Background and Objectives: Additional dose of anticonvulsants are administered during supratentorial craniotomy. It has impact on recovery time, haemodynamics and depth of anaesthesia. Our study compared the recovery time in patients who received additional anticonvulsant with those who received the regular dose during craniotomy. **Patient and Methods:** After the Institutional Review Board approval, the study was carried out in 36 patients who underwent supratentorial craniotomy. Patients were divided into two groups; Group 1: Regular dose, Group 2: Additional dose. Patients were anaesthetised using standard anaesthesia protocol. Anticonvulsant was administered during craniotomy, and the haemodynamics and changes in bispectral index were noted during and 1 h after administration of the anticonvulsant. Plasma anticonvulsant levels were measured before and after craniotomy. Extubation time, time to open eyes, obeys commands and orientations were noted. Patients were followed up for 48 h to note the occurrence of seizures. **Results:** Of 36 patients, 19 patients received regular dose; 17 received an additional dose. Age, sex, weight, tumour location and tumour pathology, dose of propofol, fentanyl administered were comparable between the two groups. There was no significant difference in recovery time between the two groups as they were analysed as additional versus regular dose. However, the subgroup analysis showed significant delay in recovery especially, time to obey commands (>15 min) and time to get orientation (>1 h) in patients who received additional dose of phenytoin. Although these differences looked clinically very significant, it was not statistically significant because of smaller sample size. Plasma anticonvulsant levels had significantly dropped in patients who received regular dose (*P* 0.004). There was a positive correlation between intravenous fluid administered and drop in plasma anticonvulsant level. Five patients had post-operative seizures, of which four had pre-operative seizure. There was no correlation with post-operative plasma anticonvulsant levels and occurrence of post-operative seizures. **Conclusion:** Administration of additional dose of phenytoin causes delays the recovery and causes haemodynamic fluctuations. Administration of additional dose of sodium valproate did not affect either the recovery time or the haemodynamics. The presence of pre-operative seizures is one of the significant risk factors for developing post-operative seizure. Due to the small sample size, it is very difficult to comment on the occurrence of post-operative seizures and the plasma anticonvulsant level. This warrants larger randomised control trials to see the correlation statistically.

ISNACC-S-09

Quantitative analysis of changes in cerebral oxygenation during induction of anaesthesia and in different positions in spine surgery using near-infrared spectroscopy

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Background: The primary goal in the haemodynamic management of patients undergoing surgery is to preserve adequate oxygen delivery. Techniques to monitor cerebral oxygen status would be especially useful for patients who are at increased risk for cerebral ischaemia in specific surgical procedures, pathophysiological conditions or positions. Near-infrared spectroscopy (NIRS) is a non-invasive, bedside monitor that provides reliable and real-time data of cerebral oxygenation (rSO_2) by integrating arterial, venous and capillary blood within the field of view. We conducted a prospective observational study to evaluate the changes in rSO_2 at anaesthesia induction and in different positions in patients undergoing spine surgery using NIRS. **Methods and Materials:** Thirty-two patients undergoing spine surgery in prone position were studied using NIRS. Cerebral tissue oxygenation was measured in various positions at different fixed time intervals before and after induction of anaesthesia. Haemodynamic parameters were also noted and appropriate statistical methods used to find a correlation between rSO_2 measured by NIRS and haemodynamic parameters at various intervals and positions. **Results:** Significant difference in NIRS values was observed on either side (left - 69.19, right - 67.81). We observed a 7% increase in NIRS values after pre-oxygenation. There was a significant decrease in NIRS values at 5 min after induction on placing the patient in reverse trendelenburg and prone positions as compared to supine position. On evaluating NIRS values over a period after prone positioning, we found a significant decrease at 60 min as compared to baseline (4.8% on left and 4.3% on right). Change in NIRS also had a significant correlation with change in heart rate, oxygen saturation and mean arterial pressure. **Conclusion:** Maintaining rSO_2 during surgery and anaesthesia is of paramount importance. It is clear from our study that rSO_2 significantly reduces when the patient is placed in prone position. Change in NIRS needs to be observed in long duration surgeries before it is directly correlated with duration of surgery in certain positions.

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Effect of stellate ganglion block in cerebral vasospasm as assessed by digital subtraction angiography

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