crystalloids over 30 min. Measurements were repeated post-FL. Response to FL was considered positive if CI increased > 15% from baseline. **Statistics:** Data expressed as mean $\pm$ standard deviation, continuous variables were compared using Student's *t*-test. $P < 0.05$ was considered statistically significant. The predictive abilities of variables for fluid responsiveness determined using Pearson's coefficient analysis. **Results:** SVCCI and VTI AoV had high index of sensitivity and specificity for predicting fluid responsiveness in SAH patients; expressing strong correlation with the CI variability. DD > 5 mmHg had high sensitivity and moderate specificity in differentiating responders and non-responders showing good correlation with CI variability. **Conclusion:** Aortic VTI variation >20% and SVCCI 1 >36% appears to be the more 'reliable index of fluid responsiveness' as compared to DD. SVCCI is an excellent predictor of fluid responsiveness and can be easily obtained with basic TEE views.

ISNACC-S-15

To evaluate efficacy of dexmedetomidine in supratentorial craniotomy surgeries

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Background: In this randomised prospective clinical study, we investigated the effects of fentanyl and dexmedetomidine as adjuvant agents in supratentorial craniotomies on the following: Haemodynamic changes during perioperative and recovery periods, recovery times and side effects, such as hypertension, shivering, nausea and vomiting. **Methodology:** Twenty consenting American Society of Anesthesiologists physical status I-II patients undergoing intracranial tumour surgery were randomly divided into two groups. In Group D ($n = 10$), dexmedetomidine was infused as a 1 $\mu\text{g}/\text{kg}$ bolus dose 10 min before induction of anaesthesia and maintained with 0.4–0.5 $\mu\text{g}/\text{kg}/\text{min}$ during the operation. In Group F ($n = 10$), patients were given fentanyl 0.02 $\mu\text{g}/\text{kg}/\text{min}$ as an infusion for anaesthesia maintenance. At induction, fentanyl was given as a 2 $\mu\text{g}/\text{kg}$ dose in Group D and as a 4 $\mu\text{g}/\text{kg}$ dose in Group F. Haemodynamic changes, recovery times and post-operative side effects were recorded before induction during the perioperative period and 24 h post-operatively. **Results:** In Group D, mean arterial pressure and heart rate values after intubation, after skull clamp insertion and after extubation were lower than in Group F ($P < 0.05$). Recovery times were found to be shorter in Group D as compared to Group F; the same trend was observed for the supplemental opioid requirement. During the post-operative period, there was no shivering, nausea or vomiting in Group D but, in Group F, four patients complained of shivering and three patients experienced

nausea and vomiting. **Discussion:** In our study, we found that dexmedetomidine controlled the haemodynamic changes better than fentanyl perioperatively, after extubation and during the early post-operative period. Our results suggest that dexmedetomidine is safer and more effective in controlling haemodynamic changes during surgical stimulation than the standard agents used in neuroanaesthesia.

ISNACC-S-16

Dexmedetomidine as an adjuvant to caudal epidural ropivacaine for lumbosacral spine surgeries

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Context: Pre-emptive caudal epidural is a proven technique for providing analgesia for spinal surgeries. Prolonged pain relief with no motor blockade is desired for early mobilisation. **Aim:** Our study aimed to evaluate the effect of addition of injection dexmedetomidine to caudal ropivacaine on the duration of analgesia, haemodynamic profile and the associated side effects. **Methods:** In this prospective double-blind study, a total of 60 patients undergoing lumbosacral spine surgery were randomised to receive 20 cc of pre-emptive caudal epidural injection of either injection ropivacaine 0.2% (Group R, $n = 29$) or a mixture of injection ropivacaine 0.2% and injection dexmedetomidine 1 $\mu\text{g}/\text{kg}$ (Group RD, $n = 31$) under general anaesthesia after the patient was positioned prone for surgery. Visual analogue scale (VAS) scores, heart rate, blood pressures and time to rescue analgesia were recorded at regular intervals for the first 24 h. Data analysis was carried out using Statistical Package for Social Science (version 10.5 package). **Results:** Mean VAS scores were significantly lower in the Group RD for up to 12 h following the caudal block. No clinically significant haemodynamic changes were noted in either of the groups. No other side effects were seen in both the groups. **Conclusion:** These results suggest that injection dexmedetomidine is an effective additive to injection ropivacaine for pre-emptive caudal epidural analgesia in lumbosacral spine surgeries.

ISNACC-S-17

Bispectral index and haemodynamic alterations during surgical decompression in head injury patients

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Figure 1: Overall bispectral index trends in pericraniotomy period

Figure 2: Systolic blood pressure trends compared between poor Glasgow outcome scale and good Glasgow outcome scale cases

Introduction: Poor neurological status in traumatic brain injury (TBI) patients can be due to raised intracranial pressure or underlying brain parenchymal injury or a combination. Surgical decompression would improve the neurological condition of the former but not the later. The purpose of this study is to observe trends of intraoperative haemodynamics and bispectral index (BIS) in head injury cases. **Methods:** In this prospective study, 30 TBI (subdural haematoma or contusion) patients undergoing emergency cranial decompression were to be recruited. BIS electrode was placed in an alternate fashion on contralateral fronto-temporal region. Baseline haemodynamics and BIS were recorded. Further recordings were taken after anaesthesia induction, pre-craniotomy, post-craniotomy (5, 10, 15 min), post-durotomy (5, 10, 15 min) and 10 min at the end of surgery after discontinuation of anaesthetics. Glasgow coma scale before and after surgery, and Glasgow outcome scale (GOS) at hospital discharge were noted. **Results:** Currently, interim analysis of 20 patients showed significant changes between systolic blood

pressure (SBP) ($P = 0.002$) and BIS ($P = 0.007$) during pre-craniotomy, 15 min post-craniotomy and 15 min post-durotomy [Figure 1]. SBP decreased marginally after craniotomy ($P = 0.005$) followed by a decrease after durotomy ($P = 0.017$). BIS showed significant increase post-craniotomy ($P = 0.008$) followed by a significant reduction after durotomy ($P = 0.05$). Mean changes in BIS and SBP after durotomy were 5.08 ± 1.8 and 18.92 ± 5.51 mmHg respectively. Heart rate (HR) and diastolic pressures showed no difference. On sub-classification of cases into good GOS (3, 4, 5) and poor GOS (1, 2), we noted no significant difference in trends of change of BIS ($P = 0.104$) and HR ($P = 0.287$) but a significant difference in SBP trends ($P = 0.008$) [Figure 2].

Discussion: The association between trends of SBP and BIS values indicates impaired cerebral autoregulation. BIS increases immediately after craniotomy and may or may not be related to blood pressures. The outcome of patients seems to be correlated with trends of change of SBP intraoperatively in the pericraniotomy period. Further updated results will be discussed after achieving higher sample size.

ISNACC-S-18

Comparison of midazolam and target control based propofol infusion in refractory status epilepticus

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Background: Refractory status epilepticus (RSE) is defined as SE that fails to respond to first- and any two drugs in the second-line therapy. Propofol and midazolam are commonly used drugs for RSE; however, there is no consensus regarding superiority of either drug. This study was conceived to compare these two drugs for efficacy for RSE control and clinical outcome. **Methodology:** Twenty-three patients of diagnosed RSE were recruited prospectively and randomised to receive either propofol or midazolam infusion for seizure control, under electroencephalography monitoring according to a standardised protocol. Baseline demographics, time to seizure control, drug utilisation trends, adverse events, haemodynamic, acid-base data and outcome data were collected. Trend based parameters were analysed using mixed models ANOVA, between-group comparison was done using Mann-Whitney U-test or Chi-square test as applicable. Drug trends were analysed using Kaplan-Meier survival curves. **Results:** There was significant difference between the groups for duration of mechanical ventilation (propofol vs. midazolam) (median [interquartile range]) 9 [4.5–12.5] vs. 15 [14–23]