

ISNACC-S-60

A prospective randomized cross-over study to assess the effect of PEEP on optic nerve sheath diameter in patients under general anaesthesia**A. Suresh**

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Introduction: This study is designed to assess the effect of consecutive application of PEEP (5 and 10 cm H₂O OR 10 and 5 cm H₂O) following a vital capacity maneuver (VCM) on the ONSD in healthy patients randomized to a cross over trial i.e. Each patient is randomized to receive 5 and 10 cm H₂O PEEP in an ascending or descending manner. **Methods:** 100 patients of both sexes aged between 25-70 years, ASA physical status grades 1 and 2 scheduled for elective surgery under general anaesthesia were included in this study after signing an informed consent form. We randomized 100 patients by the closed envelop method to receive 1.5 cm H₂O PEEP followed by 10 cm H₂O PEEP OR 2.10 cm H₂O PEEP followed by 5 cm H₂O PEEP. We designed a randomized, cross over trial with the investigator blinded to the PEEP applied during the study. The co-investigator was responsible for the setting the allocated PEEP on the ventilator. Accepting an alpha level of 0.05 and a power of 0.90, using previous studies on ONSD we calculated a sample size of 100 patients. All data is given as mean +/- SD. Statistical significance was calculated by repeated measures 2 way analysis of variance (ANOVA). Statistical significance was defined as P<0.05. After a standard protocol of induction of anaesthesia, after 3 minutes of intubation vital capacity maneuver done, then base line (first set) respiratory, hemodynamic parameters and ONSD taken. Next PEEP of either 5 cm H₂O or 10 cm H₂O was given for 5 minutes, after that second set recordings noted. After that PEEP delivered was increased or decreased as per protocol and a third set of recordings was recorded. **Results:** In our randomized cross over study we found the application of PEEP to be useful in improving the lung compliance. Our methodology of using incremental and decremental PEEP allowed us to assess its effect on hemodynamics with minimal confounding factors. We found a consistent fall in heart rate (HR) and blood pressure (BP) with increasing PEEP. There was a statistically significant increase in the ONSD with increasing PEEP (p value <0.0010), however 21% of the patients were noted to have ONSD >0.45 cm. **Conclusion:** Recruitment maneuvers and PEEP increase the compliance of the lungs during general anaesthesia and should be used as part of lung protective strategy in modern anaesthesia care. Significant increase in ONSD is noted with low to moderate level of PEEP. The

importance of ONSD lies in its inherent non-invasiveness and ability to be a surrogate marker for ICP.

ISNACC-S-61

Evaluation of analgesia nociception index as a tool to monitor pain and manage analgesia during supratentorial craniotomies**K. Theerth, S. Kamath, M. Reddy, D. Chakrabarti**

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Introduction: Administration of analgesics is guided by clinical experience and by monitoring for somatic responses, such as movement, sweating and increase in heart rate or blood pressure, during surgery. Analgesia Nociceptive Index (ANI) provides objective information about the degree of intraoperative pain and adequacy of analgesia. We conducted a prospective, randomized, double blinded study to assess ANI changes during induction, periods of nociceptive stimulation and recovery and compare ANI in patients, who receive scalp block or infiltration at pin and incision sites. **Methods:** Sixty adult patients scheduled for elective supratentorial surgery were randomly allocated to receive scalp block or pin and incision site infiltration after induction of anaesthesia. ANI and haemodynamic parameters were recorded and analysed. **Results:** Thiopentone caused a significant decrease in instantaneous ANI (ANII) [59 vs 45 p < 0.001, (median pre vs post)] in the three minutes after administration. Laryngoscopy caused a significant decrease in ANII (59 vs 45, p < 0.001). ANII decreased significantly in the three minutes following pin fixation in the skin infiltration group (68 vs 28; p < 0.001) but not in the scalp block group (63 vs 50, p = 0.151). There was no significant change in the ANII values during three minutes of skin incision in both the groups. ANII decreased significantly following extubation in both the groups (57 to 44 and 44.5 to 39 in scalp block and infiltration group respectively, p<0.001). **Conclusion:** ANI decreases below 50 following thiopentone administration and laryngoscopy. Scalp block provides better analgesia for pin fixation compared to infiltration as demonstrated by ANI. Scalp block or infiltration at the incision site effectively prevented a decrease in ANI values during skin incision. ANI decreases significantly after extubation.

ISNACC-S-62

Prolonged recovery in an acromegalic patient with dilated cardiomyopathy: Points to ponder**P. Tiwari, A. N. Shetty, S. Oak**