

the groups at all time intervals. **Conclusion:** Plasmalyte A is a better alternative to 0.9% saline as intravenous fluid in neurosurgical procedures as it produces lesser acidosis and maintains serum chloride levels.

ISNACC-S-36

A rare entity of intra-arterial embolism in neurointerventional suite

S. Lachala, S. Anand, A. Chakravarty

Department of Anaesthesia, Artemis Hospitals, Gurgaon, Haryana, India

Introduction: Symptomatic arterial embolism during neurointerventional procedures is a rare complication which can result in catastrophic consequences. We report a rare case of arterial embolism during endovascular coiling of basilar top aneurysm in a patient, who developed cardiac arrest intraoperatively and developed complication after cardiopulmonary resuscitation and was managed successfully. **Case Summary:** A 79 years old woman who was undergoing elective endovascular balloon assisted coiling of an unruptured large basilar top aneurysm suddenly had a fall in end-tidal CO₂ followed by cardiac arrest. The occurrence of arterial air embolism was simultaneously alerted by the neurointerventionist. Cardiopulmonary resuscitation with 100% FiO₂ and high PEEP was started and the patient was revived successfully. Post resuscitation she was shifted to Intensive care unit (ICU) on high inotropic support. In ICU she was observed to be pale. Her haemoglobin in ABG was found to be 5.4 g%. Bedside ultrasonography revealed haemoperitoneum. Contrast computerised tomography of chest and abdomen was done which showed hepatic artery branch bleed. Glue embolisation of the ruptured artery was undertaken immediately. Subsequently she made uneventful recovery with no neurological deficit and was discharged in a stable condition. **Conclusion:** High index of suspicion of arterial air embolism is required during neurointerventional procedures. Its prompt diagnosis and appropriate management are needed to avoid major permanent neurological deficits and mortality.

ISNACC-S-37

Oral pregabalin reduces VAS score in patients with acute aneurysmal subarachnoid haemorrhage

K. R. Lionel, S. Manikandan

Division of Neuroanesthesia and Neurocritical Care, SCTIMST, Trivandrum, Kerala, India

Introduction: Patients with acute aneurysmal subarachnoid haemorrhage (aSAH) usually present with excruciating headache. Since pain activates

the sympathetic system and contributes to various complications including aneurysmal re-bleed, pain control in these patients is vital in the perioperative period. Pregabalin (β -isobutyl-GABA) is recognized to have analgesic, antiepileptic, antiemetic and anxiolytic properties that make it an attractive adjuvant in pain management for these patients. **Methods:** We conducted a double blind, placebo controlled randomized clinical trial to assess the effect of perioperative pregabalin in decreasing anaesthetic and opioid requirement and perioperative headache in patients with aSAH undergoing aneurysmal clipping. Twenty-two WFNS grade 1-2 aSAH patients were randomized to receive either pregabalin (75 mg BD) or placebo till 24 hours post operation. Headache, assessed using a visual analogue score (VAS), at admission, prior to induction and at 6, 12 and 24 hours post-operatively were compared using a Mann-Whitney test. **Results:** We present the interim analysis of 22 participants recruited to date. Pregabalin recipients had a significantly greater decline in VAS between admission and pre-induction (-4.18 vs -1.82; $p = 0.008$); lower VAS at 12 hours post-op (3.73 vs 4.75; $p = 0.035$) and required fewer rescue analgesics in the 24 hours following surgery (0.64 vs 2.1; $p = 0.002$). **Conclusion:** Data from this interim analysis suggests that pregabalin significantly decreases perioperative headache and the need for rescue analgesics in aSAH. However, a larger number of participants may be required to assess its impact on decreasing the anaesthetic and analgesic requirements and to exclude potential adverse effects.

ISNACC-S-38

Comparison of pharmacological neuroprotection provided by propofol versus desflurane for long term postoperative cognitive dysfunction in patients undergoing surgery for aneurysmal subarachnoid hemorrhage

S. Mahajan, H. Bhagat, V. K. Grover, N. Panda, M. Mohanty¹, N. Singla¹

Departments of Anaesthesia and Intensive Care and ¹Neurosurgery, PGIMER, Chandigarh, India

Introduction: Aneurysmal subarachnoid hemorrhage (aSAH) is an acute life threatening condition with 30-40% mortality rate. Amongst the survivors, 40-50% suffers disability due to cognitive decline affecting quality of life on long term basis. The present concept of definite early intracranial aneurysm surgery poses challenges to anesthesiologist. During intracranial aneurysmal surgery, propofol and desflurane commonly used anesthetic agents. There is lack of data pertaining to anesthetic agents and cognitive sequelae following these agents. **Methods:** Randomized prospective comparative study enrolled 100 patients. Both the groups had 50 patients

each. Cognition was assessed using Hindi version of MoCA test at three time points – Preoperatively, at the time of discharge, 1 month following surgery. The statistical analysis was carried out using Statistical Package for Social Sciences (SPSS version 22.0 for windows). **Results:** Preoperatively mean cognitive scores were 21.64 ± 4.40 . Following discharge from the hospital, there was further decrease in mean cognitive scores. One month following surgery, mean cognitive dysfunction scores in propofol and desflurane were 22.63 ± 3.57 and 20.74 ± 3.89 ($p = 0.04$). Individual cognitive domain assessment showed memory and orientation scores were better in propofol group when compared to desflurane group ($p = 0.03$ and 0.01 respectively). **Conclusion:** The mean cognitive dysfunction scores at one month following surgery were higher with propofol as compared to desflurane. On subgroup analysis, orientation and memory scores were better preserved with propofol when compared to desflurane. Limitation of our study we assessed cognitive functions by using MoCA test. Although this test covers various domains of cognition but it does not evaluate individual domains in detail. Hence more comprehensive scale will identify the subtle differences in the individual component and may help in planning the rehabilitation of the aSAH patient.

ISNACC-S-39

Pre-operative anxiety in intracranial neoplasm patients undergoing surgery and assessment of its predictors

R. Malik, V. K. Grover, N. B. Panda, H. Bhagat, P. Mathew, M. Mohanty¹, K. Jangra, A. Luthra

Departments of Anesthesia and Intensive Care and ¹Neurosurgery, PGIMER, Chandigarh, India

Introduction: Pre-operative anxiety in intracranial neoplasm is very important aspect of peri-operative care. The primary aim of the present study is to find out prospectively levels of anxiety in these patients and assessment of factors affecting pre-operative anxiety was secondary aim of the study. **Methods:** This observational study included 60 patients aged 18 to 65 years who were scheduled for an elective surgery. Pre-operative anxiety was rated using APAIS (Amsterdam Preoperative Anxiety and Information Scale) and STAI (State Trait Anxiety Inventory Scale). All the patients also completed Agarwal Scale for assessment of Socioeconomic status. **Results:** A total of 60 patients completed the study. Preoperative anxiety was present in 60% of the patients according to STAI scale and in 68% according to APAIS scale. 65% patients were having desire for information regarding surgery and 72% patients were having desire for information regarding anaesthesia. Laterality of the tumour and socioeconomic status of the family

were found to significantly influence the anxiety levels. Patients belonging to joint families were found to be more anxious. **Conclusion:** Identification of the factors affecting preoperative anxiety may help the attending anaesthesiologist to formulate a strategy to allay the anxiety in these patients. Our study was limited by recruitment of all the patients from 1 centre so culture and clinic specific factors can alter the findings. All the factors might not be identified conclusively because of small sample size.

ISNACC-S-40

Comparison of ondansetron, granisetron, palonosetron for PONV prophylaxis in neurosurgical procedures

R. Malik, P. Kumar

Department of Anaesthesia, Pt B.D Sharma PGIMS, Rohtak, Haryana, India

Introduction: Postoperative nausea-vomiting (PONV) is common complication after neurosurgery and 5HT₃ antagonists are most commonly used antiemetics in neurosurgery patients. This study was conducted to compare ondansetron, granisetron, palonosetron for PONV prophylaxis in neurosurgical patients. **Methods:** This prospective, randomized, double blind study was conducted on 75 patients of, either sex, with age 18-60 yrs, ASA grade I - III, undergoing elective neurosurgical procedures under GA. A standard anaesthesia technique was used. At time of dura closure, patients were randomly allocated to one of three groups ($n = 25$) and received 4 mg i/v ondansetron in group O ($n = 25$), 1 mg i/v granisetron in group G ($n = 25$) and 0.075 mg i/v palonosetron in group P ($n = 25$); 30 minutes before extubation. The need for rescue antiemetic (RAE), episodes of nausea-vomiting, patient satisfaction were observed for 48 hrs postoperatively. Ondansetron 4 mg i/v was used as RAE. At 24 hrs postoperatively, ECG was performed, and any variation from baseline, was noted. Results were compiled and statistical analysis was done using ANOVA, Chi-square, and Kruskal Wallis test. $P < 0.05$ was considered significant. **Results:** PONV incidence was 88%, 52%, 36% in group O, G and P respectively ($p < 0.05$) in 48 hrs and in initial 4 hrs, it was 88%, 32%, 28% in group O, G and P respectively ($p < 0.05$). Incidence of RAE use in 48 hrs was 72%, 28%, 8% in group O, G and P respectively ($p < 0.05$). Good satisfaction scores were seen in 24%, 84%, 100% in group O, G and P respectively ($p < 0.05$). **Conclusion:** Palonosetron is an excellent choice for PONV prophylaxis with good safety profile in patients undergoing neurosurgery under GA in comparison to granisetron and ondansetron.