

ISNACC-S-41

Comparison of effects of propofol infusion on the middle cerebral velocity between normal and tumor side in patients with intracranial space occupying lesions**S. Manikandan, S. Narayan**

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Introduction: Propofol is a common anesthetic agent used for induction of anesthesia as well as maintenance as well as total intravenous anesthesia in neurosurgical procedures. Propofol in common with intravenous agents reduces the cerebral blood flow and metabolism in normal brain. However, in areas with intracranial intraaxial tumors the cerebral vascular effects of propofol has not been well studied. The aim of the present study is to prove the hypothesis that cerebrovascular effects of propofol will be similar between tumor and non tumor hemispheres. **Methods:** The study was approved by institutional ethic committee. Adult patients with ASA grade 1 and 2 presenting with unilateral large intraaxial tumors (>5 cm) (Group 1) and spinal cord pathology (Group 2) were included. After standard monitoring and preoxygenation, anesthesia was induced with propofol infusion 10 mg/kg/hr. Bispectral index was targeted to 60. Transcranial doppler was used to assess the mean flow velocity in the middle cerebral artery at baseline and at BIS 60 in both hemispheres. Hemodynamic and CO₂ levels were maintained constant. Statistical analysis consist test for mean and p<0.05 was considered significant. **Results:** Twenty four adults were included in the study. There was no change in the hemodynamic paramaters (SpO₂ and EtCO₂) values between the two readings. The mean flow velocity at baseline in the control group was higher compared to the Group 1. There was a non-significant reduction in flow velocity in both the groups following propofol infusion. When compared to tumor hemisphere the non-tumor hemisphere had higher FV at baseline. However following the propofol infusion, the FV decreased significantly in both hemispheres, but no difference between hemispheres. **Conclusion:** Intravenous administration of propofol caused significant reduction in FV in both tumor and control groups. However the FV decreased more in non-tumor hemisphere compared to tumor hemisphere implying the maintenance of autoregulation or flow metabolism coupling. The mechanism needs to be elucidated.

ISNACC-S-42

Intraoperative conversion of nasal to oral intubation in a skull base surgery**D. Masapu, S. Kumar**

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Introduction: The traditional method of nasal to oral tracheal tube change is simply removing the nasoendotracheal tube and replacing it with an oro-endotracheal tube via direct laryngoscopy. We had encountered one such scenario where in there was a need for change of nasal ET to oral route during a skull base surgery. **Case Summary:** A 30 yr male presented with history of double vision and headache since 3 months with normal neurological exam. His MRI showed a large well defined lobulated extraxial mass noted in the sphenoid-clival region measuring 6.7 x 4.8x 3.0 cms, extending in to sphenoid sinus. A midfacial approach was planned with the plastic surgeon exposing the maxilla by lefort 2 incision, followed by transsphenoidal approach to the tumour by neurosurgeon. After consensus, nasal intubation was done to suite the midfacial approach but after the exposure neurosurgeon felt that it was suboptimal to resect the tumour by this approach. Hence transnasal transsphenoidal approach was thought to be a better option for optimal resection by surgeon. Hence he wanted a switch over the nasal endotracheal tube to the oral route. The patient was oxygenated with 100% O₂ for 5 minutes, throat pack was removed with the help of rigid endoscope and the initial assessment was done with the fiberoptic scope orally to see whether the glottic area is accessible. After confirming the accessibility ventilating bougie was inserted through the nasal endotracheal tube. Under the vision of FOB nasal ETT was withdrawn over the bougie till oropharynx. Then FOB was advanced in to trachea and another ETT was inserted over FOB orally and position was visually confirmed. Nasal ETT and bougie were removed in total. **Conclusion:** In an unanticipated case this is the safer option because at any point of time if there was a problem then the nasal tube would have been reinserted on top of the bougie and also we were able to do the procedure without removing the pins and drapes.

ISNACC-S-43

Intraoperative neurophysiological monitoring in patients undergoing scoliosis surgery**N. Naik, T. Samra, Sarvdeep¹, S. Reddy**Departments Anaesthesia and Intensive Care and ¹Orthopedics, PGIMER, Chandigarh, India

Introduction: Prevention of neurological injury is of paramount importance in patients undergoing corrective surgery for scoliosis. In this study we describe the anaesthetic challenges and peri-operative management of patients operated for scoliosis with intraoperative

neurophysiological monitoring, transcranial motor-evoked potentials (MEPs), somatosensory-evoked potentials (SEPs) and electromyography (EMG). **Methods:** We conducted a prospective observational pilot study. High dose opioids, propofol and dexmedetomidine were administered for anaesthesia (BIS value of 45-55). Neuromuscular blockers, nitrous oxide, inhalational anesthetics were avoided and normothermia, euvoemia, normocapnia, mean arterial pressure >65 mm of Hg and hematocrit >21% were maintained. Cortical SSEP were recorded through monopolar needle electrodes placed on scalp. Changes were considered significant if the amplitude was decreased by more than 50% and/or the latency was increased by 10%. MEPs were elicited with electrodes inserted over motor cortex and recorded as compound muscle action potentials via surface electrodes placed in peripheral muscles. **Results:** Nine adolescents and 3 children underwent scoliotic corrective surgeries with Cobb's angle of 40°-90°. Combined MEPs and SEPs monitoring was successful in all patients. No significant intraoperative evoked potential changes were seen in any patient which coincided with the absence of any neurological deficit postoperatively. One patient developed intraoperative bradycardia, one patient had excessive blood loss with intraoperative metabolic acidosis and one patient developed surgical site infection postoperatively. No patient needed postoperative mechanical ventilation. **Conclusion:** Intraoperative neurophysiological monitoring is a safe, reliable and sensitive method for detection of intraoperative injury to spinal cord and nerve root damage during scoliosis surgery. The anaesthetic drugs administered must be compatible with the neurophysiological monitoring. Maintenance of adequate depth of anaesthesia, hemodynamic and physiological stability of the patient and postoperative pain management are the major concerns for the anaesthesiologist.

ISNACC-S-44

Hemodynamic changes in cervical myelopathy with prone position using non invasive cardiac output monitor

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Introduction: Prone positioning under anaesthesia alters cardiovascular physiology and cervical myelopathy patients are known to have autonomic dysfunction thus putting them at higher risk of developing hemodynamic changes when proned and this can compromise spinal cord perfusion. **Methods:** This prospective observational study was conducted on 30 patients with cervical myelopathy who were positioned prone at NIMHANS.

The non invasive cardiac output monitor (NICOM) was used to record hemodynamic parameters. The time points for recording were at baseline, post induction, post intubation, prone position, post prone position every 5 min. The hemodynamic parameters recorded: HR - heart rate (/min), MAP - mean arterial pressure (mmHg), CO - cardiac output (l/min), SV - Stroke volume (ml/beat), SVV - stroke volume variability (%), TPR - total peripheral resistance (dynes. sec/cm⁵). **Results:** We found significant decrease in HR (p<0.001), MAP (p<0.001), TPR (p<0.001). SV, CO and SVV showed no significant change. This may be due to impaired compensatory ability (to increase HR and TPR in response to fall in MAP, SV CO as seen in other studies) due to combined effects of anaesthesia and autonomic dysfunction. 60% patients had Hypotension in the post prone period and mephentermine requirement was high in the post prone positioning period. **Conclusions:** Hypotension occurs commonly after prone positioning in these patients. We conclude that the decrease in MAP is due to decrease in TPR and HR. We recommend use of vasopressors rather than inotropes to treat such hypotension in these patients.

ISNACC-S-45

Effects of different prone patient positioning on optic nerve sheath diameter in spine surgery

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Introduction: Prone position is associated with raised ICP which leads to various complications. Optic nerve sheath diameter (ONSD) is a non-invasive method of estimation of ICP. We studied the effects of prone and reverse trendelenburg position of 10° on ONSD in patients undergoing spine surgeries. **Methods:** Adult patients with ASA grade 1 and 2 undergoing lumbar and lower thoracic spine surgeries in prone positions were recruited. Patients were randomized into Group A (normal prone position) and Group B (10° reverse trendelenburg position). A standard anesthetic regimen was followed. ONSD was measured at supine position after induction (T_B), after turning patients to prone position (T_P), after completion of 2 hrs (T_{P2}) and then hourly (T_{P3}, T_{P4} and so on). ONSD was also measured after completion of surgery and turning patient supine (T_{ES}) and 30 minutes after 30° of head up position post-extubation (T_{E30}). ONSD changes were compared both within and between groups at various time points. **Results:** Sixty patient's data were analyzed. There was clinically significant increase in the ONSD between T_B and T_P in both groups. Significant increase of ONSD was