

images, (9) number of flow voids within tumour and (10) peritumoural oedema. The method utilised involved calculation of estimated blood loss from pre-operative and post-operative Hb values and intraoperative blood transfusion weight of patients. Formula used was $(\text{Hb}_{\text{pre}} - \text{Hb}_{\text{post}}) / \text{Hb}_{\text{pre}} \times \text{estimated blood volume (EBV)} + \text{intraoperative BT volume administered}$. $\text{EBV} = 70 \times \text{weight (females)}; 65 \times \text{weight (males)}$. $\text{BT volume} = \text{packed cell volume (PCV)} (0.6/0.35) = \text{PCV} \times 1.714$ or whole blood volume. A sample size of 100 patients was planned for producing a predictive model. Spearman's correlation analysis was used for association between blood loss and MRI characteristics. Linear and logistic regression were used for identifying independent predictors of volume of intraoperative blood loss and predicting high blood loss (>25% of EBV). **Results:** Currently, 20 patients have been recruited. None of the above parameters appear to be significantly correlated with the calculated blood loss. Thus, none of the parameters were used for predictive modelling. Updated results will be discussed after complete data collection. **Conclusion:** The importance of quantitative prediction of expected blood loss in anaesthetic practice cannot be undermined in neurosurgeries. With no precedence of such study in known literature, we expect this study to be useful and hopefully lay background for future detailed research in this niche.

ISNACC-S-21

Hypothermia in traumatic brain injury for control of intracranial hypertension: Standalone therapeutic option or adjunct?

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Background: Traumatic brain injury (TBI) is a major cause of death and disability across the globe. Raised intracranial pressure (ICP) has been the major detrimental factor while dealing with management of head trauma. Hypothermia has been shown to reduce ICP. Hence, our study planned to see the effect of hypothermia (32–35°C) for ICP reduction after TBI. **Methodology:** In this prospective randomised controlled trial, adult patients with primary closed TBI with raised ICP >20 mmHg for ≥5 min after first line treatments and with no obvious reversible cause, ≤10 days from the initial head injury, with core temperature ≥36°C (at the time of randomisation) and with an abnormal computed tomography scan were randomised to either hypothermia (32–35°C) or normothermia group. **Results:** A total of 27 patients were randomised, 14 in

hypothermia group and 13 in normothermia group. The mean age of the patients was 35.29 and 26.85 years, the mean ICP at the time of randomisation was 22.65 and 24.05 mmHg in hypothermia and control group, respectively. The Glasgow coma score at admission was 6.9 in the two groups. Of 13 patients in the hypothermia group, 4 patients were enrolled following decompressive craniectomy and raised ICP responded well to induction of hypothermia. In rest of the patients in hypothermia group, 5 were managed with hypothermia alone whereas 4 required decompressive surgery. Two patients in each group developed pneumonia. There were no coagulation abnormalities in either group. Mean duration of Intensive Care Unit and hospital stay was 10.15 days, 9.5 days and 19.5, 18.57 days in normothermia and hypothermia group, respectively. **Conclusions:** Hypothermia can be used safely as adjunct to other modalities for controlling ICP in severe head injury patients.

ISNACC-S-22

Craniopharyngioma surgery and various perioperative factors influencing its outcome: A prospective observational study

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Introduction/Purpose: The incidence of craniopharyngioma is stated around 1.3/million person-years whereas the incidence is higher in India with 10.2%. This current study is a prospective observational attempt to determine perioperative factors that affect the outcome of patients undergoing surgery for craniopharyngioma. The primary objective being duration of hospital and Intensive Care Unit (ICU) stay and Glasgow outcome scale (GOS) at discharge while the secondary objective being quality of life at 3-month and 6-month post-surgery. **Methods:** All patients aged 5 years and above belonging to either sex scheduled for elective craniopharyngioma surgery from 1st April 2014 to 31st March 2015 in Cardio-Neuro Centre of All India Institute of Medical Sciences, were included in the study while patient's or guardian's refusal or redo-surgery were excluded. The demographics, baseline characteristics (admission Glasgow coma scale, tumour size, hormonal status, location, hydrocephalus, hypothalamic involvement), intraoperative data (anaesthesia and surgery related), GOS at discharge and post-operatively quality of life assessed using the health utility indices (2/3) for a period up to 6 months after surgery were collected. **Results:** Twenty-two patients were included in the study. The median duration of hospital and ICU stay were 17 days (6–64) and 3.5 days (1–25), respectively. The median

GOS at discharge was 5 (2–5). There was no in-hospital mortality. The quality of life at 3rd and 6th month did not change significantly when compared to baseline (i.e., health status of patient 1 week before admission to hospital). **Conclusion:** The baseline prolactin level and involvement of hypothalamus affect GOS at discharge but none of the demographic or perioperative determinants (anaesthesia or surgery) affected the quality of life appreciably over the observation span of 6 months.

ISNACC-S-23

Heart rate variability as a predictor of infection and organ dysfunction in neurological patients

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Background: Bacterial infection is a major cause of morbidity and mortality in patients admitted to Intensive Care Unit (ICU). Early diagnosis and timely, appropriate treatment can save the lives of many patients with severe infection. Analysis of activity of the autonomic nervous system (ANS) may provide a novel approach in early detection of developing infections. Heart rate variability (HRV) analysis has shown that the degree of alteration of frequency profiles correlates with illness severity. We intended to use HRV and measurement of autonomic function changes as a tool to observe and predict the incidence of infection and organ dysfunction in neurologically ill patients admitted to the ICU. **Methodology:** Adult patients admitted to the ICU in our hospital were included in this prospective observational study. They were monitored for HRV changes using the portable ANSscope device. For analysis, the patients were divided into two groups depending on the severity of autonomic dysfunction – $\leq 40\%$ and $> 40\%$. Infection was defined using the 'CDC/NHSN Surveillance Definitions for Specific Types of Infections'. **Results:** 47 (72%) of the 65 patients studied developed infection in the ICU. Most of them developed single system infection (53%), lower respiratory infection the most common. The two groups did not differ with respect to Glasgow coma scale, mean percentage of autonomic dysfunction, median level of sympathetic dysfunction and percentage of individuals with mean autonomic dysfunction $> 40\%$. There was a significant association between sympathetic dysfunction and the percentage of autonomic dysfunction. A high number of patients were found to have higher percentage of sympathetic dysfunction with reduced HRV. **Conclusion:** Patients with neurological diseases have autonomic dysfunction secondary to their disease process itself. There is no

conclusive evidence that changes in HRV characteristics can precisely predict infection or organ dysfunction. The use of changes in HRV alone may not help in early prediction of infection and organ dysfunction.

ISNACC-S-24

Comparison between dexmedetomidine alone and propofol with fentanyl combination for fibreoptic-guided endotracheal intubation in neurosurgical patients using bispectral index-guided conscious sedation: A prospective, randomised case-control study

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Background: Awake fibreoptic intubation (AFOI) is the gold standard for anticipated difficult airway management. If improperly done, there could be loss of airway or compressing the already compromised cervical cord and worsening of neurological status. We hypothesised that there are no differences in the intubation conditions produced with either dexmedetomidine infusion alone or a combination of propofol with fentanyl infusion using bispectral index (BIS) guided sedation (target 70) for AFOI using 'spray as you go (SAYGO)' technique in patients coming for elective neurosurgical procedures with anticipated difficult airway. **Methodology:** Forty adult neurosurgical patients requiring awake fibreoptic bronchoscope intubation were enrolled and randomly divided into two groups. Group D (dexmedetomidine) received a loading dose (LD) -1 mcg/kg over 10 min and 0.5 mcg/kg/h infusion till target BIS. Group PF (propofol with fentanyl), propofol received LD at 1 mg/kg/h with fentanyl 1 mcg/kg over 10 min and 1 mg/kg/h and 1 mcg/kg infusion, respectively, till target BIS. AFOI with SAYGO technique was performed followed by post-intubation neurological examination. **Results:** The demographic data, vitals, cough severity, lignocaine dose and post-operative recall was not significant. The BIS value at 9 and 12 min and time taken to achieve target BIS was statistically significant. BIS and OAA/S had good correlation. Total intubation score is better in Group PF than Group D. **Discussion:** Propofol with

Table 1: Time to achieve BIS < 70

Groups	n	Time to achieve BIS (mean \pm SD)	t	P
Group D	19	11.89 \pm 2.49	2.533	0.016*
Group PF	20	10.00 \pm 2.18		

* $P < 0.05$, and is statistically significant. BIS: Bispectral index, SD: Standard deviation