Session 1

Clinical Studies

Chair: Professor Michael Boyne and Dr Jean Jackson

(O – 01)

Evaluation of radiopharmaceutical adverse reaction reports to the British Nuclear Medicine Society for the period 2007–2016

T Kennedy-Dixon[1, 2], M Gossell-Williams[2], M Cooper[1], M Trabels[1], S Vinjamuri[1]
[1]The Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, United Kingdom and [2]Department of Basic Medical Sciences, The University of the West Indies, Mona, Kingston, Jamaica

Objective: This study sought to answer the calls for the restoration of reports of adverse reactions from the European Association of Nuclear Medicine. It assessed reports of adverse reactions to radiopharmaceuticals (ARRPs) that were submitted to the British Nuclear Medicine Society's Radiopharmaceutical Adverse Reactions and Product Defects online database during the period January 2007 to December 2016.
Methods: This investigation was a pharmacovigilance-based, non-experimental, cross-sectional study aimed at finding the prevalence and association between ARRPs and adverse reactions.
Results: During the study period, 204 reports were made of adverse reactions to ARRPs, of which 13 were considered invalid. This was primarily due to incomplete entries, while in other cases the causality could not be determined. Tetrofosmin (34) and Oxidronate (32) had the highest prevalence, while Medronate accounted for 21 reports and both Sestamibi and Nanocolloid had 14 reports each. Rash (84), itching (46) and vomiting (30) were the three most frequently occurring adverse reactions. The majority (96.8%) of the reports were for diagnostic ARRPs.
Conclusion: The prevalence of reported ARRPs remained low in the United Kingdom, with a frequency of 3.1 reports per 100 000 administrations in 2013 and 2.5 per 100 000 administrations in 2015. In our review spanning 10 years between 2007 and 2016, we did not find any particular concern with the usage of ARRPs in this region. However, the notification, monitoring, and analysis of reports need to be maintained to improve the pharmacovigilance of ARRPs.

(O – 02)

Effect of lower limb injuries on in-patient outcomes of road traffic accidents

W Palmer
Division of Orthopaedics, Department of Surgery, Radiology, Anaesthesia and Intensive Care, The University of the West Indies, Mona, Kingston, Jamaica

Objective: To assess the impact of lower limb injuries on the length of stay and in-patient mortality among victims of road traffic accidents admitted to the hospital.
Methods: Patients were selected from the Trauma Registry of the University Hospital of the West Indies who had injuries from road traffic accidents between 2005 and 2014. Admission patterns were examined over three periods: 2005–07, 2008–10 and 2011–14. Pearson's Chi-square test was used to examine trends in demographics, the role in the accident, the presence of lower limb and other injuries, the length of hospitalization and adverse outcomes. Logistic regression analysis was used to investigate the effect of lower limb injuries on the length of hospital stay and mortality after controlling for potential confounders.
Results: A total of 1864 persons were admitted between 2005 and 2014, 76% of whom were male with the highest incidence of injuries among those aged 25–50 years. Lower limb injuries accounted for 31% of the admissions. These patients were 3½ times more likely to be hospitalized for more than two weeks (odds ratio = 3.48; 95% CI = 2.77, 4.38) and four times more likely to die during that admission (odds ratio = 3.92; 95% CI = 2.27, 6.77). Other significant factors for poor outcome included age over 50 years and head injury.
Conclusion: Lower limb injuries from road traffic accidents carried a high risk of prolonged hospitalization and death. Interventions to reduce the risk of these injuries in high-risk groups and protocols addressing in-hospital management may help limit the impact of these injuries.

(O – 03)

CT evaluation of congenital anomalies of the inferior vena cava and the left renal vein in a Caribbean population

K Gabriel, B Ying and D Soares
Department of Surgery, Radiology, Anaesthesia and Intensive Care, The University of the West Indies, Mona, Kingston, Jamaica

Background: Anomalies of the retroperitoneal venous drainage system vary by ethnicity. These variants can have clinical importance. There are currently no data available on the prevalence of these anomalies within a Caribbean population.
Methods: Contrast enhanced CT scans of 1308 patients done at the University Hospital of the West Indies from July 1, 2013 to June 30, 2014 were retrospectively evaluated. The prevalence and the anatomical configurations of the major retroperitoneal veins were documented.
Results: In this series, a total of 112 patients had venous anomalies (8.6%). Of these, 40 (35.7%) were male and 72 (64.3%) were female. With regard to the prevalence of the types of anomalies, 2.2% of the patients (n = 29) demonstrated retroaortic left renal veins, 6.0% of the patients (n = 78) demonstrated circumaortic left renal veins, and 0.2% of the patients (n = 3) had double inferior vena cavae (IVCs). No left-sided IVCs, pre-aortic confluences or azygos continuations of the IVC were identified. Of the 210 patients who had delayed imaging, two patients had retrocaval ureters with a prevalence of 1.0%. A statistically significant difference was identified when the prevalence of the circumaortic left renal vein was evaluated by gender ($p < 0.05$), with the frequency being higher in females.
Conclusion: Variations of the IVC and left renal vein are relatively uncommon in the Caribbean population. The prevalence of the circumaortic left renal vein in this study appeared at the upper end of the spectrum when compared to that seen in other studies. While no radiological studies of the prevalence of retrocaval ureters were found in the literature, the prevalence in our population appeared much higher than that in cadaveric studies.

(O – 04)
Translaminar screw for stabilization of the axis (C2) vertebrae from a posterior cervical approach

C Bruce, M Morgan, D Rowe, H Harding
Department of Surgery, Radioogy, Anaesthesia and Intensive Care, The University of the West Indies, Mona, Kingston, Jamaica

Background: Stabilization of the axis remains a challenge in neurosurgery. Anterior approaches are confined to lag screws across fractures. In many patients, the C2 pedicle is not wide enough to accept a screw, and the pars may be fractured.
Objective: We used a 4.5 mm diameter translaminar screw to attempt stabilization, using the thickest bone in the upper posterior cervical spine.
Methods: For the surgical technique, a match head dissecting tool was used to make a starter hole at the base of the C2 spinous process contralateral to the laminar to be cannulated. A small pedicle probe was then used to cannulate the laminar from superior to inferior and medial to lateral. To place the screw for the opposite side, care was taken to leave enough space on the inferior aspect of the base of the laminar for the start hole of the opposite screw. Fluoroscopic guidance and nerve monitoring were used for accuracy and patient safety.
Results: A total of nine screws were placed in five patients (four female and one male) with C1 C2 subluxation. The average length of the screw was 25 mm. The range was 20–30 mm. The average angle was 30 degrees from the horizontal and 45 degrees from posterior to anterior. The diameter of the screws was 4.5 mm. All screws were polyaxial. All patients had a successful stabilization.
Conclusion: The translaminar screw is a safe and biomechanically suitable alternative for stabilization of the Atlanta axial junction and upper cervical spine.

(O – 05)
Computer Vision Syndrome and its associated ergonomic (postural) practices among UWI undergraduate university students

L Mowatt, C Gordon, B Santosh

Objective: To determine the prevalence of symptoms of Computer Vision Syndrome (CVS), assess the postural practices and its effects associated with computer use among students in the Faculty of Medical Sciences at The University of the West Indies, Mona, Jamaica.
Methods: A prospective cross-sectional study was conducted with a self-administered questionnaire.
Results: A total of 409 students participated, 78% of whom were female. The mean age was 21.6 years. Neck pain (75.1%), eye strain (67%), shoulder pain (65.5%) and eye burn (61.9%) were the most common symptoms. Dry eyes (26.2%), double vision (28.9%) and blurred vision (51.6%) were the least commonly experienced symptoms. Eye burning ($p = 0.001$), eye strain ($p = 0.041$) and neck pain ($p = 0.023$) were significantly related to the level of viewing. Moderate eye burning (55.1%) and double vision (56%) occurred in those who used handheld devices ($p = 0.001$ and $p = 0.007$, respectively). Moderate blurred vision was reported in 52% of the participants who looked down at the device, compared to 14.8% who held it at an angle. Severe eye strain (63%) occurred in those who looked down at the device, compared to 21% who kept the device at eye level. Shoulder pain was not related to the pattern of use.
Conclusion: Symptoms of CVS were prevalent among university students. Improved ergonomic practices may reduce these symptoms.