ISNACC-S-65

Transesophageal echocardiographic study of etiology of hemodynamic fluctuations during major neurosurgical procedures

S. Varun, R. M. Nilima, S. Manikandan

Division of Neuro-anaesthesia and Neurocritical care, SCTIMST, Trivandrum, India

Introduction: Patients undergoing neurosurgical procedures can have a variety of hemodynamic fluctuations which affect cerebral hemodynamics, cerebral perfusion pressure, intracranial pressure; and outcome. Hence it is important to identify the etiology so that appropriate treatment can be initiated, such as infusion of fluids or blood or vasopressors. TEE has recently been found to have a major role in non-cardiac surgery. We prospectively studied the impact of TEE to identify the etiology of hemodynamic fluctuations during major neurosurgical procedures. **Methods:** After IEC clearance, 65 adult patients in whom TEE was otherwise indicated for expected hemodynamic changes due to intracranial lesion characteristics; head-up position with venous air embolism risk; and those undergoing intracranial aneurysm surgery, were included. We excluded patients with low GCS, refusal to consent and any contraindication to placing TEE probe. After standard anaesthesia induction, TEE probe was placed and intraoperative fluctuations were monitored based on preload changes, contractility and afterload changes along with hemodynamic changes (heart rate change <50/>100/min; and BP +/- 30 mm Hg from baseline were considered significant). **Results:** Significant hemodynamic changes occurred in 23 out of 65 patients. There were episodes of low systolic/mean BP and tachycardia. Twenty patients had more than 2 episodes of hemodynamic fluctuations. Seven had more than three episodes. On TEE examination, most frequent abnormality was increase in SVC collapsibility index followed by increased stroke volume variability. The SVR was also found to be reduced indicating vasodilation. Two patients had RWMA. In all patients hemodynamic instability was successfully managed. **Conclusion:** Our study showed intraoperative TEE use was beneficial in identifying the cause of intraoperative hemodynamic fluctuations as well as aided in management.

ISNACC-S-66

Lung ultrasound as a bedside tool for assessment of extra vascular lung water in critically ill head injured patients - An observational study

G. Vasavi, K. Jain, Y. K. Batra, T. Samra, M. Garg[1]

Department of Anaesthesia and Intensive Care and [1]Radiodiagnosis and Imaging, PGIMER, Chandigarh, India

Introduction: Incidence of pulmonary edema in patients with traumatic brain injury is 11-71%. Early detection of Extra Vascular Lung Water (EVLW) helps in better clinical outcome of the patient. Primary objective of the study was to identify the presence of extravascular lung water seen as >3 B lines per lung field, using lung ultrasound in critically ill head injured patients. Secondary objectives were to compare the diagnostic accuracy and delay in identification of EVLW using chest x ray versus lung ultrasound. Association of EVLW with duration of mechanical ventilation and ICU stay was observed. **Methods:** This observational study was conducted in Trauma ICU, Advanced Trauma Centre, PGIMER, Chandigarh during study period of Sep 2015 to Dec 2016. After Ethical clearance (IEC No. INT/IEC/2015/372), a total of 120 patients with head injury requiring mechanical ventilation and critical care were enrolled in the study. Daily routine chest x ray and daily bedside lung ultrasound were done from the day of ICU admission until the patient was on mechanical ventilator support. **Results:** Incidence of pulmonary edema in our study was found to be 61.67% (n = 74/120, p value <0.001). Lung ultrasound was the initial method of detection of EVLW in n = 68/74, 91.9% and it was both chest X-ray and ultrasound in n = 6/74, 8.1%. Of the 74 patients who showed pulmonary edema on lung ultrasound, chest x ray could identify pulmonary edema in only 49 patients. The mean time gap between identification of EVLW by using lung ultrasound and chest X-ray was 1.42 ± 0.77 days. **Conclusions:** Lung ultrasound is a good bedside investigative modality for early detection of EVLW compared to routine chest X-ray in critically ill head injured patients. There is a significant association between duration of mechanical ventilation and ICU stay with the presence of EVLW.

ISNACC-S-67

Thoracic epidural blood patch with CT conformation used in treatment of recurrent subdural hematoma with spontaneous intacranial hypotension

B. D. Wankhede, R. Deopujari

Department of Anaesthesia, Jaslok Hospital and Research Center, Mumbai, Maharashtra, India

Introduction: CSF Leakage is a primary cause of SIH. SIH with SDH is a rare case but with morbid complication. Incidence of 1/50000 SDH present with SIH. Unfamiliarity with SIH among physician and unusual clinical, radiological presentation delays diagnosis. **Case Summary:** 54 year old male with Diabetes, OSA and HTN presented with holocranial headache, vomiting and

photophobia with no neurological sign. Urgent brain CT and venogram showed bilateral SDH with downward displacement of brainstem and distended venous sinuses s/o SIH. MRI Brain and myelography confirmed bilateral SDH and site of CSF leak could not be detected. Diagnosis of intracranial hypovolemic syndrome was made. Patient underwent bilateral burr hole drainage of SDH, blind Lumbar EBP was tried twice with no success. CT myelogram repeated still not s/o any leaks. EBP tried with the 18G epidural needle in T11-T12, under aseptic conditions 30 cc blood slowly injected in same space and catheter removed CT confirmation done, dressing and head low given. CT brain and MRI repeated shows decreased SDH, cerebral edema and midline shift with increased in cistern size and improvement in sensorium of the patient over the time. **Conclusion:** Management of SDH should focus on correction of underlying SIH. CT guided epidural blood patching in the thoracic or cervical spine should be considered for SIH when lumbar blood patching fails.

ISNACC-S-68

Application of acute physiology and chronic health evaluation ii and sequential organ failure assessment score in the prognostication of patients in systemic inflammatory response syndrome

K. L. Wilson, K. Fernandes, Y. M. Prashanth, B. M. Venkatesha

Department of Anaesthesia, Father Muller Medical College Hospital, Mangalore, Karnataka, India

Introduction: Various scoring systems like the Acute physiology and Chronic Health Evaluation (APACHE) II and III, Simplified Acute Physiological Score (SAPS) II, Logistic Organ Dysfunction (LOD) and Sequential Organ Failure Assessment (SOFA) scores have been used to prognosticate the patients. One of the most commonly used, is the APACHE but in view of the multiple variables, bedside application becomes difficult. Aim of the study was to prognosticate the patients by using SOFA and APACHE scoring and to determine the better scoring parameter in determining outcome. **Methods:** It was a prospective observational study. 45 cases in SIRS were included in the study. The APACHE score was measured at admission and the SOFA score was calculated at 0, 48 and 96 hrs. A comparison between the two scoring systems was done in order to determine the better parameter. **Result:** 32% of the subjects were females. The APACHE scoring at admission correlated best with SOFA scoring at admission (p value -0.003) but a higher predictability of mortality was seen with SOFA scoring at 96 hrs (p value – 0.017). At the end of 96 hrs, death was recorded in 19 subjects (47% of the cases). **Conclusion:** The Sequential Organ failure Assessment is a more reliable predictor of mortality in comparison to APACHE II of which the score taken at 96 hrs was best in favour. The highest SOFA score also was an equally reliable parameter. The limitation of the study was the shorter study duration.

ISNACC-S-69

Comparison of ramosetron and ondansetron for prevention of early and delayed post-operative nausea and vomiting following craniotomy

Zikrullah, O. A. Siddiqui, Hassan

Department of Anaesthesia and Critical Care, JNMC, AMU, Aligarh

Introduction: Post-operative nausea and vomiting (PONV) is frequent and a distressing complication after neurosurgical procedures. 5HT3 receptor antagonists are commonly used drugs for its prevention. A study was designed to compare the efficacy and safety of ramosetron and ondansetron in patients undergoing craniotomy. **Methods:** Prospective, randomized, double-blind controlled study was conducted to compare the efficacy and safety of ramosetron (0.3 mg) and ondansetron (4 mg) in early and delayed PONV in patients undergoing craniotomy. Efficacy as well as side effects of ondansetron and ramosetron was documented and compared. **Results:** One hundred thirty adult patients undergoing craniotomy were studied - 65 patients in each of the two groups. In first 24 h after surgery, complete response (No PONV) was observed in 28 patients of the ondansetron group and in 32 patients of the ramosetron group ($P>0.05$). Complete response in the second 24 h after surgery was observed in 30 patients of the ondansetron group and in 45 patients of the ramosetron group ($P<0.05$). PONV requiring rescue antiemetic was significantly higher ($P<0.05$) in the ondansetron group as compared to the ramosetron group. No significant adverse effects were observed in both the groups. **Conclusion:** Ramosetron is safe and has more potent antiemetic effect for delayed PONV as compared to ondansetron in patients undergoing craniotomy.