

intracranial hypotension, but other possibility of these features being secondary to mass effect from subdural collections was cannot be entirely ruled out. Keeping in mind subdural hematomas may be because of benign intracranial hypotension we advised MR myelogram of spine to look for CSF leaks. MR myelogram showed thin layer of epidural fluid in lumbar spine extending from L1 to L5. Which was indirect evidence of CSF leak and collection of CSF into epidural space but was not confirmatory. As patient condition was deteriorating we planned for evacuation of SDH under GA. But before that we planned to put epidural blood. Before inducing the patient under fluoroscopy guidance in lateral position 25 cc of autologous blood was injected in T11-T12 epidural space. Then under standard general anaesthesia only left sided SDH was evacuated which was causing mass effect. Postoperatively patient nursed in supine position for 5 days and gradually reverse trendelburg position was given. Again at 45 degree propped up position patient started having headache, vomiting. Repeat epidural blood patch was given at T6-T8 position. Patient recovered well post procedure and there were no symptoms after 3 days even at erect posture. **Conclusion:** Benign intracranial hypotension can present with wide variety of symptoms and always have to be kept in mind. High index of suspicion, proper history and investigations, sealing of CSF leak with epidural blood patch will help the patient.

ISNACC-S-09

ECG and echocardiographic abnormalities in head injury patients undergoing emergency surgical decompression

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Background: Myocardial dysfunction leading to circulatory instability (hypotension) during the perioperative period in traumatic brain injury (TBI). We intended to study myocardial dysfunction in TBI patients undergoing emergency surgical decompression and its association with neurological outcome. **Methods:** We recruited adult head injury patients undergoing surgery within 48 hours of insult. Preoperatively at bedside, ECG and Echocardiography were done. Postoperatively, patient was followed up for 48 hours with an ECG and an echocardiography. ECG was analyzed for heart rate, intervals (PR, QRS and QTc), morphologic end repolarization abnormalities (MERA), ST segment and T wave changes. Echocardiographic measurements collected were left ventricular ejection fraction (LVEF) and regional wall motion abnormalities (RWMA). GCS

status at discharge was recorded. **Results:** Of 110 patients recruited before surgery: ECG abnormalities were sinus tachycardia (15%), prolonged QTc interval (42%), T wave abnormalities (42%), ST segment abnormalities (11%) and MERA (47%). Echocardiography showed LVEF <50% in 10% and RWMA in 10.8%. After surgery, ECG showed significant increase in sinus tachycardia and T-wave abnormalities, but reduction in prolonged QTc interval and MERA. Echocardiography showed significant decrease in LVEF <50% and RWMA. Presence of LV dysfunction were associated with lower GCS score at discharge. Independent predictors of LV dysfunction were poor GCS motor score and prolonged QTc interval. **Conclusion:** Left ventricular dysfunction improved following surgical decompression. Poor LV function was associated with poor admission GCS and prolonged QTc interval. Patients with poor LV function had lower GCS at discharge.

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Time is brain

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Introduction: Acute ischaemic stroke is a neurological emergency that can be treated with time sensitive interventions including IV TPA and endovascular approaches. Chief criteria to select patients for vascular reperfusion treatment is duration of stroke symptoms. These patients are usually agitated. General anaesthesia keeps them comfortable and motionless during endovascular reperfusion treatment. However retrospective studies show poorer outcomes with general anaesthesia due to haemodynamic instability, delay in treatment and prolonged intubation. We present two cases of stroke in young patients with timely intervention under general anaesthesia. **Case Summary:** Case 1: 34 year old male patient, with no comorbidities, brought to casualty within 2 hours 10 minutes of onset of right sided hemiparesis and inability to talk. Code GOLD activated. CT normal. MRI showed left basal ganglia infarct with totally occluded left ICA. IV TPA started. Patient taken for DSA within 3 hours of onset of symptoms where left MCA recanalization and thrombus aspiration with near total recanalization of cervical ICA done under general anaesthesia. Patient shifted to ICU on mechanical ventilation. Extubated after 24 hours. Post operatively no neurological deficit. Case 2: 19 year old female patient, known case of epilepsy brought to casualty within one hour 15 minutes of onset of left sided weakness and slurred speech. Code GOLD activated. CT normal. MRI revealed right internal capsule posterior limb acute infarct with right ICA not visualized. Patient taken

for DSA within 2 hours of onset of symptoms under general anaesthesia which revealed complete stenosis of supraclinoid ICA. Patient underwent thrombolysis. Good collaterals achieved. Patient shifted to ICU on mechanical ventilation. No neurological deficit postoperatively. **Conclusion:** Anaesthesiologists not only play an integral part of the stroke team but also in maintaining optimum haemodynamics during intervention.

ISNACC-S-11

Assessment of hemodynamic and cerebrovascular changes after administration of mannitol in postoperative neurosurgical patients: A combined transthoracic echo and transcranial Doppler study

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Introduction: Mannitol is commonly used in neurosurgical units to reduce intracranial pressure. It has effects on both cardiovascular and cerebral hemodynamics. The temporal sequence of cardiovascular and cerebrovascular effects of mannitol has not been studied. This study assesses the hemodynamic and cerebrovascular changes using combined transthoracic and transesophageal echo after administration of mannitol in postoperative neurosurgical patients. **Methods:** The study was approved by ethics committee. Adult patients who were admitted in neurosurgical ICUs for surgical removal of intracranial tumors were included in the study. TCD and TTE findings were recorded on day 1 and day 2 following administration of 0.5 g/kg of mannitol. Comparison was made between operated and non operated side. Appropriate statistical analysis was done to assess the effects of mannitol on cardiovascular and mean flow velocity in middle cerebral artery blood flow. **Results:** HR, MAP, SPO2 showed no change after mannitol use. Mean flow velocity increased in both operated and non operated side but more in non operated side. Pulsatility index decreased from baseline but was not statistically significant. Resistance index also did not decrease in both sides. The estimated CPP was significantly increased at 5 mins on operated side upto 15 mins post mannitol use. There was no significant change in mean flow velocity, pulsatility index and resistance index ICP on second day. The ECHO variables like left ventricular dimensions, stroke volume and cardiac output did not change significantly following mannitol infusion. **Conclusion:** Administration of 0.5 g/kg of mannitol in immediate postoperative period was associated with increase in the mean flow velocity without change in cardiovascular variables. However the cerebrovascular effects was not seen significant change from baseline on second postoperative day. Our result

may have an impact on the management of these patients in the neurocritical care.

ISNACC-S-12

Persistent hypertension after posterior fossa surgery: A case series

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Introduction: Association between medullary compression and hypertension in posterior fossa tumors is well known. We report two unusual cases where patients developed hypertension following posterior fossa surgery requiring high dose antihypertensives. **Case Summary:** Case 1: A 4 year old male child, operated for medulloblastoma and ventriculoperitoneal shunt three months back, was readmitted. He was treated for bacterial meningitis and shunt was revised. He later developed seizures requiring tracheal intubation. He subsequently developed hypertension (SBP 150-180 mmHg, DBP 95-110 mmHg) which could not be controlled with intravenous labetalol and sodium nitroprusside. Head and spine MRI revealed leptomeningeal tumor spread involving midbrain, pons, medulla (lateral and dorsal region) and upper cervical spine and the patient died 6 days later. Case 2: A 2 years old male child, diagnosed with medulloblastoma, was posted for tumor excision. Ventriculoperitoneal shunt surgery was performed 15 days back. Preoperative vitals were stable with no history of hypertension. In immediate postoperative period, patient developed persistent hypertension (SBP 140-160 mmHg and DBP 90-110 mmHg) which was not controlled with labetalol infusion and enalapril. Head and spine MRI revealed residual tumor with oedema involving medulla and significant portion of spine. Child later had seizures, deteriorated neurologically and succumbed to death after one month. **Conclusion:** New onset postoperative hypertension is unusual and rare following medulloblastoma excision. Probable cause is medullary compression, due to residual tumor and edema in the early postoperative period or tumor spread in the later period. It is difficult to control even with multiple antihypertensive drugs and is a poor prognostic indicator.

ISNACC-S-13

Description of a novel literature search methodology and its validation against PubMed

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