instead had to be used as a continuous infusion, given outside of parenteral nutrition. The purpose of this study is to determine if the alternative product, calcium-gluconate in normal saline, led to significant electrolyte abnormalities affecting calcium homeostasis, and to characterize our experience and logistical efforts in implementing a new product during a national shortage, should it occur again.

Moore, Rebecca

Prevalence and outcomes associated with idarucizumab administration in trauma patients on pre-injury dabigatran therapy

Moore, Rebecca - Author[1]; Jacobs, Justin - Co-Author[1]; Wyse, Ransom - Co-Author[1]; Garland, Jeneva - Co-Author[1]

[1]HCA Healthcare

Conclusions

Preliminary results to be described.

Results

Preliminary results to be described.

Methods

This retrospective, case-control study included trauma patients aged ≥18 years on pre-injury dabigatran. Patients were sourced from the trauma registries of Level I-IV trauma centers in a large hospital network who had an ED arrival between January 2017 and December 2021. Preinjury dabigatran therapy and idarucizumab administration were confirmed via electronic medical record data from the electronic data warehouse. Patients who were positive for pre-injury dabigatran were grouped according to receipt (cases) or no receipt (controls) of the reversal agent idarucizumab. Patient demographic variables were collected including (but not limited to) Abbreviated Injury Scale, Injury Severity Score, mechanism of injury, and age. The primary outcome of interest was the prevalence of idarucizumab in each group. Secondary outcomes of interest included VTE incidence, mortality, and hospital resource utilization.

Background/Purpose

Idarucizumab is a human monoclonal antibody fragment that specifically binds to dabigatran and neutralizes its anticoagulant effect. However, the administration of idarucizumab is disputed among emergency clinicians, especially regarding trauma patients, due to this patient group's already hypercoagulable state. Currently, literature is lacking that describes idarucizumab administration in the reversal of pre-injury dabigatran in the trauma population. The objective of this study is to describe the prevalence of idarucizumab administration in trauma patients and to compare the outcomes of trauma patients on pre-injury dabigatran who received idarucizumab compared to those who did not receive idarucizumab.

Morgan, Jillian

Assessment of Outcomes in Hospitalized COVID-19 Patients Receiving Steroid Therapy with Well Controlled Versus Poorly Controlled Preexisting Diabetes

Morgan, Jillian - Author[1]; Butterfass, Courtney - Co-Author[1]; Wells, Lindsey - Co-Author[1]; Goggans, Margaret - Co-Author[1]; Hunt, Molly - Co-Author[1]

[1]Memphis VA Medical Center

Conclusions

Preexisting DM control, measured by admission A1c, did not significantly predict worsening clinical outcomes, including hospital mortality, in Veterans receiving steroid therapy for COVID-19.

Results

Hospital mortality was not significantly different between the control and study groups (30% vs. 21%, p=0.07).

Methods

This study was a retrospective, cohort, observational study of patients admitted to Veteran's Affairs medical centers located within the Midsouth Healthcare Network. Patients with a preexisting diagnosis of DM and diagnosed with suspected or confirmed COVID-19 who received either dexamethasone or methylprednisolone therapy from February 1, 2020 to April 30, 2022 were identified. A preexisting diagnosis of DM was defined as the following: documented history of DM, outpatient insulin therapy, or A1c of ≥ 6.5% within the last 12 months. Patients were excluded if they received systemic steroids within 30 days prior to admission, A1c results were unavailable within 12 months of admission, or outcome data was not available. Included patients were compared based on baseline A1c of ≤ 8% (control group) versus A1c of > 8% (study group). The primary outcome was hospital mortality. The secondary outcomes included hospital length of stay (LOS), ICU admission, ICU LOS, oxygen support requirements, need for organ support, and hyperglycemia.

Background/Purpose

The COVID-19 pandemic has been an international threat since 2019 causing significant mortality. Studies have shown patients with an underlying diagnosis of diabetes mellitus (DM) are at higher risk of having worse clinical outcomes, including mortality. Per the NIH COVID-19 guidelines corticosteroids are strongly recommended for the treatment of COVID-19 in hospitalized patients requiring non-invasive ventilation and mechanical ventilation, and moderately recommended for hospitalized patients requiring supplemental oxygen. While corticosteroids provide benefit in the treatment of COVID-19, a common side effect is steroid-induced hyperglycemia. Understanding the correlation between preexisting diabetes control and COVID-19 outcomes may help predict which patients with a diagnosis of DM are at higher risk of mortality due to COVID-19.

Neal, Lincoln

Optimization of the Nasal MRSA PCR Screening Protocol for Early Antibiotic De-escalation Among Patients Presenting with Pneumonia Symptoms

Neal, Lincoln - Author[1]; Turner, Shawn - Author[1]; Smith, Forrest - Co-Author[2]

[1]Unity Health - White County Medical Center, [2]Harding University College of Pharmacy

Conclusions

To be determined.

Results

This research is in progress.

Methods

This retrospective chart review of electronic medical records will identify patients in a rural hospital tested with the nasal MRSA PCR and patients who were inaccurately tested. Patients must have been hospitalized and 18 years and older. A review of patient records is expected to reveal inconsistencies in the steps taken to order the nasal MRSA PCR, collect nasal MRSA PCR samples, and interpret the results. These inconsistencies could lead to possible disease or drug-related consequences for the patient. Primary outcome data will include MRSA PCR orders for infectious indications and vancomycin orders for pneumonia or other respiratory illness placed by physicians or pharmacists. The primary data will be analyzed by the frequency and source of errors to reveal possible health consequences of the errors. The data is expected to reveal significant inconsistencies in how the providers assess, order, process, and interpret the results of nasal MRSA PCR screening samples. Education will be offered to demonstrate appropriate nasal MRSA PCR methods to standardize best practices. In addition, pre- and post-surveys will be sent to physicians, residents, nurses, and pharmacists to assess their current knowledge of the process to order nasal MRSA PCRs, vancomycin, and interpretation of nasal MRCA PCR screenings. Finally, a standardized MRSA PCR screening protocol will be created and implemented in the electronic medical record system.

Background/Purpose

This study aims to improve the nasal MRSA PCR screening protocol to advance the quality of care for patients with pneumonia on antibiotic therapy. The objectives are to identify where errors in nasal MRSA PCR screening occurred and to develop a corrective action plan that will standardize the screening protocol. The corrective action plan will be disseminated to physicians, nurses, and staff to reduce errors and provide a standard of best practices. Education will also be included in the action plan.

Nguyen, Brandon

Identifying barriers to the utilization of intravenous pump-system's safety software

Nguyen, Brandon - Author[1]; Calmes, Helen - Co-Author[1]; Pierre, Danielle - Co-Author[1]; Trahan, Aaron - Co-Author[1]

[1]University Medical Center New Orleans

Conclusions

This survey provides insight into the current usage of the AGSS and the barriers preventing UMCNO from achieving ISMP's goal rates of compliance. The primary barriers identified were the lack of education on the AGSS and drug programming. Annual nursing education, interoperability between smart pumps and electronic health records, and regular reviews of the AGSS are being implemented to improve compliance rates. Future studies would be necessary to assess the effectiveness of these changes.

Results

A total of 152 surveys were analyzed in the study. The most responses were from the medical/surgical floor (44.1%, n=71) and intensive care units (37.9%, n=61). Education and training were the largest potential barrier identified. It was found that 25.7% (n=152) of respondents had not received or were unsure of their last formal training for the AGSS. The most common reason for overriding the AGSS overall was that the medication was not in the drug library (27%, n=152). The medication not being in the drug library was also the most common reason for overrides for floor nurses (27.8%, n=71); however, in the ICU, the most common reason was that the ordered titration rate was outside of the infusion rate limits (29.8%, n=61)

Methods

This was a single-center, cross-sectional study surveying licensed nurses at UMCNO. From August to October 2022, an electronic survey was distributed to all nursing staff about their experience with AGSS. The primary endpoint was to identify potential barriers affecting the utilization of AGSS. The secondary endpoints were to identify unit-specific trends affecting compliance.

Background/Purpose

The smart infusion pump with dose-error reduction system (DERS) aims to decrease errors in intravenous drugs with implemented safety features including set infusion rate limits and pre-programmed drug libraries. These safety features may be overridden; however, this increases the risk of medication errors. In 2020, the Institute for Safe Medical Practices (ISMP) set a goal compliance rate of ≥ 95% for using DERS. University Medical Center New Orleans (UMCNO) utilizes the BD Alaris™ Guardrails™ Safety Software (AGSS), and the average monthly compliance rate is approximately 78%. The purpose of this study was to identify potential barriers to compliance with the AGSS.

Nguyen, John

Impact of a Pharmacist-Led Transitions of Care Service among High-Risk Patients Admitted to an Acute Care County Hospital

Nguyen, John - Author[1]; Anderson, Garraway - Co-Author[1]; Campbell, Jennifer - Co-Author[1]; Armstrong, Drew - Co-Author[1]

[1]Regional One Health

Conclusions

Conclusion pending research results and will be described.

Results

A total of 220 patients were included in this study, with 110 patients in each group. Results are in progress and will be described.

Methods

This study is a single-center, retrospective chart review of patients who were admitted to ROH and enrolled in the pharmacist-led TOC service from 8/1/22-11/30/22 and compared to a matched cohort admitted from 8/1/21-11/30/21, prior to service implementation. Those enrolled in the TOC service include adults admitted with heart failure, chronic obstructive pulmonary disease, uncontrolled diabetes, or those on anticoagulation or dual-antiplatelet therapy. The primary endpoint is the number of 30-day all-cause readmissions. Secondary endpoints include 30-day same-cause readmission and 90-day same-cause readmission. Patients were excluded from the study if they left against medical advice, had follow up at on outside facility, or were discharged to a facility.

Background/Purpose

Hospital readmissions greatly impact patient morbidity and mortality and cause excess financial burden to the healthcare system. In 2012, the Centers for Medicare and Medicaid Services (CMS) implemented the Hospital Readmission Reduction Program (HRRP) to encourage hospitals to improve their communication and care coordination in order to reduce avoidable readmissions. Regional One Health (ROH) is a public safety-net hospital which services a large indigent population. In order to streamline the transition of care for patients, a pharmacist-led transitions of care service (TOC) was implemented in 2022 as part of a residency research project and focused on patients admitted with high-risk conditions. The aim of this study is to assess the impact of a pharmacist-led transitions of care service on hospital readmission rates among these patients.

Null, Lexi

Allergy Verification: A Process of Improvement

Null, Lexi - Author[1]; Mathis, Raymond - Co-Author[1]

[1]Magnolia Regional Health Center

Conclusions

Conclusion will be determined once data collection is complete and the results are analyzed.

Results

No results to report at this time. This research study is in progress and results are pending.

Methods

Education will be provided on the differentiation between allergies versus adverse reactions, appropriate ranking of severity, and appropriate documentation to the nurses employed by Magnolia Regional Health Center and its affiliated clinics. All allergy documentation related errors identified by a pharmacist and the time spent clarifying these errors will be compiled before and after education is provided to nursing staff. An assessment regarding delayed patient care will be conducted by comparing the number of errors related to allergy documentation before and after nursing education. This assessment will determine whether education provided by pharmacy was beneficial in decreasing errors related to allergy documentation.

Background/Purpose

Accurate allergy documentation is an important piece of information in the order verification process. The process of documenting allergies was identified as an area that needed improvement due to repeated delays in pharmacy order verification leading to patient care delays. The purpose of this study is to determine the impact of allergy documentation education for nursing staff on related medication errors including delays in treatment.

O'Neal, Jonathan

Inpatient Utilization of Naloxone Rescue

O'Neal, Jonathan - Author[1]
[1]Mississippi Baptist Medical Center

Conclusions

According to the results of this study, factors that may increase the risk for patients needing naloxone rescue include: decreased renal function, advanced age, female sex, and the use of IV opioids. The data collected in this study could help practitioners recognize key factors leading to the need for naloxone rescue.

Results

In this study, 79.5% of all opioids associated with naloxone use were intravenously (IV) administered. The average LOS in the study group was 22.9 days and average days on opioids was 6.6. Of the patients in the study group, 43.6% had a CrCl of >60 mL/min, 15.4% had a CrCl of 30-60 mL/min, and 41% had a CrCl <30 mL/min. Females made up 66.6% of the patients and the average age of participants was 66 years old. There was no discernable trend in MME/day and opioid naive status.

Methods

This retrospective cohort study included patients admitted to the Mississippi Baptist Medical Center from Oct. 1, 2021 to Sept. 30, 2022 who were 18 years or older and received naloxone in response to an opioid overdose induced by an opioid on the patient's electronic health record. Patients were excluded if they received naloxone in response to an outpatient opioid overdose, have not received at least one dose of an opioid during their stay, or if they received naloxone in the first 72 hours after admission. Electronic medical records were reviewed to collect data including age, race, gender, height, weight, opioid prescriber, dose of opioid in morphine milligram equivalents, dosing frequency, total days on opioids prior to overdose, total length of stay (LOS), renal function (CrCl), and if the patient was opioid naive.

Background/Purpose

In 2018, the Joint Commission revised standards that include establishing strategies to decrease opioid use and minimize risks associated with opioids. The main objective of this project was to determine trends associated with inpatient utilization of naloxone for opioid overdose. The data collected will allow practitioners to make more informed decisions based on common trends that may have contributed to the need for naloxone.

Orban III, James

Effect of Initial Anticoagulant Selection on Length of Stay for Acute Venous Thromboembolism

Orban III, James - Author[1]; Krushinski, Kelsey - Co-Author[1]; Harlan, Sarah - Co-Author[1]; Baird, Mallory - Co-Author[1]

[1]Baptist Memorial Hospital - Memphis

Conclusions

The results of this study support the argument that initial anticoagulation with UFH infusion leads to longer hospital LOS. However, the number of recurrent VTE was higher in the alternative group while the incidence of major bleeding was higher in the UFH group.

Results

A total of 500 patients were screened and 363 patients were excluded. Of the 137 patients included, 115 (83.9%) receiving an UFH infusion as initial anticoagulation and 22 (16.1%) receiving one of the alternative anticoagulant options. There was a significant difference in median LOS between groups: 3.1 [0.84 – 7.14] days in the UFH group compared to 1.54 [0.14 – 4.81] in the alternative group (p=0.0001). Only one patient (0.87%) in the heparin group had recurrence of VTE within 21 days compared to 2 (9.1%) in the alternative group, which was significant (p=0.016). Incidence of major bleeding was significantly higher in the heparin group (21.7%) compared to no patients in the alternative group (p=0.02).

Methods

This study was a single-center, retrospective chart review of patients diagnosed with an acute VTE within 48 hours of hospital admission and receiving therapeutic anticoagulation. The primary efficacy endpoint was difference in hospital LOS between patients receiving therapeutic UFH compared to DOACs or therapeutic enoxaparin. Secondary safety endpoints include major bleeding event (International Society on Thrombosis and Hemostasis criteria) and recurrent VTE within 21 days. Statistical analysis was completed using Student's t-test or Wilcoxon Rank Sum for continuous variables and Chi Squared or Fischer for categorical variable, as appropriate. This study was approved by the institutional review board.

Background/Purpose

Several agents are approved for the initial treatment of acute venous thromboembolism (VTE). Unfractionated heparin (UFH) is a short acting infusion requiring frequent dose adjustments and lab monitoring to ensure therapeutic effect. Despite this, low bleed risk patients are frequently admitted for acute VTE and initiated on UFH over alternative agents such as direct oral anticoagulants (DOACs) or therapeutic enoxaparin. These agents do not require as frequent monitoring or adjustments, making them appealing in stable patients. This study aims to evaluate the impact of initial anticoagulant for acute VTE treatment on hospital length of stay (LOS).

Owens, Holly

Efficacy and Safety of Direct Oral Anticoagulants in Underweight Patients

Owens, Holly - Author[1]; Tan, Yingcong - Co-Author[2]; Hubbard, Cynthia - Co-Author[3]; Pitt, Jay - Co-Author[4]

[1]Ascension Saint Thomas Hospital Midtown, Nashville, TN, [2]Ascension St. John Hospital, Detroit, MI, [3]Ascension Genesys Hospital, Grand Blanc, MI, [4]Ascension St. Vincent's Birmingham, Birmingham, AL

Conclusions

There was not a statistically significant difference in the amount of major bleeding, composite clotting events, composite bleeding, or all cause mortality in patients taking DOACs versus warfarin.

Results

At the time of preliminary analysis, 2208 patients were included, with 1577 patients in the DOAC group and 631 in the warfarin group. A major bleeding event occurred in 5.5% of patients in the warfarin group versus 4.2% in the DOAC group (p=0.167). A composite clotting event occurred in 6.7% of patients in the warfarin group versus 5.5% in the DOAC group (p=0.302). A composite bleeding event occurred in 7.8% of patients in the warfarin group versus 5.9% in the DOAC group (p=0.106). All cause mortality was 12.7% in the warfarin group and 11.2% in the DOAC group (p=0.330).

Methods

This study is a multicenter, retrospective, cohort study that reviewed patients from 2015 to 2022. The study includes adult patients that weigh 60 kilograms or less, were admitted with a diagnosis of new onset or a history of venous thromboembolism or atrial fibrillation (AF), and who received at least one dose of a DOAC or warfarin. Patients were excluded if they had severe liver disease, pregnancy, major bleeding upon admission, valvular AF, or were taking contraindicated concomitant medications. The primary outcome was major bleeding events in patients who received DOACs versus warfarin. Secondary outcomes included composite clotting events, composite bleeding events, and all-cause mortality. Follow up time was one year from the time of primary admission.

Background/Purpose

The safety and efficacy of direct oral anticoagulants (DOACs) in underweight patients has yet to be established. The existing evidence comes from subgroup analyses in landmark trials comparing DOACs to warfarin. However, numbers of patients in these subgroup analyses are small, the definition of underweight is inconsistent between trials, and the results are not from the primary outcomes of the trials. The purpose of this study is to provide evidence for the safety and efficacy of DOACs in patients who weigh 60 kilograms or less.

Palanisamy, Sreemathi

Impact of Race on Heart Failure Admissions in Veterans on Sacubitril/Valsartan

Palanisamy, Sreemathi - Author[1]; Sullivan, Joshua - Co-Author[1]; Wassell, Katelyn - Co-Author[1]; Merkel, Joseph - Co-Author[1]

[1]Lt. Col. Luke Weathers, Jr. VA Medical Center

Conclusions

Black American patients have higher rates of heart failure exacerbations leading to hospitalizations within 12 months of starting sacubitril/valsartan.

Results

Preliminary results included 77 White patients and 96 Black American patients. Overall, there is a higher rate of hospitalizations in Black American patients compared to White patients (33% vs 22%) within the twelve months of sacubitril/valsartan initiation. The medication compliance rate was lower in Black American patients than in White patients (76.9% vs. 89.5%). The incidence rate of sacubitril/valsartan discontinuation was higher in the Black American group compared to White patients (21% vs. 13%) predominately due to hypotension and hyperkalemia. The average duration of hospitalization for heart failure was 3.5 versus 7.8 days in the Black American and White patient groups respectively. Data collection is ongoing.

Methods

This study was a retrospective, observational cohort study of patients treated within the Memphis Veterans Affairs Medical Center from January 1, 2020, to April 1, 2023. Adult patients 18 years or older were included if they were initiated on sacubitril/valsartan by a VA provider at inpatient admission, a heart failure therapeutic monitoring clinic, or a cardiology clinic. Exclusion criteria included initiation of sacubitril/valsartan by providers not affiliated with VAMC, patient who discontinued care with VAMC within twelve months of starting sacubitril/valsartan, and patients with known contraindications to sacubitril/valsartan before initiation. The primary outcome of this study is to evaluate the incidence of heart failure hospitalizations within the twelve months of sacubitril/valsartan initiation in Black American patients compared to White patients.

Background/Purpose

Black patients are underrepresented in landmark heart failure clinical trials despite having an increased risk for heart failure compared to White patients. This study aims to evaluate the rate of heart failure exacerbations requiring hospitalization within twelve months following the initiation of sacubitril/valsartan in Black American patients. Understanding the efficacy of sacubitril/valsartan may provide information on optimizing heart failure management for Black American patients in the Memphis Veterans Affairs Medical Center.

Parnacott, Tara

Antibiotic Inertia and the Impact on Patients with Community-Acquired Pneumonia

Parnacott, Tara - Author[1]; Jacobs, Anna - Co-Author[1]; Marjoncu, Dennis - Co-Author[1]; Hayes, Lisa - Co-Author[1]

[1]Methodist University Hospital

Conclusions

There was an increased rate of antibiotic inertia in patients that received narrow therapy from an EDP. This was expected as most patients started on narrow therapy were receiving guideline based therapy for CAP. Initiation of broad therapy antibiotics in the ED was associated with longer durations of therapy. Revision of the sepsis order-set may be warranted to decrease use of unnecessarily broad antibiotic coverage for patients with suspected CAP.

Results

One hundred eleven patients were included: 75 patients in the ED narrow therapy group (67.6%) and 36 in the broad therapy group (32.4%). Overall, 54% of patients met sepsis criteria on presentation. The rate of antibiotic inertia was found to be significantly higher in the narrow therapy group (52% vs. 16.7%; $p<0.001$). The narrow therapy group was more likely to be on appropriate inpatient antibiotics (65.7% vs. 32.4%; $p<0.001$). Patients started on broad therapy in the ED had longer durations of antibiotics (9.6 days vs. 6.6 days; $p<0.001$). Use of a "sepsis bundle" order-set was associated with a higher rate of broad therapy (32% vs. 63.9%, $p<0.001$).

Methods

A retrospective chart review was conducted of adults admitted to Methodist University Hospital via the ED in Memphis, TN for initial treatment of CAP between January 1, 2020 and July 1, 2022 who were started on antibiotics by an EDP. Broad antibiotic coverage were defined as antibiotics covering MRSA or Pseudomonas. Patients were excluded if no antibiotics were started by the EDP, immediate admission to the ICU, multiple indications for antibiotics, or positive for COVID during the visit.

Background/Purpose

The concept of antibiotic inertia has previously been defined as the tendency of inpatient providers to continue antibiotics that were chosen in the Emergency Department (ED) regardless of appropriateness. Patients presenting with community-acquired pneumonia (CAP) may frequently meet the criteria for sepsis, and the current sepsis guideline recommendations may contribute to early broad antibiotic selection. This study aimed to compare if patients with CAP started on broad spectrum antibiotics by the ED provider (EDP) experienced more antibiotic inertia when compared to patients with CAP initially started on narrow therapy.

Peterson, Hannah

Predictors of Bleeding Events in Advanced Elderly Patients Who Received Alteplase for Acute Ischemic Stroke

Peterson, Hannah - Author[1]; Wells, Drew - Co-Author[1]; Schotting, Paul - Co-Author[1]; Negrete, Ana - Co-Author[1]

[1]Methodist LeBonheur Healthcare - University Hospital

Conclusions

The rate of sICH in our sample of advanced elderly patients who received alteplase is consistent to the published literature. Final data is pending to evaluate for risk factors for bleeding events.

Results

Preliminary data demonstrated a rate of sICH of 6%. Of the patients who experienced bleeding events, including sICH, 19% were associated with in-hospital mortality and 50% were discharged to skilled-nursing or rehabilitation facilities post-discharge.

Methods

This was an IRB-approved retrospective study at MLH adult hospitals from January 2016 to August 2022 evaluating patients greater than 80 years old who received alteplase for AIS. An initial analysis of a pre-specified number of patients was conducted to determine the internal rate of sICH. After the initial analysis, subsequent data collection was performed to collect a pre-specified number of 100 patients in a 1:3 ratio of patients with ICH versus those without a bleeding event. Patients were collected in a randomized fashion. The primary outcome was to quantify the rate of sICH. Secondary outcomes included identifying risk factors for ICH and stratifying risk factors by age, all bleeding events including asymptomatic ICH and other bleeds, in-hospital mortality, and discharge disposition.

Background/Purpose

Previous trials have established the efficacy of alteplase in acute ischemic stroke (AIS). Globally, the rate of symptomatic intracranial hemorrhage (sICH) in patients who receive intravenous thrombolysis ranges from 2-7%. The purpose of this study was to identify predictors of bleeding events in patients greater than 80 years old with AIS who received alteplase in the Methodist LeBonheur Healthcare (MLH) system.

Pham, Megan

Evaluation of Pharmacy-Directed Program for Increasing Utilization of Patient Assistance Mechanisms to Provide Guideline-Directed Medication Therapy to HFrEF Patients

Pham, Megan - Author[1]; Brewster, Amy - Co-Author[1]; Waddell, Dawn - Co-Author[1]
[1]Baptist Memorial Hospital-Memphis

Conclusions

There is a need for more awareness in available patient assistance resources for other healthcare disciplines. Further data analysis is in process for additional outcomes.

Results

From April-June 2002, forty-four patients admitted met criteria for the pre-intervention group. Preliminary results shown that prior to RxTOC, 22 patients (50%) received patient assistance upon discharge. Of those, 11 received resources from case management while the remaining were provided by the outpatient hospital pharmacy. The case management team completed thirty surveys prior to pharmacist education. At that time, only 32% were able to determine all available resources for patients based on prescription insurance type and 55% were able to understand use of medication co-pay cards.

Methods

This study was a single-center, retrospective chart review of patients with HFrEF who were discharged home on a sodium-glucose co-transporter-2 inhibitor and/or an angiotensin receptor-neprilysin inhibitor. Patients from before and after implementation of the RxTOC services were compared. Patients were excluded if discharged with IV inotropes, not discharged to home, or undergoing evaluation or recipient of either a heart transplant or left ventricular assistance device. This study also assessed the outcome of patient assistance awareness training to the case management (CM) team. A pre-/post-survey was done to determine CM's familiarity with and usage of assistance options. The primary outcome was the change in number of patients receiving patient assistance resources prior to discharge. Secondary outcomes included the volume of RxTOC services provided and change in the CM team's familiarity with patient assistance programs following pharmacist-directed training. The primary and secondary objectives were analyzed using descriptive statistics.

Background/Purpose

Evidence supports initiation of guideline-directed medication therapy in hospitalized heart failure (HF) patients. However, decreased accessibility to newer agents due to cost barriers contributes to medication non-adherence. In an effort to improve patient medication adherence at Baptist Memorial Hospital-Memphis, a pharmacy-driven (RxTOC) service was created to address these barriers. The purpose of the study is to evaluate the impact of this service on the utilization of patient assistance resources in hospitalized patients with heart failure with reduced ejection fraction (HFrEF). .

Phillips, Katelyn

Role of Cystatin C in Estimating Glomerular Filtration Rate in Pediatric Hematology and Oncology Patients

Phillips, Katelyn - Author[1]; Christensen, Anthony - Co-Author[1]; Cross, Shane - Co-Author[1]; McCormick, John - Co-Author[1]; Pauley, Jennifer - Co-Author[1]; Stewart, Clinton - Co-Author[1]; Molinelli, Alejandro - Co-Author[1]

[1]St. Jude Children's Research Hospital

Conclusions

The Bedside Schwartz equation, which is used extensively in PHO patients, is shown to overestimate GFR. The 5 SJ equation and CKiD equation had the lowest bias while the CKiD equation demonstrated the best accuracy. The SCr-CysC-based CKiD equation could be useful for clinical purposes in the PHO setting.

Results

There are 729 observations collected from 570 patients. The overall P30 values for the Bedside Schwartz, 5 SJ, Rule, Schwartz-CysC, and CKiD equations were 56.1%, 78.2%, 58.8%, 61.9%, and 86.7%, respectively, with the CKiD equation providing the highest P30 overall and in most subgroups. The 5 SJ equation had the smallest mean bias, followed closely by the CKiD equation. The Bedside Schwartz equation overestimated GFR significantly, whereas the Rule and Schwartz CysC equations exhibited substantial underestimation of GFR.

Methods

All routine Tc99 studies performed between January 1, 2016 to May 31, 2022, with a corresponding CysC were evaluated. Demographic and clinical data were collected. The mGFR was obtained using Tc99 clearance, and eGFR was calculated using the Bedside Schwartz, 5-covariate St. Jude (5SJ), Rule, Schwartz CysC-based (Schwartz-CysC), and SCr-CysC-based CKiD (CKiD). Accuracy was evaluated by determining the percentage of eGFR that fell within 30% of the mGFR values (i.e.,P30). Bias was defined as the difference between eGFR and mGFR values. Data analyses were performed using R4.2.1.

Background/Purpose

Accurate assessment of renal function is essential in pediatric hematology/oncology (PHO) patients receiving nephrotoxic chemotherapy and renally eliminated medications. The most accurate method to measure renal function is with a radiopharmaceutical, such as 99m-Technetium DTPA (Tc99), however this method is time consuming, expensive, and sometimes inaccessible. Current pediatric estimated glomerular filtration rate (eGFR) equations have limitations based on populations studied in, use of different covariates, and limited validity in PHO patients. St. Jude investigators previously established that common serum creatinine (SCr)-based equations did not accurately predict measured GFR (mGFR) in a PHO population. Cystatin C (CysC)-based equations may be better correlated with mGFR in pediatric patients compared to SCr, however more data is needed in the PHO population. To evaluate the performance of various eGFR equations compared to mGFR using Tc99 in PHO population. All routine Tc99 studies performed between January 1, 2016 to May 31, 2022, with a corresponding CysC were evaluated. Demographic and clinical data were collected. The mGFR was obtained using Tc99 clearance, and eGFR was calculated using the Bedside Schwartz, 5-covariate St. Jude (5SJ), Rule, Schwartz CysC-based (Schwartz-CysC), and SCr-CysC-based CKiD (CKiD). Accuracy was evaluated by determining the percentage of eGFR that fell within 30% of the mGFR values (i.e.,P30). Bias was defined as the difference between eGFR and mGFR values. Data analyses were performed using R4.2.1.

Plauche, Emily

Impact of removal of default durations and pharmacist-led education on discharge antibiotic prescribing in the emergency department

Plauche, Emily - Author[1]; Stover, Kayla - Co-Author[2]; Barber, Katie - Co-Author[2]; Cretella, David - Co-Author[1]; Wingler, Mary Joyce - Co-Author[1]

[1]University of Mississippi Medical Center, [2]University of Mississippi School of Pharmacy

Conclusions

The antibiotic durations prescribed were similar in both groups. This was likely due to lack of consistent antimicrobial stewardship efforts in the ED, frequent rotation of medical residents, and use of antibiotics that were not impacted by the removal of default durations. These results will be used to further educate ED providers on identified areas of improvement.

Results

A total of 220 patients were included in the study (110 pre-intervention and 110 post-intervention). Baseline characteristics were similar between groups, and the most common disease state was acute cystitis (45%). The mean antibiotic duration was 6.60 versus 6.35 days in the pre- versus post-intervention groups (p = 0.382). Only 4.5% of antibiotics prescribed were on the default duration list, and cephalexin was the most prescribed discharge antibiotic (28.6%). Most prescriptions (78%) were considered inappropriate due to either the antibiotic selected or duration prescribed.

Methods

This single-center, pre-/post-intervention quasi-experimental study evaluated patients discharged from the University of Mississippi Medical Center Adult ED between October 1, 2021 to February 28, 2022 (pre-intervention group) and October 1, 2022 to February 28, 2023 (post-intervention group). Antibiotic default durations were removed from our EMR system in September 2022, and education was provided to ED providers on proper antibiotic selection and duration for commonly seen infections. Adult patients were included in the study if they had a new presumed diagnosis of acute cystitis, acute pyelonephritis, community acquired pneumonia, cellulitis, or skin abscess, and had a new prescription for an oral antibiotic at ED discharge. Only the first incidence per patient was included. Pregnant patients, prisoners, and patients with more than one infectious diagnosis were excluded. The primary outcome of the study was duration of antibiotic therapy prescribed at discharge from the ED. Secondary outcomes included duration of antibiotic therapy for each diagnosis group, prescription appropriateness, and treatment failure.

Background/Purpose

Antibiotic prescribing in the emergency department (ED) impacts antibiotic use and resistance in both the outpatient and inpatient settings. The purpose of this study was to assess the effectiveness of an intervention that removed default durations from the electronic medical record (EMR) on the duration of antibiotics prescribed in the ED.

Ponder, Ally

Optimal Weight-Based Dosing of Vancomycin to Achieve an Area Under the Curve (AUC) of 400-600 Stratified by Body Mass Index (BMI)

Ponder, Ally - Author[1]; Mitchell, Anna - Co-Author[1]; Bennett, Jessica - Co-Author[1]
[1]Lt. Col. Luke J. Weathers, Jr. VA Medical Center

Conclusions

Conclusions are pending final data collection and analysis.

Results

Data collection is currently ongoing. Results will be described.

Methods

A structured query language program identified patients who received vancomycin from January 1, 2020, to September 30, 2022 at the Memphis Veterans Affairs Medical Center. Adult patients 18 years or older, scheduled on vancomycin with or without a vancomycin level were screened for inclusion. Patients had a scheduled vancomycin regimen administered once or twice daily. Patients were excluded if receiving hemodialysis, had a history of limb amputation or spinal cord injury, or had an acute kidney injury (AKI) at the time of vancomycin initiation. Patients were then categorized based on dosing frequency and BMI. Loading and maintenance vancomycin doses were collected. The online vancomycin calculator, VancoPK, was utilized to calculate AUC based on the dose, timing, level, and patient specific parameters. Baseline renal function and renal function on vancomycin therapy were used to assess AKI. Use of one or more nephrotoxic agents was also collected to assess for cofounding variables. The primary outcome was to determine the optimal weight-based dose of vancomycin associated with a therapeutic AUC (400-600) stratified by BMI in a Veteran population. The secondary outcome was the incidence of AKI while on vancomycin therapy based on dosing regimen and BMI.

Background/Purpose

In 2020, the American Society of Health System Pharmacist (ASHP) and Infectious Diseases Society of American (IDSA) published a guideline for therapeutic monitoring of vancomycin for serious MRSA infections. Given Bayesian-derived AUC monitoring software is more widely available, AUC dosing is the preferred monitoring target. Guidelines recommend vancomycin doses of 15-20 mg/kg administered every 8-12 hours for most patients with normal renal function. In extreme body weights, standard dosing recommendation may not provide a therapeutic AUC. The purpose of this pharmacokinetic study was to evaluate the optimal vancomycin weight-based dosing strategy that achieves the targeted AUC stratified by BMI.

Pranga, Katrianna

Evaluation of the Safety and Efficacy of the Treatment of Hypercalcemia in the Baptist Memorial Health System

Pranga, Katrianna - Author[1]; Welch, Hope - Co-Author[1]
[1]Baptist Memorial Hospital - Golden Triangle

Conclusions

In progress.

Results

341 patients were identified with 218 patients included in the study, of note 10 patients were included with multiple admissions for the same diagnosis. The treatments that were most effective included use of triple therapy. There were 111 patients with resolution of their hypercalcemia at discharge and 107 were discharged with a calcium > 10.5 mg/dl. Analysis of data is ongoing.

Methods

This study is a retrospective review of the electronic health record utilized by Baptist Memorial Health System to assess management of hypercalcemia from January 1, 2019 to January 1, 2022. The study consists of 2 phases. Phase 1 will include an assessment of safety and efficacy of the management of hypercalcemia via a retrospective chart review. Phase 2 will be the development of a protocol for the management of hypercalcemia for the Baptist Memorial Health System.
Patients included were 18 years of age and older, had a Calcium > 9 mg/dL and who were admitted to the Baptist Memorial Healthcare System. Hypercalcemia categories included mild (10.5 – 11.9 mg/dL), moderate (12 -13.9 mg/dL), and severe (>14 mg/dL). Patients were excluded if they were less than 18 years old, pregnant, or inmates.
The primary outcome of this study was to assess management of hypercalcemia within the Baptist System. The secondary outcome was to evaluate which combination of therapies is the most efficacious and to assess safety outcomes. These results will be evaluated to formulate a protocol for hypercalcemia treatment that will be presented to the Pharmacy and Therapeutics Committee.

Background/Purpose

The medications utilized for the treatment of hypercalcemia, defined as a calcium level greater than 10.5 mg/dL, have subtle differences for use that may lead to incorrect prescribing. Hypercalcemia treatment is not standardized at our institution. We have observed that some medications may need modification to more commonly used products or therapies. Therefore, we wanted to assess the safety and efficacy of current hypercalcemia treatment and possibly develop a protocol to improve management of hypercalcemia.

Pratt, Savannah

Length of Mechanical Ventilation when Comparing Benzodiazepine versus Nonbenzodiazepine Sedation in Critically Ill Patients

Pratt, Savannah - Author[1]; Clark, Brady - Co-Author[1]; Smith, Forrest - Co-Author[2]

[1]Unity Health - White County Medical Center, [2]Harding University

Conclusions

To be determined

Results

This research is in progress. Results and conclusions pending.

Methods

This single-center retrospective chart review will identify patients admitted to the intensive care unit from August 1, 2017 to August 31, 2022 who underwent mechanical ventilation utilizing either benzodiazepines or nonbenzodiazepines for sedation. The length of ventilation will be determined through review of cardiopulmonary documentation. Baseline demographics will be collected using electronic medical records for all patients. Data will be collected on each patient's length of ventilation, length of ICU stay, and agents used for sedation. The primary outcome measured will be the length of ventilation and the secondary outcomes will be ICU length of stay and CAM-ICU scores.

Background/Purpose

Benzodiazepines have been associated with a longer length of mechanical ventilation compared to nonbenzodiazepine sedating agents like propofol or dexmedetomidine. Studies have shown better outcomes with nonbenzodiazepines for sedation and favor these agents when targeting light sedation. These studies have led to the Society of Critical Care Medicine's (SCCM), "Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU (PADIS)," which recommend nonbenzodiazepines over benzodiazepines for sedation. The purpose of this study is to determine the difference in length of ventilation when comparing nonbenzodiazepines and benzodiazepines in a small-community hospital.

Pridgen, Savannah

Effect of midodrine on central line duration for the weaning of vasopressors

Pridgen, Savannah - Author[1]; Wren, Chris - Co-Author[1]; Robinson, Jordan - Co-Author[1]
[1]TriStar Summit Medical Center

Conclusions

When added to vasopressors in this population, midodrine did not have an effect on central line duration or ICU/hospital LOS. Incidence of bradycardia was not significantly increased by the addition of midodrine at doses utilized in this study. However, given the statistical significance of the exploratory outcomes, additional research should be conducted to investigate the effect of early initiation of midodrine for the weaning of vasopressors on central line duration and potential decrease in ICU/hospital LOS.

Results

100 patients were randomized in the vasopressor alone group and 52 patients in the midodrine plus vasopressor group. Central line duration was no different between groups (difference: 0.34; 95% CI: (-1.96-2.64); p = 0.77). ICU and hospital LOS were also no different (difference: -0.83; 95% CI: (-4.10 – 2.41); p = 0.61; difference: 1.81; 95% CI: (-2.11 – 5.73); p = 0.36, respectively). No difference in bradycardia incidence was found (RR: 0.71; 95% CI: (0.39-1.29); p = 0.24). For the exploratory outcome, 44 patients received midodrine 24 hours or more after vasopressor initiation and 8 patients within 24 hours after vasopressor initiation. A statistically significant difference was found between central line duration and ICU/hospital LOS when midodrine was initiated within 24 hours of vasopressors (difference: 4.02; 95% CI: (1.49 – 7.09); p = 0.012; difference: 6.66; 95% CI: (2.48 – 10.84); p = 0.003; difference: 6.39; 95% CI: (1.51 – 11.27); p = 0.012, respectively).

Methods

In this retrospective, single-center, observational review, patients were identified using a clinical surveillance tool. Eligible patients received midodrine to wean vasopressors from January 2018 through August 2022. Patients were randomly selected from two groups, vasopressors alone, or midodrine in combination with vasopressors. The primary endpoint was central line duration, in days. Secondary endpoints were hospital and intensive care unit (ICU) length of stay (LOS), in days. Safety endpoint was bradycardia incidence. Exploratory endpoints were primary and secondary endpoints analyzed for midodrine initiation within 24 hours compared to 24 hours or more after vasopressor initiation.

Background/Purpose

To determine if the addition of midodrine shortens central line duration when utilized to wean vasopressors in critically ill patients with vasodilatory shock or vasopressor-dependent hypotension.

Quran, Firas

Evaluation of Sodium-Glucose Cotransporter 2 Inhibitors and Angiotensin Receptor-Neprilysin Inhibitor in Patients with Heart Failure with Reduced Ejection Fraction

Quran, Firas - Author[1]; Inman, Kaitlyn - Co-Author[1]; Murphy, William - Co-Author[1]; Fuller, Laura - Co-Author[1]

[1]Baptist Memorial Hospital - Desoto

Conclusions

To be described

Results

To be described

Methods

Retrospective cohort utilizing chart review of patients with HFrEF. Inclusion criteria includes patients: ≥ 18 years of age, Ejection fraction ≤ 40%, and New York Heart Association (NYHA) Class II, III, IV. Patients will be identified by retrospective data collection from electronic medical records of all patients admitted to Baptist Memorial Hospital – Desoto from January 1, 2018, through July 31, 2022. Primary endpoints consist of Heart failure admission within 30 days from index hospitalization in the following groups: Patients receiving an SGLT2i and sacubitril-valsartan, Patients receiving an SGLT2i alone, Patients receiving sacubitril-valsartan alone, and Patients not receiving either an SGLT2i or sacubitril-valsartan. Secondary endpoints include: GDMT optimization on discharge, 30-day all cause readmissions, 90-day heart failure and all cause readmissions, and percent of patients receiving target doses of GDMT.

Background/Purpose

The cornerstone of treatment for patients with heart failure is guideline-directed medication therapy (GDMT). The most recent and effective GDMT recommendations include Sodium-Glucose Cotransporter 2 Inhibitors (SGLT2i) and Angiotensin Receptor-Neprilysin Inhibitor (ARNi).
The PIONEER-HF trial showed that ARNi reduced NT-proBNP levels in patients hospitalized for acute decompensated HF without increased rates of adverse events compared with enalapril. Sodium-glucose Cotransporter 2 inhibitors were initially developed to treat type 2 diabetes owing to their glucosuric action. However, cardiovascular outcome trials in patients with type 2 diabetes demonstrated an unexpected and substantial reduction in heart failure hospitalization with these agents. The DAPA-HF (Dapagliflozin and Prevention of Adverse Outcomes in Heart Failure) trial and EMPEROR-Reduced (EMPagliflozin outcomE tRial in Patients With chrOnic Heart Failure with Reduced Ejection Fraction) showed the benefit of SGLT2i. Based on the modest adoption of these agents into clinical practice even with significant reductions in morbidity and mortality in recent trials, the goal of this study is to analyze the prescribing practices and outcomes of SGLT2i and ARNI in patients with HFrEF to determine the impact of 30-day heart failure readmissions and GDMT optimization.

Rajan, Emily

Treatment of enterobacterales causing pediatric urinary tract infections with first-generation cephalosporins despite higher minimum inhibitory concentrations

Rajan, Emily - Author[1,2]

[1]Le Bonheur Children's Hospital, [2]The University of Tennessee Health Science Center

Conclusions

Conclusions will be submitted within final slides

Results

Results will be submitted within final slides

Methods

This is a single center, 5-year retrospective study looking at patients less than 24 months old who were diagnosed with a UTI with Enterobacterales isolated from urinary cultures. Infections were excluded if the pathogen had an MIC of less than or equal to 4 mcg/mL. Patients who were afebrile, failed to meet defining criteria for a positive UTI on both urinalysis and urine culture will be excluded. Demographics, vital signs, urinalysis, culture and susceptibility reports, antibiotics received, duration of therapy, and presentation with recurrent symptoms within 30 or 60 days from symptom onset will be collected. Our primary aim is to assess the outcomes of UTI treatment in patients with pathogens exhibiting higher MICs to FGCs who were treated with FGCs compared to those who were treated with another susceptible antimicrobial. Our secondary aim is to identify confounders that could impact treatment failure if treatment failure is identified. Proportional differences between treatment groups will be compared via Chi-squared or Fisher's exact test. Logistic regression may be used for multivariable analyses.

Background/Purpose

Urinary tract infections (UTIs) caused by Enterobacterales are the most common bacterial infections in children. First-generation cephalosporins (FGCs) demonstrate bactericidal activity against Enterobacterales and achieve higher concentrations in the urine than other anatomical sites. Complicated UTIs are not well defined in the pediatric population. However, studies demonstrate that changes consistent with acute pyelonephritis are shown in 57 to 63 percent of children who present with a first time UTI. In 2014, The Clinical and Laboratory Science Institute updated the recommended minimum inhibitory concentration (MIC) breakpoints for FGCs susceptibility of Enterobacterales from urine isolates in uncomplicated UTIs to less than or equal to 16 mcg/mL. The recommended breakpoint remains at less than or equal to 2 mcg/mL for all non-urine and urine isolates for complicated UTIs. This study aims to compare outcomes in patients treated with FGCs compared to other agents in children less than two years with a febrile UTI (high chance of being pyelonephritis) with pathogen MICs of 8 and 16 mcg/mL.

Rayborn, Stephen

Evaluating Pharmacist Impact on Antibiotic Use Through Retrospective Review of Multidisciplinary Rounding Interventions

Rayborn, Stephen - Author[1]; McCay, Alix - Co-Author[1]; McCrory, Kim - Co-Author[1]
[1]North Mississippi Medical Center

Conclusions

Pharmacist interventions during multidisciplinary rounding reduced both the average inpatient and outpatient antibiotic treatment duration in the study population. Results also reflected a reduced 30-day readmission rate for recurrent infection.

Results

A total of 76 patients were included in the study population with 38 in each of the study groups. The average duration of inpatient antibiotic therapy was 9.1 days and 7.6 days in the pre-implementation and post-implementation groups, respectively (p=0.31). The average length of outpatient antibiotic therapy prescribed at discharge was 6.3 days pre-implementation and 5.2 days post-implementation (p=0.41). The pre-implementation group had 8 readmissions (6 for re-infection) and the post-implementation group had 7 readmissions (4 for re-infection) (p=0.77). The 30-day mortality and adverse event rates were equal for both groups.

Methods

A retrospective chart review was performed for patients who met the following inclusion criteria: 18 years of age or older, admission to the designated adult medicine unit, and administration of antibiotic therapy for pneumonia, cellulitis, bacteremia, diabetic foot infections, or urinary tract infections. Patients who were positive for COVID-19 were excluded from the study. The data collected for comparison included: duration of antibiotic therapy, 30-day readmission, 30-day mortality, antibiotic adjustment based on cultures, intravenous to oral transition, adverse event rates, and Clostridioides difficile infection rates. Pre-implementation data was collected from 1 July 2020 to 31 December 2020 and compared to a matching timeframe of post-implementation data, which was collected from 1 July 2022 to 31 December 2022. These dates correspond to one year before and one year after the implementation of MDR on the designated medical unit.

Background/Purpose

Multidisciplinary rounding (MDR) was recently initiated on a high-volume adult medicine unit at the institution and has promoted collaborative patient care amongst various professions. Pharmacists contribute by making recommendations regarding proper use of medications. Recommendations regarding antibiotic therapy appropriateness are quite common and based on Pharmacy and Therapeutics committee-approved treatment guidance, which reflects accepted guidelines and practices of antibiotic stewardship. The goal of the study is to assess the impact that pharmacist interventions have on the appropriateness of antibiotic therapy by comparing antibiotic usage before and after the implementation of MDR.

Reilly-Evans, Brenna

Initiating Long-Acting Injectable Cabotegravir in a Pharmacist-Led HIV Preexposure Prophylaxis Clinic

Reilly-Evans, Brenna - Author[1]
[1]Regional One Health

Conclusions

Although time to implementation is greater than with oral PrEP, LAI-CAB is an effective and well tolerated medication for PrEP. LAI-CAB can be considered in a pharmacist-led PrEP clinic with resources dedicated to improving medication access, medication acquisition and patient adherence.

Results

Of the 16 patients screened for inclusion, 10 were included in this study. Five patients initiated LAI-CAB. Of the 5 who did not initiate LAI-CAB, 3 patients decided to defer PrEP, 1 was out of network, and 1 was lost to follow up. Of the 5 patients who started LAI-CAB, 4 continued. One patient moved away from the study site. No HIV-1 infections were seen during the study period. The only adverse event reported was injection site pain/tenderness. The median time for medication approval through the online portal, benefits investigation, and PMAP approval for all enrollments was 7, 6, and 17 days, respectively. PMAP was used for 3 patients and 1 through medical insurance benefits. The pharmacist managed all aspects of medication attainment and clinic follow up.

Methods

This is a single-center, prospective study assessing initiation of long-acting injectable cabotegravir (LAI-CAB) in a pharmacist-led PrEP clinic. Patients included were seen in the PrEP clinic between Sept 1st, 2022 and Feb 22nd, 2023 who were interested in initiating LAI-CAB for PrEP and had recent negative HIV-1 testing. Excluded patients included those who did not meet criteria based on clinic protocol. The drug manufacturer's online portal was utilized for benefits investigations and patient medication assistance program (PMAP) applications.

Background/Purpose

Historically, HIV pre-exposure prophylaxis (PrEP) medications have all been oral tablets taken daily. The long acting injectable, Apretude, (cabotegravir) was FDA approved in late 2021 for PrEP. Cabotegravir (CAB), was shown to be superior to daily oral PrEP. CAB injections may be preferred in patients with significant renal disease, difficulty adhering to daily oral PrEP, and those who face stigma of taking oral PrEP at home. Implementing CAB for PrEP into practice may have several barriers. This study will aim to address barriers and discuss implementing injectable CAB in a pharmacist-led HIV PrEP clinic.

Rhett, Anna

Failure to Fail: The Impact of Preceptor Feedback on Hesitancy to Fail Students in the Fourth Year of Pharmacy School

Rhett, Anna - Author[1]; Fleming, Laurie - Co-Author[1]; Pate, Adam - Co-Author[1]; Goodman, Victoria - Co-Author[1]

[1]The University of Mississippi School of Pharmacy

Conclusions

These findings suggest that most preceptors have never failed an APPE student, despite some feeling as though they should have. Feedback appears to be a component of most APPE rotations, with most preceptors reporting they consistently give feedback which they feel to be sufficient to help students improve. Still, not all preceptors are formally documenting said feedback. Based upon the data collected in this research, it could be suggested that preceptors who formally document feedback feel empowered to justly give students failing grades. Future research should seek to learn more about feedback documentation and how it relates to preceptor development.

Results

A total of 721 questionnaires were distributed with a response rate of 56% (404/721). Of those who completed the questionnaire, 32 (7.9%) reported having failed a student, 318 (78.7%) reported having never failed a student, and 54 (13.4%) reported that they had not failed a student, though they felt as if they should have. Of those who have failed a student, 29 (90.6%) consistently give verbal feedback and 27 (84.4%) formally document that feedback. Of the 342 preceptors who reported never having failed a student, 304 (88.9%) consistently give verbal feedback and 189 (55.3%) report formally documenting feedback. A majority (338, 89.9%) reported that they believe their feedback to be sufficient to help students identify weaknesses and strengths.

Methods

All APPE preceptors at the University of Mississippi School of Pharmacy (UM) and the University of Arkansas for Medical Sciences College of Pharmacy (UAMS) were eligible for study participation and were recruited via email. Participants were asked to complete an electronic questionnaire evaluating perceptions of giving a failing score to APPE students. All questions were optional. Of 23 questions, four questions related to feedback. Descriptive statistics were performed on the data collected.

Background/Purpose

Advanced Pharmacy Practice Experiences (APPEs) are viewed as the culmination of didactic and practical instruction in pharmacy education. The purpose of this research was to determine if preceptors are hesitant to fail APPE students. Additionally, this study sought to investigate the impact feedback has on the decision to fail APPE students.

Risby, Joanna

Methadone: A Rapid Literature Review of the Barriers to Care in the United States

Risby, Joanna - Author[1,2]; Cernasev, Alina - Co-Author[2]; Geminn, Wesley - Co-Author[1]; Schlesinger, Erica - Co-Author[1]

[1]Tennessee Department of Mental Health and Substance Abuse Services, [2]The University of Tennessee Health Science Center

Conclusions

This rapid literature review highlighted socioeconomic and geographic barriers that inform us about the compounding factors of accessing methadone. A viable solution to the dominant geographic barrier is to enhance access to alternative methadone dosing locations. Furthermore, this study captured a significant literature gap where future research is imperative to describe the obstacles to methadone access, design interventions to address them, and measure the impact of interventions on barriers

Results

A total of 34 articles were reviewed, with 13 meeting the selection criteria. Barriers were identified as socioeconomic and geographic. Geographic obstacles were more prominent in rural and underserved areas. Flexibility and convenience of OTP services were associated with increased access and retention in care. Regulatory policies were identified as both barriers and facilitators to care.

Methods

Two databases, PubMed and Embase, were searched for relevant literature from August 2022 to October 2022. MeSH terms included methadone, health services accessibility, opioid-related disorders, and opiate substitution treatment. Other keywords include access barriers and opioid treatment programs. Studies focused on methadone access and enrollment, and retention rates at OTPs were included. Studies conducted outside the United States or focused primarily on buprenorphine or naltrexone were excluded.

Background/Purpose

Federal regulations limit methadone for opioid use disorder (OUD) to opioid treatment programs (OTPs). Excluding this regulatory barrier, limited literature discusses obstacles to methadone access for the management of OUD despite increased demand for care. Thus, the main objective of this rapid review was to examine the barriers and facilitators to methadone access for patients with OUD.

Rizo, Eduardo

Impact of the Implementation of Stock Out Reduction Strategies

Rizo, Eduardo - Author[1]

[1]HCA Healthcare / The University of Tennessee

Conclusions

To be described.

Results

To be described.

Methods

This is an operational optimization pilot project involving the implementation of a standardized stock out reduction process developed and tested at a 159-bed hospital between September 2022 and April 2023. The following periods were compared: January 2022 to September 2022 (pre-strategy implementation), October 2022 to January 2023 (intra-strategy implementation) and February 2023 to April 2023 (post-strategy implementation). Endpoints measured included stock out percentages (goal January 2022 to October 2022 ≤0.50%; goal November 2022 onward ≤0.37%) and ADC medication refills >4 times per month (goal throughout <2.75%). Automated dispensing cabinets were optimized by (1) adjusting par inventory levels to represent a 5-day minimum and 12-day maximum based on average daily usage, (2) increasing ADC stock for medications refilled >4 times a month, (3) notifying pharmacy staff and addressing medications at 40% of the minimum par level, (4) assessing removal of medications from ADCs not used in the previous 90-days, and (5) reviewing active medication orders to anticipate increased need for inventory of specific medications. Optimization strategies were individually reviewed and outcomes were assessed by comparing measured endpoints before and after implementation to determine the effects of each separate strategy.

Background/Purpose

Nursing labor shortages have strained the healthcare industry since before the COVID-19 pandemic. A shortfall of more than 150,000 nurses was anticipated by 2020. Since then, the pandemic has exacerbated the labor shortage with an accelerating rate of retirements outpacing new entrants to the field, stressing an already fragile U.S. healthcare system and potentially contributing to worse patient outcomes. Nurses spend an average of 9 minutes per patient procuring and administering medications and about 25% of their time on direct patient care. Unavailable doses increase the medication turnaround time resulting in interruptions in nursing daily workflow. Optimization in automated dispensing cabinets (ADCs) inventory have led to reductions in overall stockout percentages and improvements in the average medication turnaround time. Due to the nursing labor shortage, this study aims to describe how specific stock out reduction interventions result in greater availability of medications as a means to reduce interruptions in nursing workflow.

Roberts, Jessie

Implementing a Meropenem Justification for Use Requirement in a Tertiary Care Community Hospital

Roberts, Jessie - Author[1]
[1]Jackson-Madison County General Hospital

Conclusions

Research is ongoing. Results and conclusions will be described at time of presentation.

Results

Research is ongoing. Results and conclusions will be described at time of presentation.

Methods

Adult patients were included in this IRB-approved, single-center, retrospective analysis if they received at least one dose of meropenem while admitted at our facility from November 1st to December 31st 2022. This retrospective chart review was conducted in pre- and post-intervention phases to compare utilization of meropenem and the patient populations receiving meropenem one month prior to and one month after the meropenem justification requirement was implemented. The meropenem justification for use form was created within the electronic health record as a pop up for providers when placing an order for meropenem, prompting the clinician to select from a list of predefined justifications or provide a free-text rationale. Statistical methods will be used to evaluate the impact of the meropenem justification requirement on days of therapy, appropriateness of selected indications, as well as patient-specific factors. Analysis of the justifications provided by clinicians will also be conducted to identify common themes and areas for improvement in antibiotic prescribing practices.

Background/Purpose

Carbapenems, such as meropenem, are broad spectrum antibiotics that are approved to treat a variety of complicated infections. Although this class of antibiotics is recommended to be reserved for treatment or prevention of infections that are proven or strongly suspected to be caused by susceptible bacteria, they are often overused. The overuse of carbapenems has been associated with the emergence of carbapenem-resistant bacteria and the spread of antimicrobial resistance. At Jackson-Madison County General Hospital, the use of carbapenems has decreased with implementation of various antimicrobial stewardship tools but remains high as compared with similar-sized institutions. The purpose of this study was to evaluate the use of meropenem pre- and post-implementation of a justification for use requirement within the electronic health record. The results of this study aids the development of evidence-based interventions to improve antibiotic stewardship and reduce the overuse of carbapenems at our facility.

Rutland, A. Nicole

Evaluating Oral Oxycodone Use to Wean Continuous Fentanyl Infusions

Rutland, A. Nicole - Author[1]; Bone, Rachel - Co-Author[1]; Hayes, Lisa - Co-Author[1]; Holman, Kori - Co-Author[1]

[1]Methodist University Hospital

Conclusions

Enterally administered oxycodone was not associated with earlier discontinuation of reduction of continuous IV fentanyl in most patients. These results indicate the need for further studies to evaluate the efficacy and appropriateness of oxycodone to wean continuous fentanyl infusions in different ICU populations.

Results

Of the 488 patients screened, 55 were included. Patients were on average 58 years old, 55% male, 80% African American, and mean BMI of 36.7. Only 3.6% had a history of current opioid use before admission. Patients were admitted primarily for respiratory related illness (89.1%, n=49), a majority of which was COVID-19 (65.5%, n=36). Based on predetermined definitions, only 7.3% (n=4) of patients were considered oxycodone positive responders. A paired sample t-test proved there was no significant difference in the rate of fentanyl at oxycodone initiation versus rate at 24 hours (175 vs 165, p-value 0.181)

Methods

This retrospective analysis included critically-ill adult patients who were started on oxycodone to wean IV fentanyl in the intensive care unit (ICU). Patients who received at least 24 hours of IV fentanyl and subsequently initiated on scheduled oxycodone for 24 hours were included for evaluation. Patients were excluded who died or underwent withdrawal of care within 24 hours of oxycodone initiation, or who were admitted to the neurological ICU. Positive response to oxycodone was defined as (1) discontinuation of IV fentanyl within 24 hours after starting and receipt of at least 24 hours of scheduled oxycodone, and infusion remaining off for at least 24 hours (2) had at least a 50% reduction in hourly IV fentanyl dose with a sustained reduction for at least 24 hours.

Background/Purpose

Fentanyl is commonly used in critically-ill patients to treat pain and increase compliance and comfort with mechanical ventilation. In an effort to reduce fentanyl requirements and shorten weaning time from ventilator, use of enteral opioids has been considered an option. However, no studies have been conducted to date that evaluate the use of oxycodone to reduce continuous intravenous (IV) fentanyl requirements. This study aimed to evaluate the use of oxycodone to reduce fentanyl requirements as well as investigate various factors associated with positive response.

Santos, Richard

A multicenter, retrospective outcome analysis of vancomycin area under the curve vs. trough-based dosing strategies in patients with burn or inhalational injuries (MONITOR): An interim analysis

Santos, Richard - Author[1]

[1]Regional One Health

Conclusions

Research is currently in progress, results will be described.

Results

Research is currently in progress, results will be described.

Methods

This multicenter, retrospective study assessed patients with thermal or inhalation injury admitted to an associated MONITOR burn center from 1/1/17 to 8/31/22 who received vancomycin. Demographic data, clinical course, AKI incidence and clinical success were obtained. Patients were evaluated for clinical success and grouped according to method of monitoring and adjusting doses: AUC vs. trough-based dosing. Clinical success is a composite definition of 5 criteria: 1) persistent infection, 2) relapse, 3) antibiotic failure (clinical worsening), 4) absence of AKI, 5) survived.

Background/Purpose

Vancomycin is a glycopeptide antibiotic that requires close therapeutic monitoring. Prolonged exposure to elevated concentrations increases risk for serious adverse effects. However, sub-therapeutic concentrations, may lead to bacterial resistance and clinical failure or death. The most recent Infectious Disease Society of America publication, regarding therapeutic monitoring of vancomycin, recommends targeting area under the curve (AUC) to maximize clinical success. Despite the guideline recommendation for AUC guided dosing, many still use trough only monitoring in their practices, including pharmacists carrying for patients with acute burn injuries. Following burn injury, patients are at a higher risk for infections, multiorgan failure, and pharmacokinetic alterations. The primary objective of this multi-center retrospective study is to determine optimal therapeutic monitoring of vancomycin by comparing clinical success between AUC vs. trough based dosing in burn patients.

Sauer, Amie

Medication Administration Safety in Behavioral Health Units

Sauer, Amie - Author[1,2]; Wiggins, Elizabeth - Co-Author[1]; Drummond, Frank - Co-Author[1]; Rushton, Amy - Co-Author[1]

[1]HCA Healthcare, [2]University of Tennessee Health Science Center

Conclusions

Preliminary conclusions to be described

Results

Preliminary results to be described

Methods

The study is submitted to the Institutional Review Board (IRB) for approval. Process mapping will be used to identify the practices utilized at the four behavioral sites visited for medication administration. Dose omissions, bar code medication administration data, patient survey responses, and medication error reporting system data will be analyzed to further support the need for safety improvement. Then the top two opportunities will be identified based on prevalence and magnitude, so that safer, standardized processes may be implemented throughout the healthcare system. Additionally, trends in processes and medication errors will be compared based on the behavioral health population within each inpatient unit.

Background/Purpose

About one in 10 patients is subject to an adverse event within the hospital of a high-income country valued at $1-2 trillion per year. In 2017, the World Health Organization launched *Medication Without Harm*, which focused on three key action areas: polypharmacy, transitions of care, and high-risk situations. Within the behavioral health setting, there are specific high-risk factors involving safety of medication management. One study identified errors in almost 20% of all medication handling, with 42% of those occurring during the administration phase. By analyzing the processes surrounding medication administration at multiple behavioral health sites, best practices may be identified.

Schieber, Taylor

Geographical Influence on the Factors Associated with Patients with Candida auris

Schieber, Taylor - Author[1]; Roemer, Kaleb - Co-Author[1]; Greer, Nickie - Co-Author[1]; Sands, Kenneth - Co-Author[1]; Watson, Troy - Co-Author[1]

[1]HCA Healthcare

Conclusions

Pending further data analysis

Results

Preliminary: A total of 384 patients had positive cultures for *C. auris* and included in the study. The mean age of patients was 63 years. Patients were admitted from a non-healthcare facility in 68% of cases. The mortality/hospice rate of patients included was 22.8%. Majority of patients were admitted to a healthcare facility within the prior 90 days (55%). There were a significant number of patients who received hemodialysis and blood transfusions during their admission (81%; 48.2%). The initial admission location was the intensive care unit (ICU) for 5.8% of patients, but 54.7% of patients required ICU-level admission and care during their hospital stay. When comparing patient characteristics by geographical location, the mean length of stay and initial admission to medical/surgical-level care was greater in the Western Region (48.5 vs. 34.4 days; 81.3% vs. 21.5%). Patients in the Eastern Region had an elevated mortality/hospice rate (30.6% vs. 14.6%), and also required increased mechanical ventilation (40.3% vs. 27%), blood transfusions (54.9% vs. 42.1%), and hemodialysis (89.3% vs. 73.6%). The presence of concomitant multidrug resistant organisms was higher overall in the Eastern Region.

Methods

This is a multicenter, retrospective, descriptive analysis across all HCA Healthcare hospitals from January 2021 to September 2022. Patients were included if they had a positive culture for *C. auris* from any source while inpatient within an HCA Healthcare facility. The primary outcome was to evaluate the factors associated with patients with *C. auris*, and how it differs based on geographical location. Data was collected from the HCA Healthcare aggregated enterprise data warehouse. Results were analyzed using descriptive statistics.

Background/Purpose

Candida auris has been recognized as an emerging multidrug-resistant organism that has been associated with significant patient mortality, with rates between 30-72%.[1] The pathogen carries the risk to cause outbreaks in healthcare facilities due to its ability to easily contaminate environments around those who are colonized and persist for extended periods of time.[2] The objective of this study is to describe patient factors associated with *C. auris* colonization and infection from different geographical locations within the United States.

Schuldt, Madalyne

Pharmacists' Impact on Omitted Antibiotic Doses Before and After Alert Implementation

Schuldt, Madalyne - Author[1]; Reid, Stefanie - Co-Author[1]; Schirmer, Lori - Co-Author[2]

[1]Fort Sanders Regional Medical Center, [2]Cardinal Health

Conclusions

The pharmacist alert shortened antibiotic delay in patients receiving every 24 hour doses of ceftriaxone, azithromycin, levofloxacin, daptomycin, and ertapenem. This result is statistically and clinically significant.

Results

The pre-alert implementation group (n = 30) and post-alert implementation group (n= 31) had an average delay of antibiotic care of 21.7 hours and 13.1 hours respectively (p = 0.0033). In total, twenty one omitted doses (34%) were related to transfer out of the emergency department. In the pre-alert group, pharmacists intervened with 10 omitted doses (33%). In the post-alert group, pharmacists intervened with 20 omitted doses (65%).

Methods

This IRB approved project was conducted using retrospective chart review of ceftriaxone, azithromycin, levofloxacin, daptomycin, and ertapenem omitted doses. Patients were included if they were 18 years of age or older, received one of the aforementioned antibiotics, and had a dose omitted. Patients were excluded if their dose was rescheduled and given in under 3 hours from the originally scheduled time or if the omitted dose was not followed by another dose for any reason. The pre-alert implementation group went from July 1st to September 30th, 2022, and the post-alert implementation group went from November 1st, 2022 to January 31st, 2023. Patients were identified using a missed antibiotic dose report, and the EMR was utilized to identify duration of antibiotic delay, indication, reason for omission, and antibiotic omitted.

Background/Purpose

A 2018 study of 200 inpatients found that 51% had both off-schedule and completely omitted antibiotic doses. It is well established that delayed or omitted doses can negatively impact patients' outcomes. Current policy provides procedural steps for rescheduling missed antibiotics. However, the task-based EMR (electronic medical record) does not prompt nurses to reschedule antibiotics when a dose is omitted. A 2015 study demonstrates that pharmacy assisted approaches to rescheduling doses may lead to better outcomes. Fort Sanders Regional Medical Center has implemented an alert to prompt a pharmacist to intervene when antibiotics are omitted. This project evaluated the effectiveness of this quality improvement intervention.

Scott, Brittany

Examination of patient-specific factors influencing medication adherence in pediatric postcardiac transplant patients

Scott, Brittany - Author[1]; Baker, Amanda - Co-Author[2]
[1]Arkansas Children's Hospital, [2]Arkansas Children's Hospital RPD

Conclusions

The conclusion of this study is pending data analysis.

Results

Results will be described.

Methods

This descriptive study utilized an anonymous electronic survey assessing medication compliance in pediatric heart transplant recipients at Arkansas Children's Hospital. The survey initiated in December 2022 and will continue until June 2023. Utilizing electronic health records, 86 patients were identified as candidates for analysis. Of those, 23 patients were excluded due to age. Data collection included demographic information, including time since transplant and episodes of rejection, as well as patient-reported medication adherence and burden utilizing a Likert scale. This study was approved by the UAMS Institutional Review Board.

Background/Purpose

Medication adherence is an important component in the care of pediatric heart transplant recipients. After transplantation, patients must commit to lifelong immunosuppression and physician appointments; non-adherence to immunosuppression after transplantation is associated with worse outcomes, impaired quality of life, and mental health concerns in pediatric heart transplant patients. Studies have shown certain factors may lead to non-adherence in heart transplant pediatric recipients. Since non-adherence in pediatric heart transplant, patients remains a common challenge impacting patient outcomes, further identification of factors such as environmental changes, medication autonomy, and/or history of rejection may help identify individualized barriers to adherence. This study aimed to analyze factors influencing medication adherence in pediatric heart transplant recipients.

Senn, Rachel

Incidence of acute kidney injury in hospitalized patients with trough-monitored vancomycin versus AUC-monitored vancomycin

Senn, Rachel - Author[1]; Lance, Corey - Co-Author[1]
[1]CHI St Vincent Infirmary

Conclusions

Conclusions are pending.

Results

A total of 1089 patients were identified for chart review. Of these patients, 153 were included in the trough-monitoring group and 181 were included in the AUC-monitoring group. The incidence of AKI was 20 (13.1%) in the trough group and 19 (10.0%) in the AUC group. Average time from initiation of vancomycin therapy to AKI was 4.35 days in the trough group and 5.37 days in the AUC group.

Methods

This is a retrospective cohort study that was completed via chart review. Subjects were identified using the hospital's clinical decision tool, TheraDoc, and were included if they met the following criteria: > 18 years old, had received at least 48 hours of vancomycin therapy, and if their vancomycin therapy was managed using AUC or trough-based TDM between January 1, 2022 and January 31, 2023. Subjects were excluded if they met the following criteria: pregnant during the time of vancomycin administration, on renal replacement therapy at any time during their hospitalization, AKI on initiation of vancomycin therapy, on intermittent vancomycin dosing rather than a scheduled regimen, or receiving concomitant nephrotoxins defined as IV contrast, NSAIDs, aminoglycosides, and amphotericin B. Subjects from January 1, 2022 to July 4, 2022 were included in the trough cohort, and subjects from August 1, 2022 to January 31, 2023 were included in the AUC cohort. The primary endpoint was incidence of AKI on vancomycin therapy. The secondary endpoint was mean time to AKI from initiation of vancomycin therapy. Statistical analysis is pending. P values of < 0.05 will be considered statistically significant and confidence intervals of 95% will be used to demonstrate the magnitude of difference.

Background/Purpose

To compare the incidence of vancomycin-induced acute kidney injury (AKI) in patients receiving vancomycin with trough-based therapeutic drug monitoring (TDM) versus AUC-based TDM, with AKI defined by the KDIGO guidelines.

Shelton, Caleb

Safety and efficacy outcomes with enoxaparin treatment dose in patients with significant renal impairment

Shelton, Caleb - Author[1]; Bizell, Ashley - Co-Author[1]; Hopkins, Brandy - Co-Author[1]
[1]CHI St. Vincent Infirmary Residency Program

Conclusions

Pending completion of data collection and analysis.

Results

Data collection is ongoing and the results will be described once data analysis is completed.

Methods

This research is a retrospective chart review of patient records from between January 1, 2019 and June 1, 2022. The primary endpoint of this study is the rate of bleeding events in patients who meet inclusion criteria.

Background/Purpose

Enoxaparin is a low molecular weight heparin (LMWH) commonly used for the treatment of acute coronary syndromes and venous thromboembolism. For patients with sustained CrCl ≤ 30 mL/min, dosing of enoxaparin is typically recommended to be reduced. Because enoxaparin is primarily eliminated by the kidneys, patients with poor renal function are at risk for drug accumulation, leading to an increased risk of bleeding events. While the impact of renal dysfunction on bleeding events has been well documented, information on the effect of therapeutic enoxaparin on bleeding events remains an area in need of further study. The primary objective of this study is to determine the impact of therapeutic enoxaparin on the rate of bleeding events in patients with severe renal impairment including 1) patients with acute kidney injury (AKI) for more than 72 hours 2) patients requiring renal replacement therapy for more than 72 hours or 3) patients with End Stage Renal Disease (ESRD).

Shoup, Michaela

Impact of Heparin Dosing Weight on Bleeding Events in Obese Patients

Shoup, Michaela - Author[1]; Bailey, Clara - Co-Author[1]; Smith, Claudia - Co-Author[1]; Orr, Carla - Co-Author[1]

[1]Baptist Memorial Hospital - DeSoto

Conclusions

Will be described upon completion of the study.

Results

Will be described upon completion of the study.

Methods

A retrospective chart review is being conducted on patients aged 18 years or older who received a continuous heparin infusion with a target aPTT range of 85 - 107 between June 1, 2019 and May 31, 2022. Patients are excluded if they have a BMI < 30, received a heparin infusion for < 24 hours, if the initial heparin dose was incorrect based on the institution's protocol, or if they were pregnant or incarcerated. The primary outcome is the incidence of clinically significant bleeding in patients receiving continuous heparin infusions. The secondary outcomes are time to therapeutic aPTT and the percentage of aPTT measurements outside of therapeutic range, which will be further divided into subtherapeutic and supratherapeutic.

Background/Purpose

Heparin is a commonly-used anticoagulant in United States hospitals due to its short duration of action and hepatic elimination. These characteristics are beneficial when anticipating the need for a fast reversal and in patients with renal dysfunction. Dosing of heparin is controversial, however, as current recommendations do not specify which weight should be used when calculating doses. The heparin dosing protocols at Baptist Memorial Hospital – DeSoto were modified from using an adjusted body weight-based protocol to an actual body weight-based protocol for all patients. This study aims to compare the rates of bleeding in obese patients (body mass index ≥ 30) receiving heparin infusions dosed based on actual body weight versus adjusted body weight.

Sivley, Grant

Implementation of an Order Set Repository with Guideline Assessment and Recommendation Technology

Sivley, Grant - Author[1]; McIntosh, Hollie - Co-Author[2]

[1]Lifepoint Health/Lipscomb University, [2]Lifepoint Health

Conclusions

In process

Results

A total of 34 order sets were analyzed for guideline compliance within the CCMS. Of those, 24 order sets had corresponding categories in the guideline compliance tool and were included in analysis. Included order sets were found to have 67.3% [SD: 18.5%] compliance with guideline-based therapy per the CCMS. Over a 6-month period prior to analysis, included order sets were utilized 9,517 times at the 3 facilities. The three most frequently accessed order sets include Pneumonia, Stroke-TIA, and Cesarean Delivery Acute, with over 6,000 utilizations in the specified time frame. Order set recommendations are being reviewed for necessity and benefit within the facilities.

Methods

Existing order sets will be extracted from three community hospitals within a multi-hospital system. Using an order set central repository, the existing order sets will be imported and updated based on hospital formulary and guideline recommendations. Disease specific order sets will be assessed for guideline compliance within the chosen order set and CCMS's quality indicators tool pre and post integration with the repository. Recommendations from the CCMS will be collected and scrutinized for benefit at the specified institutions. Data from existing order set utilization will be used to extrapolate the scope of effect of the order set prior to analysis. In a comprehensive approach, the order set and CCMS will be assessed for its benefit within the specified setting.

Background/Purpose

In a multi-hospital system, it can be difficult to formulate and approve standardized evidence-based order sets in an efficient and effective manner. Order set and clinical content management systems (CCMS) provide order set management technology that can quantify guideline compliance and offer opportunities for improvement. Order set management systems streamline order set approval and maintenance by providing an online review platform. This project will evaluate changes in order set guideline adherence and the utility of an order set management system within a multi-hospital system.

Smith, Melissa

Assessment of the Effectiveness Sugammadex Utilization at a Rural Community Hospital in West Tennessee

Smith, Melissa - Author[1]; Bell, Paula - Co-Author[1]; Fussell, Jacob - Co-Author[1]
[1]Henry County Medical Center

Conclusions

Sugammadex utilization requires thorough patient assessment secondary to the high-risk nature of surgical patients. Further research is warranted for its use in neuromuscular blockade reversal. This study found the standard dose of 200 mg is effective and avoids worsening outcomes. Pharmacy is tasked to mitigate patient risks through education involving documentation and protocols.

Results

After data review, the primary outcome indicated 94% of Sugammadex was administered utilizing literature-based dosing. The table below summarizes the dosing observed in high-risk patients. The most prevalent alternative dosing discovered was due to an undocumented Train of Four (TOF). None of the patients had adverse events. All assessed patients were included in a cost analysis. Cost was extrapolated from doses given per patient using hospital contracted cost. In six-months, approximately 62 doses were given monthly with an average cost of $6,636 per month.

Dosing	Number of patients
pulmonary dysfunctions *History of COPD, COVID infection, asthma, tobacco abuse, and sleep apnea	N=31
CrCl less than 30mL/min	N=2
Morbid obesity (BMI> 40)	N=3
Reversal of deep NMB (TOF of 0-2), or undocumented	N=35 (N=13 TOF Scoring and N=22 undocumented)
High induction dose of rocuronium (1.2mg/kg dose)	N=3

Methods

Sugammadex administration details were obtained using the electronic medical record from January 1, 2022, through June 30, 2022. Fifty patients were evaluated for age, sex, weight, body mass index (BMI), cardiopulmonary comorbidities, renal function, dose, and neuromuscular blockade. Appropriateness of use was determined based on the evaluation of literature supported indications, dose, and administration.

Inclusion Criteria	Exclusion Criteria
• Surgical patients receiving neuromuscular blockade • Sugammadex therapy administered during the duration of MUE • Creatinine Clearance (CrCl) <30mL/min • BMI≥ 40 • Age ≥ 16 years • Pulmonary dysfunction	• Patients with Sugammadex hypersensitivity

Background/Purpose

Sugammadex is a selective binding agent indicated for the reversal of rocuronium or vecuronium-induced blockade. This medication use evaluation (MUE) is designed to retrospectively assess the utilization of Sugammadex at Henry County Medical Center (HCMC) for six months to evaluate prescribing patterns, administration accuracy, and cost.

Smith, Taylor

Pharmacist Impact on Time to Sedation after Rapid Sequence Intubation with Rocuronium in the Emergency Department

Smith, Taylor - Author[1]; Wheeler, Sperry - Co-Author[1]; Vaughn, Rachel - Co-Author[1]; Reid, Stefanie - Co-Author[1]; Granger, Nancy - Co-Author[2]

[1]Fort Sanders Regional Medical Center, Knoxville, TN, [2]Cardinal Health, Knoxville, TN

Conclusions

The presence of a clinical pharmacist in the emergency department showed no reduction in time to initiation of continuous sedation after rapid sequence intubation with rocuronium.

Results

Baseline characteristics were similar between the pharmacist absent group (n = 30) and the pharmacist present group (n = 40). The majority of patients received etomidate for induction. The median time to sedation after rapid sequence intubation in the pharmacist absent group was 14 minutes compared to 13 minutes in the pharmacist present group which was not statistically significant (p = 0.9761).

Methods

This project was approved by the Institutional Review Board. This retrospective chart review included patients undergoing intubation from August 2021-July 2022 10:30 pm-7:00 am for the pharmacist absent group and September 2022-December 2022 24 hours per day for the pharmacist present group. Inclusion criteria included intubation within the emergency department, use of rocuronium, and documented pharmacist intervention for the pharmacist present group. Patients requiring multiple doses of paralytics were excluded. The primary endpoint was time to initiation of sedation. Data collected included baseline demographics, induction sedative agent and administration time, administration time of rocuronium, post-intubation sedative agent and administration time, and pharmacist clinical intervention.

Background/Purpose

Studies have found that administration of the paralytic rocuronium during rapid sequence intubation is associated with a significantly longer time to initiation of post-intubation continuous sedation. Delaying continuous sedation can put patients at risk of being paralyzed and conscious. Pharmacists are often able to assist in the appropriate administration of medications during and after intubation. The purpose of this research was to determine if the presence of a pharmacist 24 hours per day in the emergency department significantly reduces time to initiation of sedation after rapid sequence intubation.

St. Rose, Kelly

Survey of Education Gaps with EHR Training

St. Rose, Kelly - Author[1]; Loput, Charity - Co-Author[2]; Casey, Jennifer - Co-Author[2]; Cooper, William - Co-Author[2]; Hammons, Caleb - Co-Author[2]; Rahm, Risa - Co-Author[2]; Saltsman, Connie - Co-Author[2]

[1]HCA Healthcare / The University of Tennessee, [2]HCA Healthcare

Conclusions

Pending final data analysis

Results

Pending final data analysis

Methods

A survey assessing education preference will be conducted amongst pharmacy staff of a multi-hospital health system composed of six geographically distributed sites in North and Central Florida. The web-based survey will be distributed by HCA Healthcare in Q4 2022. The survey content will be reviewed by the Institutional Review Board (IRB) and an internal research team. The survey will require completion of a questionnaire requesting information about demographics, professional role and responsibilities, previous training experiences, and work practices. Questions will be used to assess the learning preferences of pharmacy staff in direct patient care and administrative settings, such as education format (in-person, virtual, and hybrid live/recorded sessions), timing, frequency, reference materials, and other components of a learning plan. The question types will include multiple choice, Likert scale ranking, yes/no, and text responses with an estimated completion time of no longer than 5 minutes. After the survey data is compiled, summary statistics will be performed and used to enhance and tailor an education strategy to meet staff preferences and perceived needs prior to EHR conversion

Background/Purpose

Clinical staff education is critical to support patient safety, provide clinical documentation, accurate billing, and maintain regulatory compliance, among other essential healthcare functions. Traditionally, electronic healthcare record (EHR) software training includes general group training courses which may include hands on experience in a test environment conducted in-person or virtually. Currently, there is limited literature to assess pharmacy staff education needs when converting from one acute care EHR to another. The primary objective of this research is to determine the learning preferences of pharmacy staff in a variety of practice settings in anticipation of a multi-hospital EHR conversion.

Stirrup, Natalie

Evaluation of Methylene Blue Use at an Academic Medical Center

Stirrup, Natalie - Author[1]
[1]UAMS Medical Center

Conclusions

The results of this evaluation will be used to develop a protocol for methylene blue use for distributive shock in the intensive care units at our institution.

Results

Results will be presented as they are gathered and assessed.

Methods

A retrospective chart review of the electronic health record was conducted evaluating data from Dec 2019 to October 2022. Patients were included if they received methylene blue while in an intensive care unit. We excluded administrations in the operating room. We specifically looked at dosing patterns, indications, clinical effects, and cost.

Background/Purpose

Methylene blue is an inhibitor of endothelial nitric oxide synthase, and is commonly used for methemoglobinemia, ifosfamide neurotoxicity, and as a diagnostic aid. There is some evidence that methylene blue may provide catecholamine-sparing effects and decrease vasodilation to mitigate the effects of distributive shock. Limited data exists regarding the treatment of refractory distributive shock. The standard of care for distributive shock includes fluid resuscitation, vasopressors, and hydrocortisone. High dose vasopressors are often required in refractory distributive shock; however, this is associated with untoward side effects and diminishing therapeutic effects, especially at higher doses. The nitric oxide pathway plays an important role in regulating vascular permeability and cardiovascular hemodynamics, and methylene blue may play a role in improving hemodynamics in patients with vasoplegic and septic shock. When used for shock, the doses, titration parameters, and patient populations who benefit are inconsistent. The aim of this evaluation was to assess the appropriateness and therapeutic benefit of methylene blue when used in critical care areas.

Stone, Rachael

Is Sulfamethoxazole-Trimethoprim Prophylaxis Safe in Pediatric Oncology Patients with Glucose-6-phosphate Dehydrogenase Deficiency?

Stone, Rachael - Author[1]
[1]St. Jude Children's Research Hospital

Conclusions

There was no statistically significant difference in change in hemoglobin concentrations after starting SMX-TMP prophylaxis between patients with and without G6PD deficiency. This finding suggests no increased risk of hemolysis with the administration of SMX-TMP at prophylactic doses in pediatric oncology patients with G6PD deficiency.

Results

In total, 35 cases were included in the analysis along with 35 matched controls. The median (range) change in hemoglobin after initiation of SMX-TMP was -0.8 g/dL (-4.2 to +2.8 g/dL) in the case group and -1.3 g/dL in the control group (-4.2 to +0.5 g/dL; p=0.45). Twenty-one case patients required a red blood cell transfusion for low hemoglobin concentration within 30 days after starting SMX-TMP compared to 23 control patients (p=0.62).

Methods

We performed a retrospective cohort analysis of patients with G6PD deficiency who received SMX-TMP at prophylactic doses for at least two weeks between 2005 and 2022 at St. Jude Children's Research Hospital. Control patients matched for diagnosis and chemotherapy regimen were identified for each case by a blinded investigator. Demographic and clinical data were collected for all cases and controls via manual chart review, including baseline hemoglobin concentrations prior to starting SMX-TMP prophylaxis and lowest hemoglobin concentration within 14 days of starting SMX-TMP. A Mann-Whitney U test was used to compare the median change in hemoglobin concentration from baseline to post-SMX-TMP in the case group versus the control group.

Background/Purpose

Glucose-6-phosphate dehydrogenase (G6PD) deficiency may increase an individual's risk of hemolysis when exposed to certain foods or medications. Consequently, various regulatory agencies recommend against the use of sulfamethoxazole-trimethoprim (SMX-TMP) in patients with G6PD deficiency. A recent update to the Clinical Pharmacogenetics Implementation Consortium guideline for medication use in the context of G6PD deficiency included a literature evaluation surrounding the use of SMX-TMP in G6PD-deficient patients which found little to no evidence supporting an association with increased risk of hemolytic anemia. The objective of this study is to investigate whether the use of SMX-TMP at prophylactic doses against Pneumocystis jirovecii pneumonia in patients with G6PD deficiency is associated with an increased incidence of hemolysis as compared to non-deficient controls in a pediatric oncology population.

Stone, Tyler

Vasopressin Outcomes After Reduction in Standard Sepsis Dose from 0.04 to 0.03 units/minute

Stone, Tyler - Author[1]; DeVier, Margaret - Co-Author[1]
[1]Ascension Saint Thomas Hospital Midtown

Conclusions

In patients with septic shock, vasopressin 0.03 units/minute was not associated with worse outcomes when compared to 0.04 units/minute.

Results

We screened 358 patients who were admitted to Ascension Saint Thomas who received vasopressin during our specified time period. Of the 358 patients who were screened, 55 met inclusion criteria, with 28 in the 0.04 units/minute group and 27 in the 0.03 units/minute group. For the primary outcome, the median time to resolution of shock was 5.13 hours in the 0.03 units/minute group and 3 hours in those who received 0.04 units/minute. ICU length of stay was similar between groups at 8.48 and 8.21 days, respectively. The rate of mortality was also similar between groups.

Methods

This multi-center, retrospective cohort study was approved by our institution's Institutional Review Board and conducted between June 1, 2019 to September 30, 2019 and June 1, 2022 to September 30, 2022. Data drawn from our electronic health record was used to identify patients with a diagnosis of septic shock who received vasopressin as adjunctive therapy who were admitted to the ICU. The primary outcome was to evaluate time to resolution of shock by comparing the time, in hours, to achieve MAP ≥ 65 mmHg in patients diagnosed with septic shock receiving vasopressin 0.04 units/minute compared to vasopressin 0.03 units/minute. Secondary outcomes included all-cause mortality at 30 days, ICU length of stay, and the incidence of treatment failure. Data was recorded and maintained confidentially within REDCap.

Background/Purpose

Vasopressin is commonly used in septic shock as an adjunctive treatment in order to improve hemodynamic stability. The most current Surviving Sepsis Campaign guidelines recommend that vasopressin be added as an adjunctive therapy and administered at a fixed dose up to 0.03 units/minute for those with septic shock. We elected to evaluate outcomes associated with this change in dose in order to assess this dosing change in our patient population at Saint Thomas in Tennessee and to verify similar outcomes between groups.

Sullivan, Jacqueline

Electrolyte Disturbance in Pediatric Patients Receiving Intravenous Maintenance Fluids at an Academic Medical Center

Sullivan, Jacqueline - Author[1]
[1]University of Mississippi Medical Center

Conclusions

Overall, the rate of electrolyte disturbance was similar between both groups with a high instance of hypokalemia.

Results

Of the 60 patients included in this study, 27 (45%) patients initially received isotonic maintenance fluids while 33 (55%) received hypotonic fluids. The instance of hyponatremia was 1 (4%) in the isotonic group and 2 (6%) in the hypotonic group. Hyperchloremia occurred in 10 (37%) patients in the isotonic group and 9 (27%) in the hypotonic group. Hypokalemia occurred in 15 (25%) patients overall, 2 of which experienced severe hypokalemia. Overall, the rate of electrolyte disturbance was similar between both groups with a high instance of hypokalemia.

Methods

This is a single center, randomized, retrospective cohort study. Patients 29 days to 18 years of age admitted to Children's of Mississippi between 2019 and 2022 for post-operative care, sickle-cell, or gastrointestinal diagnoses were included. Patients with baseline electrolyte disturbances, requiring intensive care, or with renal, hepatic, or oncologic comorbidities were excluded. The group was divided into two cohorts – those receiving initial isotonic fluids and hypotonic fluids. Data will be collected to include lab values collected prior to or within the first 96 hours of continuous fluid administration.

Background/Purpose

Hypotonic maintenance fluids have historically been considered the standard of care in pediatric patients. Due to a lack of clear guidelines, pediatric providers have previously relied on early studies that predicted electrolyte needs based on milk[1] and anecdotal evidence. However, practice changed in 2018 when the American Academy of Pediatrics released guidelines in support of the initial use of isotonic maintenance fluids in the general pediatric population[2]. This change was prompted by the potentially life-threatening risk of hyponatremia associated with the use of hypotonic fluids, particularly those containing 1/4 normal saline equivalency. Debates continue to surround this topic as many clinicians are concerned that the shift to isotonic maintenance fluids will simply exchange one type of electrolyte disturbance for another. Despite the prevalence of intravenous maintenance fluids, prescribing patterns remain variable indicating the need for more specific evidence on fluid administration at our institution. The purpose of this study is to evaluate electrolyte disturbances experienced by pediatric patients at Children's of Mississippi who receive continuous intravenous fluids while inpatient.

Sulzman, Grace

Impact of Glucagon-Like Peptide 1 Receptor Agonist and Sodium Glucose Cotransporter 2 Inhibitor Combination on Glycated Hemoglobin in Outpatient Clinics of an Academic Medical Center

Sulzman, Grace - Author[1]; Hendrix, Hayden - Author[1]
[1]University of Arkansas for Medical Sciences

Conclusions

Conclusions will be formed upon study completion.

Results

Statistical analysis is in process and results will be described once available.

Methods

This study will be a retrospective chart review over 24 months of adults diagnosed with T2DM and an HbA1c above goal at baseline taking concurrent GLP-1 RA and SGLT2i therapy for at least 3 months receiving care in outpatient family medicine, internal medicine, and geriatric clinics within the academic medical center of interest. Patients will be screened for inclusion and exclusion criteria by the Arkansas Clinical Database Repository (AR-CDR). Those who qualify will have a manual chart review completed to collect age, sex, race, ethnicity, A1c, A1c goal, BMI, weight, serum creatinine, estimated glomerular filtration rate, blood urea nitrogen, clinic providing care, background T2DM therapeutics, specific GLP-1 RA and SGLT-2i being utilized, and adverse effects associated with the target drug classes (nausea/vomiting/diarrhea, pancreatitis, gastroparesis, urinary tract infection, genital yeast infection, polyuria, hypoglycemia, and therapy discontinuation). The primary outcome of this study is to determine if concurrent GLP-1 RA and SGLT2i therapy increases the reduction of HbA1c values compared to the reduction with either class alone (change in A1c from 0 to 1 vs 0 to 2 agents). Secondary outcomes include change in HbA1c, blood pressure (BP), weight, body mass index (BMI), and renal labs (SCr, eGFR, and BUN) from baseline (prior to using either GLP-1 RA or SGLT2i) to following use of one agent (either GLP-1 RA or SGLT2i), and to the most recently recorded visit while still taking concurrent GLP-1 RA and SGLT2i therapy.

Background/Purpose

Previous research has shown improved glucose control with combination glucagon-like peptide 1 receptor agonists (GLP-1 RA) and sodium glucose cotransporter 2 inhibitors (SGLT2i) therapy in type 2 diabetes mellitus (T2DM). Most of these studies examined concurrent utilization of specific agents within these drug classes but have not assessed the combination of these drug classes as a whole. The purpose of this project is to determine if this impact extends to the entire GLP-1 RA and SGLT2 classes on glycated hemoglobin (HbA1c) in patients diagnosed with T2DM.

Taylor, Morgan

Fidaxomicin and vancomycin as monotherapy vs. combination therapy for Clostridioides difficile infections

Taylor, Morgan - Author[1]
[1]TriStar Summit Medical Center

Conclusions

This study found that combination therapy with vancomycin and fidaxomicin did not produce better outcomes compared to monotherapy. Larger prospective studies with more balanced baseline characteristics are warranted in determining the role of combination therapy of CDI.

Results

Of the 93 patients included in the study, there was no statistical difference between patients that received the standard of care and those that received combination therapy in regards to the primary or secondary outcomes. 86.3% of patients in the standard of care group experienced the primary outcome compared to 73.2% in the combination group; p=0.12. However, a larger proportion of patients in the combination group contained severe or fulminant infections and were more likely to be experiencing recurrent infections compared to the standard of care group.

Methods

This multicenter retrospective chart review examined patients from January 2019-November 2022 at two community hospitals that were treated for CDI. Patients either received the standard of care, which included vancomycin or fidaxomicin monotherapy, or combination therapy with both agents. Patients that received IV metronidazole or had non-CDI infections were excluded from the study. Data was collected using a clinical surveillance platform and patient charts were manually reviewed within the hospital's electronic health record. The primary outcome of this study was clinical improvement defined as absence of diarrhea for two consecutive days and up until discharge or documentation of improvement of diarrhea by day 5 of treatment. Rate of recurrence, 90-day readmission rate for CDI, hospital length of stay, and rate of Vancomycin-resistant enterococcal infection were also evaluated.

Background/Purpose

Clostridioides difficile infections (CDI) remain as one of the most common nosocomial infections, with an estimated 453,000 cases per year in the United States. Over the last ten years, literature has demonstrated improved outcomes with the use of fidaxomicin as opposed to traditional vancomycin for treatment of CDI, particularly with decreased rates of recurrence. Current studies and guidelines continue to debate the most efficacious agent in the treatment of CDI, creating a knowledge gap in treatment for CDI. This study expands on this lack of data regarding combination therapy with vancomycin and fidaxomicin.

Todor, Lorraine

The use of enteral clonidine for transition off of dexmedetomidine in adult trauma ICU patients

Todor, Lorraine - Author[1]
[1]Regional One Health

Conclusions

Initiation of enteral clonidine allowed for greater than 70% of patients to transition and remain off of dexmedetomidine infusions within 48 hours.

Results

57 patients were included in statistical analysis. 72% (n = 41) of patients discontinued dexmedetomidine within 48 hours of clonidine initiation. 5% (n = 3) of all patients required re-initiation of dexmedetomidine within 48 hours of discontinuation.

Methods

Retrospective electronic chart review evaluating patients admitted to the trauma service between April 1, 2019 and August 31, 2022 who received intravenous dexmedetomidine for greater than 24 hours for sedation management and at least one dose of enteral clonidine.

Background/Purpose

Trauma patients in the intensive care unit (ICU) frequently require intravenous sedation to relieve agitation. Dexmedetomidine, a central-acting α2 agonist, is often utilized for light sedation in critically ill patients. Previous studies have shown that clonidine initiation is effective for transitioning medical-surgical, neurologic, and cardiac ICU patients off of intravenous dexmedetomidine infusions. These results have not been duplicated in traumatically injured patients. The purpose of this study is to evaluate the use of enteral clonidine in transitioning intravenous dexmedetomidine infusions off within 48 hours in trauma ICU patients.

Tran, Michael

Analyzing Effective Urinary Tract Infection Treatment in the Emergency Department that were Admitted

Tran, Michael - Author[1]

[1]Sumner Regional Medical Center

Conclusions

Based on the initial results of antibiotic duration, at least 58% of patients had antibiotic inappropriateness. Although this information is limited and not fully interpreted, there is still stewardship opportunities to help guide antibiotic duration. The remaining results and outcomes have yet to be completely evaluated.

Results

208 subjects with diagnosed UTIs were identified between July 1, 2021 and December 31, 2021. After screening for exclusion criteria, 138 subjects were analyzed in the study. Of these subjects, 58% had total antibiotic durations greater than 7 days.

Methods

A retrospective chart review was completed for all patients that were admitted to the inpatient setting from the emergency department (ED) at Sumner Regional Medical Center (SRMC) and were microbiologically diagnosed with a UTI in the time frame of July 2021 through December of 2021. Those with co-infections and chronic foley catheters were excluded. Upon their UTI diagnosis, patients were screened and analyzed for accuracy of diagnosis and the presence of UTI symptoms guided by evidence-based literature. Antibiotic selections were evaluated for appropriateness of initial UTI diagnosis and throughout their care using criteria centered on evidence-based literature. This included meeting criteria for appropriate urine cultures, duration of therapy, and antimicrobial susceptibility.

Background/Purpose

Urinary tract infections (UTI) are one of the most prevalent infections in the hospital settings. Urinalysis and analysis of symptoms provide pertinent information and guide antibiotic treatment. Although, over-screening and antibiotic misuse, are contributing factors to the development of antimicrobial resistance and increased lengths of stay. Infectious Disease Society of America (IDSA) guidelines provide evidence-based recommendations on necessary UTI screenings. The CDC's National Healthcare Safety Network also provide criteria for UTIs. The purpose of this study is to observe proper antibiotic selection and duration in the emergency department of those who were admitted. This information will aid providers to improve antibiotic stewardship and ultimately improve patient outcomes.

Tran, Phyllis

Assessing the safety in patients given vancomycin using trough level dosing versus area under the curve dosing.

Tran, Phyllis - Author[1]; Arnold, Jon - Co-Author[2]; Burns, Betty - Co-Author[3]

[1]Memorial Hospital at Gulfport, [2]Memorial Health System/ Memorial Hospital at Gulfport, [3]Memorial Health System/Memorial Hospital at Gulfport

Conclusions

Final conclusions will be described in the presentation in April.

Results

Pending, data collection in progress.

Methods

This is a retrospective cohort study of patients admitted to Memorial Hospital at Gulfport (MHG) who received vancomycin between February 1, 2023 to March 31, 2023. The control group will consist of patients being dosed based on the MHG vancomycin nomogram. The study group will be dosed using AUC. The study's primary outcome is to assess the incidence of AKI in patients dosed using vancomycin trough level versus AUC.

Background/Purpose

Vancomycin can be used for the treatment of gram-positive infections, including methicillin-resistant *Staphylococcus aureus* (MRSA). Patients receiving vancomycin therapy require monitoring to ensure the safety and efficacy of the medication. Nephrotoxicity is a major concern with the use of vancomycin.

The 2020 vancomycin guidelines recommend targeting an area under the curve/minimum inhibitory concentration (AUC/MIC) ratio of 400 to 600 mg-h/L for empiric dosing in both adult and pediatric patients. This method is used to maximize clinical efficacy and minimize acute kidney injury (AKI) risk while optimizing vancomycin use for the treatment of serious infections caused by MRSA.

The purpose of this study is to evaluate the incidence of AKI in patients receiving vancomycin trough dosing versus AUC dosing. This study will help guide the organization in determining if trough dosing or AUC dosing would be appropriate for our patient population.

Treinish, Samantha

The Discharge Pharmacists' Role and Impact on Meeting Core Measures for Acute Coronary Syndrome, Acute on Chronic Heart Failure and Stroke

Treinish, Samantha - Author[1]; Swartz, Leah - Co-Author[1]
[1]Baptist Memorial Hospital: Golden Triangle

Conclusions

In progress.

Results

315 patients were identified and 211 were included with 13 patients being included for more than one disease state. 18 were diagnosed with reduced heart failure, 85 with stroke and 121 with ACS. Prior to the discharge pharmacist, 61 core measure medications were missed (27.1%). After the initiation of the discharge pharmacist, 13 core measure medications were missed (3.8%).

Methods

This is a retrospective electronic health record review of adult patients admitted to Baptist Memorial Hospital Golden Triangle for acute coronary syndrome (ACS), acute on chronic heart failure (HF) and stroke from October 1, 2020 to May 31, 2022. Patients were excluded if they were pregnant, inmates, expired during the admission, were discharged on comfort care or hospice, received a coronary artery bypass graft (CABG), or transferred to another facility prior to discharge. The primary outcome is to evaluate how often core measures were missed and the discharge pharmacists' impact on meeting core measures. Core measures were evaluated for a 6-month period prior to the discharge pharmacist initiation compared to the initial 6-month period of having a discharge pharmacist. Data collected included patient demographics, vital signs; disposition; discharge pharmacist involvement; Imaging/Procedures (Ejection fraction, CT/ MRI); Labs (Lipid panel; calculated LDL, CrCl); atrial fibrillation/flutter documentation; pharmacy consults and ivents; and medications at discharge (ACEI/ARB/ARNI, beta-blocker, aspirin, P2Y12 inhibitor, statin, anticoagulation, and antiplatelet agents). Data will be analyzed using statistics for continuous and nominal data.

Background/Purpose

Core Measures were launched in 2001 to assure quality healthcare through accountability and public disclosure. If a patient fails to receive recommended testing, therapy, procedures, or medications, it is considered a "missed opportunity." Documentation must be made in the medical record explaining why the core measure was not met for patients who do not qualify. At Baptist Golden Triangle, the discharge pharmacists review the discharge medication list to ensure core measures are met. The purpose of this study is to identify the discharge pharmacists' role and impact on meeting core measures for acute coronary syndrome, heart failure and stroke.

Urry, Ross

Comparison of 4-Factor Prothrombin Complex Concentrate 25 unit/kg to 50 units/kg for the Treatment of Direct Oral Anticoagulant Associated Hemorrhage

Urry, Ross - Author[1]; Tesseneer, Stephanie - Co-Author[1]; Griggs, Michael - Co-Author[1]

[1]University of Mississippi Medical Center

Conclusions

In patients at UMMC who require reversal of DOAC-associated hemorrhage with 4F-PCC, a low-dose protocol of 4F-PCC 25 units/kg maintains hemostatic efficacy and does not result in an increase in thromboembolic events or all-cause mortality prior to discharge. Additionally, a 4F-PCC 25 units/kg protocol resulted in significant cost-savings.

Results

A total of 38 patients were included, with 19 patients in the pre-protocol cohort and 19 patients in the post-protocol cohort. Hemostatic efficacy in the pre- and post-protocol cohorts was achieved in 17 (89.5%) patients and 19 (100%) patients respectively (p = 0.486). Thromboembolic events occurred in 3 patients (15.8%) in the pre-protocol cohort and in 2 patients (10.5%) in the post-protocol cohort (p=1). Death from any cause before discharge occurred in 4 patients (21.1%) in the pre-protocol cohort and 1 patient (5.3%) in the post-protocol cohort (p = 0.340). Units of 4F-PCC administered was 80,941 in the pre-protocol cohort and 39,605 in the post-protocol cohort, resulting in a saving of 41.336 units of 4F-PCC.

Methods

This is a single-center, retrospective cohort study of patients > 18 years old who received > 1 dose of 4F-PCC for reversal of DOAC-associated hemorrhage at UMMC. The pre-protocol cohort includes patients who received 4F-PCC 50 units/kg prior to October 11, 2022 and the post-protocol cohort included patients who received 4F-PCC 25 units/kg on or after October 11, 2022. The primary outcome was hemostatic effectiveness, defined as < 35% expansion on repeat imaging for intracranial hemorrhage (ICH) or < 20% drop in hemoglobin for non-ICH. Secondary outcomes included the incidence of thromboembolic events, all-cause mortality before discharge, and cost-savings.

Background/Purpose

The efficacy and safety of low-dose 4-factor prothrombin complex concentrate (4F-PCC) 25 units/kg for the reversal of direct oral anticoagulant (DOAC) associated hemorrhage has recently been evaluated and compared to previous standard high-dose 4F-PCC 50 units/kg and has shown to be equally efficacious. The purpose of this study was to compare the hemostatic efficacy, safety, and economic impact of 4F-PCC 25 units/kg to 50 units/kg for DOAC-associated hemorrhage at the University of Mississippi Medical Center (UMMC) after implementation of a 4F-PCC 25 units/kg protocol.

Vanourney, Sydney

Pharmacist evaluation of pharmacological and baseline risk factors associated with the development of ileus in a small to mid-sized community hospital

Vanourney, Sydney - Author[1]
[1]Unity Health- White County Medical Center

Conclusions

Pending.

Results

This research is in progress and has been IRB-approved. Data will be analyzed utilizing the appropriate tests for each outcome.

Methods

This single-center retrospective observational study identified all patients 18 years of age or older admitted from September 1, 2017 to present who have developed ileus while inpatient. Patients who are pregnant, less than 18 years of age, or have had abdominal surgery during the stay in which ileus developed were excluded.

Background/Purpose

Non-mechanical causes of ileus include medications that slow gut motility, infection, electrolyte or fluid imbalances, and surgery. In effort to improve the quality of care through pain management and medication safety within this institution, data was analyzed from patients' charts to investigate commonalities among our patients who have developed an ileus while inpatient. The purpose of the study is to evaluate for possible risk factors associated with ileus within a rural community hospital in hopes to improve quality of care and medication safety. The objective of the study is to see if there is a correlation between various risk factors and the development of ileus. Baseline demographics include age, race, ethnicity, sex, smoking status and BMI. Possible pharmacological risk factors analyzed include morphine milligram equivalents, use of anticholinergic medications while inpatient (including diphenhydramine, hydroxyzine, doxepin, meclizine, benztropine, oxybutynin, tolterodine, solifenacin, ipratropium, atropine, tizanidine, chlorpromazine, fluphenazine, clozapine, amitriptyline, and nortriptyline). Data will also be collected on inpatient length of stay, ICU admission and mortality.

Vogel, Alyssa

Development of a Clinical Pharmacist Role in Community Pharmacy Practice

Vogel, Alyssa - Author[1]
[1]Lipscomb University

Conclusions

The success in payment for clinical services encourages the pharmacy to continue providing patient care services beyond dispensing to provide optimal patient care while increasing pharmacy profit.

Results

Preliminary results show Gibbs Pharmacy was able to successfully receive reimbursement through medical billing for various patient care services. Since the project began (December 2022), approximately $3,800 has been collected through medical billing of various services.

Adherence measures are not available at this time but will be later described.

Methods

The clinical pharmacist required credentialing with medical payers to facilitate medical billing. Once credentialed, the pharmacist uses the platform MobileMediClaim to document and bill medical benefits. The pharmacist conducts patient encounters and indicates the appropriate CPT code for billing. MobileMediClaim is also used to bill medical insurance for existing clinical services: administration of antipsychotic injections, immunizations, medication therapy management, and diabetes education.

Another area of focus is increasing patient medication adherence rates to decrease PBM fees. Various adherence and MTM platforms are used. Patients flagged as “non-adherent” are contacted by the pharmacy and assessed for enrollment in medication synchronization and medication adherence packaging. The clinical pharmacist also provides continuous staff education on managing non-adherent patients and the impact of non-adherence.

Background/Purpose

The current pharmacy model is unsustainable due to decreasing reimbursements on prescriptions and increased fees from pharmacy benefit managers (PBMs). There is a need for pharmacies to transition from the traditional model toward patient outcome focused services. The creation of a clinical pharmacist position embedded in a community pharmacy supports development of non-traditional patient care services and revenue sources.

A largely untapped clinical opportunity is the expansion of billable services. Tennessee and 36 other states recognize pharmacists as medical providers. Traditionally, pharmacists bill PBMs and receive payment based on the drug dispensed; however, provider status allows pharmacists to bill medical insurance and receive reimbursement for non-dispensing patient care activities.

This project is taking place at an independent pharmacy in Lebanon, Tennessee. It describes the creation of a clinical pharmacist in a community pharmacy setting and the opportunities to develop and sustain the position.

Wadlow, Allison

Effects of Antipsychotic Polypharmacy on Diabetes Mellitus Prevalence and Blood Glucose Control

Wadlow, Allison - Author[1]
[1]G.V. (Sonny) Montgomery VAMC

Conclusions

n/a

Results

Preliminary data shows Veterans receiving multiple antipsychotic had a higher rate of diabetes prevalence at baseline, 3 months, and 6 months than patients taking one antipsychotic. However, these differences were not statistically significant. When utilizing intention to treat, at the 6 month mark, Veterans on multiple antipsychotics had statistically significant increase in A1c (p=0.0123) and blood glucose (p=0.0217). At one year, the change in A1c in Veterans on multiple antipsychotics remained statically significant (p=0.0123).

Methods

This study is a single center, two arm, retrospective chart review including a maximum of 500 male and female veterans at G.V. (Sonny) Montgomery VA Medical Center. Veterans were included if they received at least one antipsychotic for > 6 months, and had a diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder. Veterans were excluded if age < 18, pregnant/breast feeding, diagnosed dementia or Alzheimer's, Type 1 Diabetes Mellitus, and long-term corticosteroid use. The primary outcome is difference in prevalence of a diagnosis of diabetes, while secondarily looking for differences control of diabetes.

Background/Purpose

Antipsychotics are utilized for a variety of mental health conditions. Clinical guidelines recommend employing antipsychotic polypharmacy only after exhausting all other options. Despite guidelines cautioning against use of multiple antipsychotics, many patients are still prescribed multiple agents. A known side effect of antipsychotic therapy is metabolic syndromes, including diabetes mellitus. However, the effects of antipsychotic polypharmacy on diabetes mellitus and blood glucose control is unknown. This study aims to determine if a difference exists in diabetes mellitus and blood glucose control in patients on one antipsychotic versus multiple antipsychotics.

Walters, Jillian

Impact of a direct stewardship intervention on prescribing practices for the management of uncomplicated gram-negative bloodstream infections

Walters, Jillian - Author[1]; Wingler, Mary Joyce - Co-Author[1]; Cretella, David - Co-Author[1]; Barber, Katie E. - Co-Author[2]; Stover, Kayla - Co-Author[2]

[1]University of Mississippi Medical Center, [2]University of Mississippi School of Pharmacy

Conclusions

Implementation of guidelines with a direct stewardship intervention was not associated with a statistically significant decrease in days of therapy for GNBSIs in this evaluation. This project is still early in its implementation phase. It is anticipated that these results will change with an increased sample size in the post group.

Results

A total of 110 uncomplicated GNBSIs (92 pre-intervention; 18 post-intervention) were evaluated. Patients were predominantly African-American (66%) males (59%) with bloodstream infections primarily caused by *Escherichia coli* (44%) from a urinary source (66%). The median total duration of antibiotic therapy was 10 days in the pre-group and 9 days in the post-group (p=0.189). Oral transition occurred in 41% versus 33% of patients in the pre- and post- groups, respectively (p=0.528). There were no statistically significant differences in 30-day mortality or bacteremia recurrence.

Methods

This single-center, pre-post intervention quasi-experimental study was conducted at a large academic medical center and evaluated the effectiveness of a stewardship intervention on prescribing practices for GNBSIs. The intervention consisted of development of an uncomplicated GNBSI guideline that was implemented in July 2022, followed by provider education paired with targeted prospective audit and feedback. Education was performed in October 2022 and monthly thereafter during the study period. Adult patients with uncomplicated GNBSIs from October 2021 to September 2022 (pre-intervention) and November 2022 to January 2023 (post-intervention) were included, with October 2022 serving as a washout period. Patients were excluded if they were immunocompromised, pregnant, a prisoner, presented with polymicrobial bacteremia or other infections requiring longer durations of therapy, or died within 48 hours of effective antibiotic therapy. The primary outcome was calendar days of effective antibiotic therapy.

Background/Purpose

Gram negative bloodstream infections (GNBSIs) are associated with high rates of mortality and increased healthcare cost. While no set guidelines define appropriate management, recent literature suggests that shorter courses (7 days) with the option to transition to highly bioavailable oral antibiotics is safe and effective. This project aims to evaluate the impact of a direct stewardship intervention on prescribing practices for uncomplicated GNBSIs.

Ward, Emily

Outcomes of Pharmacist Led Medication Synchronization in Collaboration with a Primary Care Clinic

Ward, Emily - Author[1]
[1]Lipscomb College of Pharmacy & Health Science

Conclusions

To be determined, results will be discribed.

Results

Results will be described.

Methods

The study is ongoing and is currently enrolling mutual patients of both Sango Pharmacy and a primary care office. The participants are willing to participate in the MedSync program. The MedSync program has three complete medication reviews (CMRs): at the time of enrollment, three months, and six months, along with a baseline patient-dependent disease state assessment. All maintenance medications are synchronized every 30 or 90 days. Patients are called by the pharmacist or pharmacy staff one-week prior to the due date to confirm medication needs. The American Diabetes Association (ADA) and American Heart Association (AHA) guidelines are utilized to evaluate and monitor A1c, blood pressure, and cholesterol levels, as well as medication changes and recommendations. The primary outcome is patient medication adherence s for participants enrolled in the program compared to those receiving standard care. The secondary outcome is overall improvement in participants' individual vitals and laboratory results from baseline. This study aims to demonstrate the pharmacist's value to the primary care team and patient by improving adherence and patient outcomes.

Background/Purpose

Research shows that pharmacists improve patient disease control and adherence in the community and primary care settings. Medication synchronization (MedSync) has been shown to increase both medication adherence and convenience for patients. Therefore, the purpose of this research is to link these two programs together and establish a pharmacist led MedSync program in a community pharmacy setting by collaborating with a primary care clinic in Clarksville, TN. This program evaluates patient outcomes and adherence.

Watters, Meagan

Evaluation of the effect of intravenous phytonadione on INR in hepatically impaired patients not receiving vitamin K antagonists

Watters, Meagan - Author[1]; Holder, Genna - Co-Author[1]; Pitts, Cody - Co-Author[1]; Stricklin, Melanie - Co-Author[1,1]

[1]Ascension Saint Thomas Rutherford

Conclusions

Administration of intravenous phytonadione did not result in a significant INR reduction in hepatically impaired patients who were not receiving a vitamin K antagonist. Future studies are necessary to evaluate whether phytonadione decreases the bleeding risk and to assess the safety of phytonadione in this patient population.

Results

There were a total of thirty-five patients who received phytonadione. The average age of the study population was 58 years old. The majority of the patients were white (71.4%), males (51.6%) with cirrhosis (68.6%). Of the patients with cirrhosis, most were Child-Pugh class C and had a MELD score of 30-39. The mean pre-phytonadione administration INR was 3.6 and the mean post-phytonadione administration INR was 3.7 in the total study population. This was not a statistically significant difference in INR (p=0.85). Subgroup analyses for acute liver disease and cirrhosis showed no significant difference in INR between any group.

Methods

This single center, retrospective chart review study was conducted at Ascension Saint Thomas Rutherford between August 1st, 2021 and August 31st, 2022. The primary outcome was the effect of intravenous phytonadione on INR in hepatically impaired patients. Eligible participants were adult patients at least 18 years of age who had hepatic impairment with an INR > 1.5. Patients were excluded if they were receiving therapeutic anticoagulation or if a follow-up INR was not obtained. Subgroup analyses were performed evaluating the change in INR for patients with acute liver disease and patients with cirrhosis.

Background/Purpose

In patients with hepatic impairment, the liver is unable to maintain the normal balance of clotting factors produced and cleared by the liver leading to both an increased bleeding and thrombosis risk. This dysregulation of clotting factors can lead to an increase in blood clotting time which is quantified using an international normalized ratio (INR). It is common in practice to administer phytonadione to correct an elevated INR. The purpose of this study was to evaluate the effect of intravenous phytonadione administration on INR in hepatically impaired patients not receiving vitamin K antagonists.

Williams, Caroline

Risk of Acute Kidney Injury after Addition of Empagliflozin and Dosing Changes to Background Congestive Heart Failure Therapy in a Veteran Population

Williams, Caroline - Author[1]; Neu, Daniel - Co-Author[1]; Allen, Brooke - Co-Author[1]; Peyton, Jennifer - Co-Author[1]

[1]Lt. Col. Luke J. Weathers Jr. VA Medical Center

Conclusions

Pending completion of data collection and analysis.

Results

Results will be described.

Methods

This is a retrospective cohort observational study of electronic medical record review of patients treated at the Lt. Col. Luke J. Weathers Jr. VA Medical Center. Adult patients with heart failure who received a new prescription for empagliflozin and had a documented serum creatinine (SCr) within 45 days of initiation of empagliflozin were included. Exclusion criteria included patients with an estimated glomerular filtration rate (eGFR) <20 mL/minute/1.73m^2, no documented SCr within 6 months of starting empagliflozin, and a prescription for empagliflozin 25mg. Data collection included baseline SCr, most recent eGFR prior to initiation of empagliflozin, highest SCr documented up to 45 days after initiation of empagliflozin, and type of AKI. The primary outcome of this study is the incidence of AKI in patients with heart failure who received a new prescription for empagliflozin with or without initiation or dose increases in background GDMT as defined by a loop diuretic, angiotensin converting enzyme inhibitor (ACEI), angiotensin II receptor blocker (ARB), angiotensin receptor-neprilysin inhibitor (ARNI), or mineralocorticoid receptor antagonist (MRA).

Background/Purpose

Although empagliflozin has proven renal protective benefits in slowing the progression of CKD, there is limited data examining the risk of AKI when initiating empagliflozin in addition to other guideline-directed medical therapy (GDMT) medication adjustments for heart failure especially in a Veteran population.

Williams, Kayla

Outcomes Associated with Parenteral Lorazepam Medication Shortage among Inpatient Adult Psychiatric Patients with Agitation

Williams, Kayla - Author[1]; Hays, Shannon - Co-Author[2]; Smith, Forrest - Co-Author[3]

[1]Unity Health - White County Medical Center, [2]Unity Health Specialty Care, [3]Harding University College of Pharmacy

Conclusions

Pending results.

Results

Results are currently being analyzed.

Methods

This single-center retrospective chart review will compare patients admitted to the inpatient adult psychiatry unit from July 22, 2021 to September 13, 2022 who were administered parenteral lorazepam before the medication shortage beginning on July 22, 2022, versus those administered approved alternatives during the shortage. Included patients must be at least 18 years old who received parenteral lorazepam or approved alternatives for acute agitation. Excluded patients include less than 18 years old, pregnant, or received parenteral lorazepam or approved alternatives for indication(s) other than acute agitation. The primary outcome will be the total number of as needed (prn) psychiatric medication administrations during admission, and the average number of prn medication administrations per agitation episode. Secondary outcomes include number of hours until first re-administration of a prn psychiatric medication, total number of acute agitation episodes, cost of medication therapy during admission, number of psychotropic medications at discharge, seclusion/restraint status, assault precaution status, line of sight status, and total quantity of parenteral lorazepam used.

Background/Purpose

Medication shortages have had major impacts on pharmaceutical processes and patient care over the last few years with increasing frequency worldwide. Medication shortages within inpatient institutions may increase the risk of medication errors, alter existing policies, procedures, or standing orders, increase burden on hospital staff, and increase costs. The purpose of this study is to assess differences in outcomes among patients admitted to the inpatient adult psychiatric unit at our institution who were administered parenteral lorazepam pre-shortage versus those administered parenteral lorazepam-alternatives during the shortage for acute anxiety, agitation, or psychosis.

Wiseman, Mia

Institutional Evaluation of Postoperative Opioid Prescribing Patterns Compared to Recent Procedure-Specific Recommendations

Wiseman, Mia - Author[1]; Mills, Elizabeth - Co-Author[1]; Powell, Meghan - Co-Author[2]; Ruckel, Cassidy - Co-Author[1]

[1]Baptist Memorial Hospital, [2]Baptist Memorial Hosptial

Conclusions

Approximately half of the patients in this study were overprescribed opioids when compared to the OPEN guidelines, regardless of ERAS status. In the future, these results could be compared to other published prescribing guidelines, and there is a need for studies with larger sample sizes.

Results

In this study, 200 patients (median age, 60 years; 103 women [51.5%]) were screened who had one of the six general surgeries mentioned previously. Overall, the median quantity of MMEs prescribed was 75 MMEs, which is equivalent to 10 tablets of oxycodone 5mg. For all six surgeries, the OPEN guidelines recommend 0-10 tablets of oxycodone 5mg to be prescribed at discharge. When compared to the OPEN guidelines, 49% of patients were prescribed more than the recommended amount. There was also not a significant difference in overprescribing when stratifying the patients by Enhanced Recovery After Surgery (ERAS) status. The 30-day readmission rate was 10.5%, and the 90-day readmission rate was 13.5%. Of those readmitted, 7.4% were related to opioid side effects.

Methods

This study is a single-center, retrospective chart review of general surgery patients (appendectomy, hernia repair, cholecystectomy, colectomy, ileostomy/colostomy, open small bowel resection/enterolysis) admitted at Baptist Memorial Hospital-Memphis (BMH-Memphis) and receiving post-operative opioids for pain treatment. Patient records will be reviewed from the day of their general surgery to either 90 days post discharge or death, whichever is sooner. The primary outcome measure is quantity of morphine milligram equivalents (MME) prescribed after general surgical procedures at BMH-Memphis. Secondary outcomes include the quantity of discharge multimodal medications, 30-day readmission rates, and 90-day readmission rates. The primary outcome was compared to the surgery specific opioid guidelines created by OPEN.

Background/Purpose

Prescribing opioids after surgery is common and can play an important role in pain management. However, it can be difficult for providers to balance effective pain control without overprescribing. When patients receive excess opioids, it increases the risk of taking them not as prescribed and can lead to more opioid-related serious harms such as addiction and overdose. To address the issue of overprescribing, institutions such as the Opioid Prescribing Engagement Network (OPEN) have implemented surgery specific opioid prescribing guidelines.

Wojtowicz, Jeremiah

Impact of Stewardship Intervention on Antibiotic Prescribing Prior to Dental Procedures in a Veteran Population

Wojtowicz, Jeremiah - Author[1]; Bennett, Jessica - Co-Author[1]; Thomas-Gosain, Neena - Co-Author[1]; Woodland, Woodi - Co-Author[1]

[1]Memphis VAMC

Conclusions

Conclusions pending

Results

Results pending and will be described

Methods

This study is a retrospective chart review of patients with a history of a prosthetic joint replacement seen by the dental clinic at the Memphis VAMC before (10/2019-09/2021) and after (10/2021-4/2023) the implementation of the protocol. Patients who received a treatment course of antibiotics, as determined by chart review, were excluded. Additionally, patients who had a joint replacement after the dental encounter were excluded. To detect a difference of approximately 70% between groups with an 80% power, each group needed to include ~200 patients. Data collection included demographics, comorbid conditions linked to immunosuppression (defined as uncontrolled diabetes, stage 3 Acquired Immune Deficiency Syndrome [AIDS], cancer patients undergoing immunosuppressive therapy with febrile neutropenia or severe neutropenia, rheumatoid arthritis patients on monoclonal antibodies or a steroid dose equivalent to >10mg a day of prednisone, solid organ transplant patients on immunosuppressants, diseases that cause immunosuppression, bone marrow transplant patients in the pretransplant or pre-engraftment period, endocarditis, opportunistic illness in the setting of AIDS), types of dental procedures, use of antibiotics, and discipline of prescribers.
The primary endpoint was the frequency of prophylactic antibiotic prescriptions prior to dental procedure pre- and post-implementation. The secondary endpoint was the appropriateness of prophylaxis management based on American Dental Association/American Academy of Orthopaedic Surgeons guidelines before and after the intervention. The appropriateness was determined through the ADA/AAOS Risk Assessment.
Descriptive statistics, (mean, median, and percentages), were used to analyze demographic data. Outcomes were analyzed with a Chi-square analysis and mean with standard deviation for both primary and secondary outcomes.

Background/Purpose

Over-prescribing and inappropriate use of antibiotics have resulted in negative sequalae including the increasing prevalence of *Clostridioides difficile*, antimicrobial resistance, healthcare costs, and morbidity/mortality. Antibiotic stewardship programs have worked to optimize antimicrobial use to prevent these negative effects. One often overlooked group of antibiotic prescribers are dentists, who have prescribed up to 10% of antibiotics in the United States annually. Notably, dental prophylaxis in orthopedic patients has been an area of confusion, with discordance in consensus guidelines. In the fall of 2020, the Memphis Antimicrobial Stewardship group spear-headed a collaborative effort between Veterans Affairs Dental, Orthopedic surgery, and Infectious Diseases

specialties to develop a facility wide protocol for the use of antibiotics prior to dental procedures, specifically in patients with prosthetic joint replacements based on the most up to date American Dental Association/American Academy of Orthopaedic Surgeons (ADA/AAOS) statement. In addition to the standard operating procedure (SOP), an order menu and an educational plan were constructed. The SOP was approved in June of 2021 and the education campaign was rolled out over the next few months to primary care, dental and orthopedic surgery. The order menu was concomitantly published in the electronic health record. This quality improvement study aims to show the effects of this antibiotic stewardship protocol implemented at the Memphis Veterans Affairs Medical Center (VAMC).

Wolfe, Liz

Initiation of MRSA PCR Nasal Screening and the Impact on Anti-MRSA Therapy De-escalation for Pneumonia and Sepsis in an Adult Hospital System

Wolfe, Liz - Author[1]; Marrero, Efrain - Co-Author[1]; Sakaan, Jola - Co-Author[1]; Vaddadi, Sameer - Co-Author[1]; Shoop, David - Co-Author[1]

[1]Methodist Le Bonheur Germantown Hospital

Conclusions

The MRSA nasal PCR screening has shown promising results in aiding the de-escalation of anti-MRSA therapy in pneumonia and sepsis patients. Preliminary results have shown a greater de-escalation in pneumonia patients when compared to sepsis patients.

Results

Preliminary results show 70% of patients being de-escalated from anti-MRSA therapy within 24 hours following a negative PCR result. Of those patients, 11 (68.8%) had pneumonia, 6 (66.7%) had sepsis, and 4 (80%) had both. The average duration of therapy was less than 12 hours in 30% of patients and between 12 and 24 hours for approximately 17%. On average, antibiotics were continued longer in sepsis (33.4 hr) as compared to pneumonia (26 hr). The incidence of mupirocin use prior to PCR collection occurred in approximately 37%. Historical data results are pending.

Methods

This study is a retrospective system-wide chart review of patients at five MLH adult facilities to assess medication use and clinical outcomes before and after implementation of the pharmacist-driven MRSA nasal PCR screening in selected patients receiving anti-MRSA therapy for pneumonia or sepsis. Historical data was collected from 2018-2019 and post-protocol data from January-September 2022. The primary outcome is to determine the length of time to anti-MRSA antibiotic de-escalation based on negative MRSA PCR nasal swab results in sepsis and pneumonia patients. Secondary outcomes include average length of anti-MRSA antibiotic therapy and hospital length of stay prior to and following the system-wide initiative of MRSA PCR nasal screening, assess anti-MRSA de-escalation based on indication, and incidence of mupirocin use prior to PCR swab collection. Data reports were collected from pre- and post- protocol implementation of documented pneumonia and sepsis, anti-MRSA therapy, and MRSA nasal PCR swab orders, then screened for inclusion and exclusion criteria.

Background/Purpose

Current guidelines recommend empiric antibiotics covering methicillin-resistant *Staphylococcus aureus* (MRSA) in patients at-risk of pneumonia and sepsis. Recent literature has highlighted that MRSA nasal PCR screening can guide de-escalation and potential reduction in the use of these agents. This retrospective review aims to identify the incidence of anti-MRSA antibiotic de-escalation following negative results of the pharmacist-driven MRSA nasal PCR screening at Methodist Le Bonheur Healthcare (MLH) adult facilities.

Woolard, Katie

Heart Failure Management in a Community Hospital

Woolard, Katie - Author[1]; Bostick, Anna - Co-Author[2]; Lyons, Christian - Co-Author[2]; Trezevant, May - Co-Author[2]

[1]Methodist Le Bonheur Germantown Hopsital, [2]Methodist Le Bonheur Germantown Hospital

Conclusions

Patients who had a TOC consult readmitted 12% less than those who did not receive a transition of care consult. Of the 133 total interventions made by the TOC team 71 were related sto heart failure medications. This study shows that patients with a TOC consult readmitted fewer times within 90 days than those who did not have a TOC consult.

Results

There were 300 patients included in the study. Ninety-five patients readmitted to the hospital within ninety days of discharge (32%), thirty-nine of those patients had a TOC consult and fifty-six did not. The readmission rate for TOC patients was 26% compared to 38% for those who did not have a transition of care consult (p=0.029). Forty-two of the total readmissions were heart failure related with TOC patients consisting of 14 readmissions. The TOC team made a total of 133 interventions and spent a total of 2085 minutes patient educating included in the study.

Methods

This was a retrospective study looking at patients admitted to Methodist Le Bonheur Germantown Hospital with the primary diagnosis of heart failure. Data was obtained through retrospective data queries of the electronic medical records from August 1, 2020 to August 31, 2022. The inclusion criteria for the study was patients with the admitting primary diagnosis of heart failure. The exclusion criteria for the study was cancer patients, hospice patients, dementia patients, patients admitted for < 24 hours, and non-heart failure patients. Patients were randomly selected from a combined list of patients with the primary diagnosis of heart failure and those that received a TOC consult. Upon completion of the study SPSS was used to perform a Chi-squared statistical analysis.

Background/Purpose

Suboptimal management of heart failure can lead to further readmissions and overall poor patient outcomes. The primary objective of this study is to determine the 90- day readmission rate of patients with interventions made by the transition of care (TOC) team compared to those who were not seen by the TOC team. Secondary objectives include determining if guideline directed heart failure management was followed and interventions made by the TOC team.

Wuerger, Angela

Pharmacist-Led Initiative to Increase Guideline-Directed Medical Therapies (GDMT) in Veterans with Peripheral Arterial Disease (PAD)

Wuerger, Angela - Author[1]
[1]Memphis VA

Conclusions

Pending completion of data collection and analysis.

Results

Preliminary results included 102 patient notes with 351 interventions. Overall, average age was 60 years (SD ± 5.5), almost 66% were Black, and the average ASCVD risk score was 19.2 (SD ± 11.6). The most common comorbid condition was HTN (86%) followed by HLD at (82%). To date, 52 patients have had follow-up appointments with their PCP and 41.3% of recommendations have been accepted. The most common recommendation is PAD/ ABI screening (29%) followed by lipid interventions (26%).

Methods

This IRB-approved single-center cohort study includes a retrospective and prospective component. The primary objective is to identify and characterize Veterans at risk for PAD (part 1) and evaluate the impact of pharmacists' interventions on recommending ABI screening and GDMT initiation (part 2). In part 1, a retrospective chart review identified Veterans at high risk for PAD defined as age ≥ 65 years old or ≥ 50 with one more additional risk factor including DM, HTN, hyperlipidemia (HLD), or smoking history. Data collected include baseline demographics, concomitant medications, pertinent laboratory findings, blood pressure (BP), and other clinically relevant comorbid conditions such as atherosclerotic cardiovascular disease (ASCVD) or history of major adverse cardiovascular or limb events. In part 2, prospective pharmacist recommendations are being made to primary care providers (PCP) through the electronic medical record which include ABI screening and addition or modification of GDMT as indicated. The primary outcome is rate of acceptance of pharmacist interventions including both PAD screening and GDMT. Secondary outcomes include changes from baseline in BP, LDL cholesterol, and hemoglobin A1C.

Background/Purpose

PAD affects 8 million Americans and is the third leading cause of atherosclerotic morbidity yet is widely underdiagnosed and undertreated. One report showed only 61% of providers routinely screen for PAD and <10% were familiar with appropriate GDMT. Age (≥ 65 years), male sex, positive family history, tobacco use, hypertension (HTN), and diabetes (DM) increase PAD risk. Risk factor screening, ankle-brachial index (ABI) testing, and appropriate GDMT are needed to reduce morbidity and mortality. Pharmacists are well-positioned to identify patients at risk, recommend screening, and optimize GDMT.

Yates, Walesha

Pharmacist-Led Initiative to Improve Glycemic Control Therapies in Veterans

Yates, Walesha - Author[1]; Rogers, Kelly - Co-Author[1,2]; Parker, Robert - Co-Author[1,2]; Young, Addison - Co-Author[3]

[1]Lt. Col. Luke Weathers, Jr. VA Medical Center, [2]University of Tennessee College of Pharmacy, Department of Clinical Pharmacy and Translational Science, [3]University of Tennessee College of Pharmacy

Conclusions

Pending completion of data collection and analysis.

Results

Preliminary results include data from 180 patients. Mean age was 68 ± 10 years, and almost 50% were Black. In the total population, the most common forms of CVD were HTN (89%) and CAD (21%). The mean atherosclerotic CVD risk score was 33.1 ± 12.3%. The mean A1C was 7.3 ±1.5% with 70% of patients receiving metformin, while only 23% were on semaglutide and/or empagliflozin. Thus far,156 recommendations have been made on 70 (39%) Veterans. The most common recommendations were to switch to an SGLT-2 inhibitor or GLP-1 agonist [57 (81%)] and to optimize lipid-lowering therapy based on cardiovascular risk and/or lipid levels [22 (31%)]. Follow up on acceptance rates is ongoing.

Methods

This IRB-approved, single-center cohort study includes retrospective and prospective components. In part 1, a structured query language survey was performed to identify Veterans with T2DM and CVD currently receiving a sulfonylurea. In part 2, prospective recommendations are being made to providers through the electronic medical record to discontinue sulfonylureas and optimize GDMT for T2DM and CVD including optimizing therapies for HTN, CAD, and smoking cessation. The primary outcome is the rate of acceptance of pharmacist interventions. Secondary outcomes include changes in hemoglobin A1C from baseline at 6 and 12 months and any hospitalization for diabetes or cardiovascular events.

Background/Purpose

Cardiovascular disease (CVD) [defined as hypertension (HTN), heart failure, or coronary artery disease (CAD)] is the leading cause of mortality in patients with type 2 diabetes (T2DM). Guideline-directed medical therapy (GDMT) recommends the use of metformin, glucagon-like peptide 1 (GLP-1) agonists, or sodium-glucose cotransporter 2 (SGLT-2) inhibitors to reduce major adverse cardiac events (MACE). Sulfonylureas do not provide CV benefit yet continue to be widely used. This provides an opportunity for pharmacists to identify those who would benefit from optimization of T2DM therapy to reduce MACE.

Yielding, Lauren

Hemorrhagic Transformation after Alteplase Administration

Yielding, Lauren - Author[1]; Beatrous, Kelsey - Co-Author[1]; Martin, Kelsey - Co-Author[1]; Wagner, Jamie - Co-Author[1]

[1]St. Dominic Jackson Memorial Hospital

Conclusions

Conclusions will be described.

Results

Results will be described.

Methods

This will be a retrospective case-control of patients who presented to St. Dominic Hospital for the treatment of ischemic stroke from January 1, 2018 to December 31, 2018 and received tPA therapy. Patients will then be divided out into those who subsequently experienced a HT (cases) and those who did not (controls). Data collected from the medical charts will include patient characteristics, stroke and treatment characteristics, and clinical outcomes.

Examples of the data to be collected include, but are not limited to: age, sex, weight, height, type of stroke, medication regimen prior to admission, and blood pressure goals and readings while inpatient. The primary outcome is identification of modifiable and non-modifiable risk factors for HT in ischemic stroke patients who receive tPA therapy. Secondary outcomes include hospital length of stay and in-hospital, all-cause mortality. The study endpoints will be examined using descriptive and inferential statistics. Statistical analysis will be performed using SPSS software version 28.0 (IBM). Categorical data will be analyzed using Chi-Square or Fisher's Exact test, and continuous data will be analyzed using Student's t-test or Mann-Whitney U test, as appropriate. An alpha of 0.05 will be deemed statistically significant.

Background/Purpose

While recombinant tissue plasminogen activator (tPA) is the gold standard therapy for the treatment of ischemic strokes, hemorrhagic transformation (HT) is a primary concern due to its association with poor outcomes and increased mortality rates.[1] Unfortunately, the pathogenesis of HT is not well understood, and classification of severity of HT varies between studies, making the discernment of risk factors for HT challenging. The Prolyse in Acute Cerebral Thromboembolism II study (PROACT II) defined clinically symptomatic HT as an increase in National Institutes of Health Stroke Scale (NIHSS) score of ≥ 4 points within 36 hours of tPA administration; while the European Cooperative Acute Stroke Study (ECASS) used radiological findings along with a worsening NIHSS score of ≥ 4 points. The purpose of this study is to identify patient-specific factors that increase the risk for HT to aid in early detection and possible prevention.

Zeidan, Rana

Evaluation of Early Versus Late Use of Lacosamide in Status Epilepticus

Zeidan, Rana - Author[1]; Samarin, Michael - Author[1]; Kimmons, Lauren - Author[1]; Reichert, Michael - Author[1]; Covington, Angela - Author[1]

[1]Methodist University Hospital

Conclusions

There was no significant difference in response for patients that received lacosamide early as compared to late. Patients in the early lacosamide group required fewer total AEDs during hospitalization. Additional research is needed to determine lacosamide's place in the management of SE.

Results

One hundred and eleven patients were included: 75 patients in the early lacosamide group (70.1%) and 32 in the late lacosamide group (29.9%). There was no statistical difference between the two groups in the primary outcome (31.6% vs 25%; p=0.509). Those in the early lacosamide group had a median of 4 AEDs utilized compared to 5 AEDs in the late lacosamide group (p< 0.001). There was no significant statistical difference between the two groups in utilization of continuous infusion AEDs (64.3% vs 52.6%; p=0.284). For patients on continuous EEG, 39.3% were definite responders in the early group versus 60.7% in the late group (p=0.519).

Methods

A retrospective chart review was conducted of adults admitted to Methodist University Hospital between January 1, 2018 and June 1, 2020 with a diagnosis of SE receiving at least one dose of intravenous lacosamide. Patients were excluded if discharged, made comfort care or expired within 48 hours of receiving lacosamide, pregnant or lactating, or if cardiac arrest was the underlying cause for SE. The primary outcome of this study was to compare the efficacy of early versus late lacosamide use in SE determined by the addition of an AED within a time span of 30 minutes to 12 hours after initiation of lacosamide. Secondary outcomes included comparison of the number of AED's used, utilization of continuous infusion AED's, and the percentage of patients defined as a definitive responder to lacosamide based on EEG monitoring.

Background/Purpose

Status epilepticus (SE) is a medical emergency where prompt seizure control is essential to improving clinical outcomes. Lacosamide has emerged as an effective treatment option with increasing incorporation into clinical practice; however, there is very little guidance on lacosamide's role in the management of SE. The purpose of this study is to characterize the use of lacosamide as an early (first or second-line urgent control) versus late anti-epileptic drug (AED).

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Risk Factors Associated with Antimicrobial Resistance in Patients Diagnosed with E. Coli UTI in the Emergency Department

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Conclusions

Significant risk factors associated with FQ and SMX-TMP *E.coli* urinary resistance were identified and can be utilized to help guide empiric prescribing. A significant correlation between SMX-TMP + FQ resistance and 14 day readmission was found. Empiric prescribing remains a challenge and local antibiogram and resistance data should be considered.

Results

A total 79 patients were included: 21 (26%) FQ resistance only, 45 (56.9 %) SMX-TMP resistance only, and 13 (16.5%) SMX-TMP + FQ resistance. A significant association between FQ only resistance and admission from long-term care facility was found. SMX-TMP only resistance was significantly associated with urinalysis positive nitrites. No significant factors were found for FQ + SMX-TMP resistance. Patients with SMX-TMP + FQ resistance had a positive moderate correlation with return ED visit/hospitalization at 14 days (r^2 .38, p=0.0006). All other correlation analyses were not significant.

Methods

This study is a single-center, retrospective observational study of adult patients discharged from the ED with a diagnosis of UTI on empiric oral antibiotic therapy. Patients were included they had urine culture positive for *E.coli* ≥ 10,000 CFU with resistance to either SMX-TMP or FQ. Patients were grouped by resistance pattern: SMX-TMP only, FQ only and SMX-TMP + FQ. Univariate analysis of factors impacting resistance were assessed and significant factors (p< 0.2) were forced to multivariate logistic analyses. Spearman Rank correlations were utilized to assess SMX-TMP/FQ resistance and secondary factors including return ED visit/hospitalization within 14 days and 30 days from initial ED visit for urinary symptoms return ED visit/hospitalization.

Background/Purpose

Antimicrobial resistance among uropathogens is an increasing healthcare concern. Resistance among *E.coli* urinary tract infections (UTI) have been reported in up to 40% of isolates. Sulfamethoxazole-Trimethoprim (SMX-TMP) and fluoroquinolone (FQ) antibiotics are commonly prescribed in the emergency department (ED). However, IDSA guidelines only empiric prescribing in regions where resistance prevalence is < 20% for SMX-TMP or < 10% for FQ to reduce microbiologic and clinical failure. This study aims to identify risk factors associated with SMX-TMP and FQ resistance in *E.coli* urinary isolates to help guide empiric prescribing for treatment of UTI in the ED.