

complication except AKI was found to be significantly associated with increased ICU stay. Most of the patients of AKI died early in ICU. Respiratory dysfunction was found to be independently associated with 3.05 times higher risk of worsening clinical condition (disability) ($p < 0.018$). Presence of hypotension during ICU stay (4.2 times, $p < 0.005$), AKI (24.7 times, $p < 0.02$), Coagulopathy (3.13 times, $p < 0.047$) and GCS < 6 patients (4.2 times, $p < 0.006$) of TBI were independently associated with significantly increased risk of ICU mortality. **Conclusion:** Neurotrauma patients tend to have poor outcome due to concomitant non-neurological complications. These have significant bearing on ICU stay, disability and mortality. Early diagnosis and prevention can improve the overall outcome and shorten their ICU stay.

ISNACC-S-34

Effect of perioperative hyperglycemia on neurological outcome in aneurysmal subarachnoid hemorrhage

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Introduction: Hyperglycemia is associated with delayed cerebral ischemia and cerebral infarction in patients with aSAH (aneurysmal subarachnoid hemorrhage). We planned to assess prevalence, predictors of perioperative hyperglycemia and its effect on outcome. **Methods:** A prospective observational study was carried out in 150 patients with aSAH for clipping. Blood sugar levels at admission, intraoperative and postoperative period were assessed. RBS > 160 mg/dl and RBS > 200 were considered as hyperglycemia and severe hyperglycemia respectively. Persistent hyperglycemia was defined as hyperglycemia during any 2 of 3 study periods (preoperative, intraoperative and postoperative periods) and transient hyperglycemia was defined as hyperglycemia during any one study period. Predictors of hyperglycemia and its effects on outcome was measured by number of ICU, hospital days, GOS and mortality at 1 and 3 months after discharge were assessed. **Results:** Two patients were excluded due to incomplete data and statistical analysis was carried out in 148 patients. Prevalence of perioperative hyperglycemia and severe hyperglycemia was 75.7% and 27%. Prevalence of persistent hyperglycemia and persistent severe hyperglycemia was 37.83% and 7.43%. The predictors of hyperglycemia in patients with aSAH were identified by multivariate logistic regression. History of DM, high RBS at admission, high MAP at admission, longer duration surgery and anaesthesia were predictors of perioperative and persistent hyperglycemia. Perioperative hyperglycemia were

associated with increased ICU days ($p \leq 0.007$), hospital days ($p \leq 0.038$) and poor GOS at 1 and 3 months after discharge. At three months follow up 47.5% patients with perioperative severe hyperglycemia and 54.54% patients with persistent severe hyperglycemia and transient severe hyperglycemia ($p = 0.002$) had poor outcome (GOS-1-3). **Conclusion:** Hyperglycemia is a potentially modifiable risk factor which is significantly associated with poor outcome after aSAH.

ISNACC-S-35

A comparison of the effect of 0.9% saline versus balanced salt solution (plasma-lyte a) on acid base equilibrium, serum osmolarity and serum electrolytes in supratentorial neurosurgical procedures requiring craniotomy

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Introduction: The most commonly used isoosmolar fluid in neurosurgery is 0.9% saline (308 mosm/L) which has a high chloride content (154 mmol/L), and is known to produce acidosis. Balanced salt solutions, e.g. Plasmalyte A, are isoosmolar (294 mosm/L), contain additional electrolytes, have less chloride content (98 mmol/L) and are stated to produce less acid base disturbances. Our aim was to study the effects of plasma-Lyte A (Baxter healthcare (India) pvt Ltd.) on acid base balance, serum osmolarity and serum electrolytes in neurosurgical procedures. **Methods:** In this prospective study, 70 Subjects were randomly allocated to two groups, to receive either 0.9% saline as the sole intravenous fluid (Group N) or Plasma-Lyte A (Group P). Arterial Blood Gas Samples were analysed at regular intervals and the variables noted were: serum osmolarity, pH, base deficit or excess, chloride, lactate, sodium, potassium, calcium, and glucose levels. The data was analysed statistically by student's T test (continuous) and chi-square test (categorical) using NCSS software version 9.0. **Results:** Towards the end of the surgery, pH was found to be low in the normal saline group (7.334 ± 0.05 and 7.275 ± 0.05) as compared to the plasmalyte group (7.402 ± 0.03 and 7.406 ± 0.03), this difference being statistically highly significant ($p < 0.0001$). The difference in base deficit was also highly significant at the same time intervals. (Group N -2.474 ± 1.169 and -3.682 ± 2.12 , Group P -1.046 ± 0.831 and -1.438 ± 1.093 , $p < 0.0001$). Chloride levels were significantly higher in the normal saline group at different time intervals (112.8 ± 8.002 and 102.57 ± 6.17), (115.77 ± 9.84 and 103.63 ± 5.2) and (117.194 ± 10.7 and 103.15 ± 4.95) (p value < 0.0001). Serum electrolytes and serum osmolarity were found to be comparable in both