

Knowledge translation strategies should dispel caregiver misconceptions, and highlight the impact of pain on children and the importance of analgesia at home.

Keywords: pain management, analgesia, knowledge translation

LO057

Association between metoclopramide treatment in the ED for concussion and persistent post-concussion headaches: a propensity score matching analysis

N. Bresee, MD, M. Aglipay, MSc, N. Barrowman, PhD, F. Momoli, PhD, A. Dubrovsky, MDCM, MSc, R. Zemek, MD; Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON

Introduction: There is a paucity of pediatric literature regarding effective treatment for post-concussion headache. The objective of this study was to assess whether metoclopramide treatment in the Emergency Department (ED) within 48 hours of injury was associated with reduced persistent headache symptoms post-concussion at 1-week and 1-month post-injury. **Methods:** Children aged 8-18 years with acute concussion were enrolled across 9 EDs of the Pediatric Emergency Research Canada network in a prospective cohort study [Predicting and Preventing Post-concussive Problems in Paediatrics (5P)] from August 2013 to June 2015. Treatments administered in ED (including metoclopramide) were collected using standardized forms. Self-report symptom questionnaires were rated at baseline, at 7 and 28 days follow-up using the validated Post-Concussion Symptom Inventory (PCSI). Propensity scores for treatment with metoclopramide were calculated using a multivariate logistic regression model including confounders. Intervention and control groups were matched 1:4 on the logit of the propensity scores using a greedy algorithm and nearest-neighbour approach. The primary outcome was headache persistence at one-month. **Results:** 2095 patients met inclusion criteria and completed baseline assessment. At 1 and 4 weeks respectively, 54% (963/1808) and 26% (456/1780) of participants completing follow-up had persistent headache symptoms. 50 metoclopramide treated participants were propensity score matched to 234 controls (1:4 matching). At 4 weeks, no statistically significant difference in persistent headache symptoms was observed between the treatment and propensity score matched control groups (OR: 0.67; 95% CI: 0.33-1.36, $p = 0.26$). There was also no statistically significant difference between the groups at 1-week post-concussion (OR 0.58; 95% CI: 0.32-1.05, $p = 0.07$). **Conclusion:** This secondary analysis was unable to detect a statistically significant association between acute ED treatment with metoclopramide and reduced medium and long-term headache symptoms post-concussion. Nevertheless, the 1-week results hold promise, but require a well-powered RCT to fully address confounding issues to determine the benefit of metoclopramide post-concussion.

Keywords: concussion, headache, propensity analysis

LO058

Reducing unnecessary coagulation studies in suspected cardiac chest pain patients

S. Dowling, MD, T. Rich, MD, D. Wang, MSc, A. Mageau, BScN, MN, H. Hair, MBA, A. McRae, MD, E. Lang, MD, University of Calgary, Calgary, AB

Introduction: In light of escalating health care costs, initiatives such as Choosing Wisely have been advocating the need to "reduce unnecessary or wasteful medical tests, treatments and procedures". We have identified coagulation studies as one of those low cost, but frequently ordered items, where we can decrease unnecessary testing and costs by

leveraging our Computerized Practitioner Order Entry (CPOE). Considerable evidence exists to suggest a low yield of doing coagulation studies (herein defined as PTT AND INR's) in suspected cardiac chest pain patients (SCCP). **Methods:** Using administrative data merged with CPOE we extracted data 90 days pre- and 90 post-intervention (Pre-intervention: May 20, 2015 to August 19th 2015, Post-intervention: August 20th, 2015 to November 18th 2015). The setting for the study is a large urban center (4 adult ED's with an annual census of over 320,000 visits per year). Our CPOE system is fully integrated into the ED patient care. The intervention involved modifying the nursing CPOE to remove the pre-selected coagulation studies in SCCP and providing education around appropriate usage of coagulation studies. Patients were included in the study if the bedside nurse or physician felt 1. the chest pain may be cardiac in nature and 2. Labs were ordered. The primary outcome was to compare the number of coagulation studies ordered pre and post-intervention. **Results:** Our analysis included 10,776 patients that were included in an SCCP pathway as determined by the CPOE database. Total number of visits in these two phases were similar (73,551 pre and 72,769 post). In the pre-intervention phase, 5255 coagulation studies were done (4246 ordered by nursing staff and 1009 studies ordered by ED physicians). In the post-intervention phase, 1464 coagulation studies were ordered (1211 by nursing staff and 253 additional tests were ordered by ED physicians). With our intervention, we identified a net reduction of 3791 coagulation studies in our post-intervention phase for a reduction of 72.14% reduction ($p = < 0.0001$) At a cost of 15.00\$ (CDN\$ at our center), we would realize an estimated cost -savings of 56,865\$ for this intervention over a 90 day period. **Conclusion:** We have implemented a simple, sustainable, evidence based intervention that significantly minimizes the use of unnecessary coagulation studies in patients presenting with SCCP.

Keywords: chest pain, coagulation, decision support

LO059

CT head scans yield no relevant findings in patients presenting to the emergency department with bizarre behavior

P. Ng, M. McGowan, MHK, B. Steinhart, MD; University of Toronto, Toronto, ON

Introduction: The standard approach between Emergency Departments (EDs) and Psychiatric Emergency Services is to medically "clear" a stable patient of organic pathology prior to psychiatric consultation. Medical clearance involves neuroimaging, typically in the form of a computed tomography (CT) head scan. This study examines the clinical impact of ordering CT head scans for patients presenting with bizarre behaviour. **Methods:** A 5-year retrospective chart review was conducted at 3 academic, urban ED sites. Inclusion criteria were patients ≥ 18 years of age triaged as "mental health - bizarre behavior" (defined as deviating from normal cognitive behaviour with no obvious cause) with a CT head scan ordered while under the care of the ED. Exclusion criteria were focal neurologic deficits on exam, alternative medical etiology (i.e. delirium, trauma) and/or pre-existing CNS disease. Demographic, administrative, and neuroimaging data were extracted with 10% of charts independently reviewed by a staff Emergency Physician for inter-rater reliability. **Results:** 270 cases met study criteria. CT results were unavailable in 3, leaving 267 cases studied. The population demographics were: 49% percent female, average age 51 years old, 28% homeless, 59% arrived by police and/or ambulance. CT head results demonstrated 1 (0.4%) case with possible acute findings on CT. 108 (40%) had incidental findings (i.e. cerebral atrophy, small hypodensities), none of which impacted clinical management. Average time to physician assessment was 1 hour 58 minutes (sd 1:17) and time