E. Lalande, MD, C. Guimont, MD, PhD, M. Émond, MD, MSc, M. Parent, MD, B. Batomen Kuimi, MSc, V. Boucher, BA, N. Le Sage, MD, MSc; Université Laval, Québec, QC

Introduction: Rib fractures represent a frequent condition associated with Minor Thoracic Injury (MTI). Since the last decade, ultrasound have become an important part of emergency physician's (EP) daily practice, and its applications have become numerous. The main objective of this study was to evaluate the feasibility of Emergency Department Targeted Ultrasound (EDTU) for rib fracture diagnosis in patients with MTI. Secondary objectives were to 1) evaluate patients' pain during the EDTU procedure, 2) assess clinicians' degree of certitude over rib fracture diagnosis made by EDTU, 3) identify the limitations of the use of EDTU technique, and 4) compare the diagnosis obtained with EDTU to radiography results. **Methods:** Adult patients who presented with clinical suspicion of rib fractures after MTI were included. All patients underwent EDTU performed by emergency physicians (EP) prior to a rib view X-ray. Visual Analogue Scale (VAS) ranging from 0 to 100 was used to ascertain feasibility, patients' pain and clinicians' degree of certitude. Feasibility was defined as a score of more than 50 on the VAS. We also documented the radiologists' interpretation of rib view X-ray. Radiologists were blinded to the EDTU results. **Results:** Ninety-six patients were included. A majority (65%) of EP concluded that the EDTU technique to diagnose rib fracture was feasible (VAS score > 50). Median score for feasibility was 63. Median score was 31 (Interquartile range (IQR) 5-57) for patients' pain related to the EDTU examination and 72 (IQR 32-92) for the degree of certitude over the diagnosis made by EDTU. The main limiting factor of the EDTU technique was pain during patient examination (15%). **Conclusion:** EDTU examination appears to be a feasible technique for rib fractures diagnosis in the ED.

Keywords: ultrasound, Rib fracture, minor thoracic injury

P074

Impact of wearing a helmet on the risk of hospitalization after a sport injury

N. Le Sage, MD, MSc, M. Prévost, B. Batomen Kuimi, MSc, A. Gagnon, V. Bergeron-Larose, BA, M. Émond, MD, MSc, P. Tardif, MA, MSc; Université Laval, Québec, QC

Introduction: Six Canadian provinces recently made bicycle helmet mandatory and subsequent data concerning hospitalization rates after head injuries in cyclists were controversial. Furthermore, there remains an important proportion of participants who don't wear a helmet in sporting activity. We thus wanted to estimate the impact of helmet use in sport injuries on the risk of hospitalization. **Methods:** Study participants were patients of all age presenting at the emergency department of the Hôpital de l'Enfant-Jésus du CHU de Québec for a trauma that occurred in a sport in which it's possible to wear a helmet. Data were collected from information provided by the patient and from the Canadian Hospitals Injury Reporting and Prevention Program' (CHIRPP) database. Descriptive and multivariate analyses have been carried out using these data. We performed binomial logistic regression analyzes to estimate the risk adjusted for potentially confounding variables: age, sex and number of injuries. **Results:** Most patients included in the study (n = 169) were males (69.8%) aged between 10 and 30 years (50.3%). Sports most frequently involved in trauma were cycling (31.4%), downhill skiing (18.3%), snowboarding (14.8%), hockey (11.8%), and skateboarding (5.9%). Overall, 70.4% of patients were wearing a helmet at the time of injury. Helmet use in sports was associated with a reduction of 52% of the risk of hospitalization (RR: 0.48 [CI: 95%: 0.25-0.93]) after a trauma. In addition, patients not wearing a helmet had higher proportions of intracranial hemorrhage (10% vs. 1.7%) and skull fracture (8% vs 2.5%). **Conclusion:** Results suggest that helmet use decreases the risk of hospitalization for trauma sustained in sports in which it's possible to wear a helmet.

Keywords: helmets, sport injury, hospitalization rate

P075

Impact of pit-crew CPR following out-of-hospital cardiac arrest in Saskatoon

S. Netherton, BSc, PhD, MD, A. Leach, T. Hillier, MA, R. Woods, BSc, MSc, MD; University of Saskatchewan, Regina, SK

Introduction: Between 1980 and 2008, survival rates following an out-of-hospital cardiac arrest (OHCA) have remained unchanged, averaging 7.6%. Despite the use of new and emerging technologies, new medications, and automated external defibrillators, survival remains low. Recently, a new focus in cardiopulmonary resuscitation (CPR) has shown dramatic improvements in survival post OHCA. This new model, called pit-crew CPR, focuses on minimizing interruptions in chest compressions and has each team member playing a specific role in the resuscitation, akin to the pit-crew of a car race. Certain districts in the United States and Canada have adopted the pit-crew, or a similar, high quality, maximum time-on-chest CPR model, with much success. We aim to determine whether the pit-crew model of CPR improves survival following OHCA in Saskatoon, SK. **Methods:** In Saskatoon, EMS and Fire crews respond to OHCAs and have been exclusively using the pit-crew model of CPR since Jan 1st, 2015. This study is a before and after retrospective chart analysis, comparing two groups - pre and post implementation of the pit-crew CPR model. The primary outcome is survival to hospital discharge post OHCA. Secondary outcomes include survival to admission and any return of spontaneous circulation (as per the Utstein definition). The inclusion criteria are patients >18 years old with a witnessed OHCA of presumed cardiac origin who receive CPR by EMS/Fire within the Saskatoon Ambulance service (MD Ambulance) catchment area. Patients were excluded if the OHCA was unwitnessed, or if there was a presumed non-cardiac cause for the arrest, e.g. trauma. **Results:** In the pre-pit-crew model cohort, between Jan 1st, 2011 and Sept 31st, 2014, 455 OHCAs were analyzed. In this cohort 10.5% survived to discharge, 31.9% survived to admission and ROSC was achieved in 39% of cases. The percentage of patients with initial rhythms of VF/VT, asystole or PEA were 28.5% (26%), 41.5% (1%) and 23.6% (10%) respectively, with survival to discharge shown in parentheses. The post-pit-crew cohort is still in the data collection phase. **Conclusion:** Our pre-pit crew cohort data has been collected and analyzed. With ongoing data acquisition for the post-pit crew cohort, we hope to have the full data set complete by the end of 2018. It will be at that time when we are able to determine whether the pit-crew model of CPR improves survival to discharge following OHCA in Saskatoon.

Keywords: resuscitation, prehospital, cardiopulmonary resuscitation (CPR)

P076

Delirium prevention in the emergency department using regional anesthesia with ultrasound guidance in the elderly population with hip fracture: a pilot study

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