

scalp block was given to all patients with 1% lignocaine and 0.25% bupivacaine. Conscious sedation with a titrated dose of dexmetomidine (0.2-1 µg/kg/hour) provided reversible sedation, mild analgesia, controlled hemodynamics (target SBP <140 mm Hg), a patent airway and spontaneous ventilation. After craniotomy, electrocortical mapping and stimulation was performed to map the eloquent areas, correlating these findings with preoperative fMRI. Functional electrographic mapping and stimulation testing was performed during resection of tumour, to reconfirm the location and check for any new neurological deficit development. Intraoperative seizures, if any, due to electrocortical stimulation, were treated with irrigation with cold saline, titrated doses of intravenous midazolam. All hemodynamic parameters, sedation levels (RASS), intraoperative complications, as well postoperative development of new neurological deficits were noted. All patients cooperated, tolerated and participated for this procedure. Intraoperative and postoperative neurological deficits were noted in none. **Conclusion:** An effective scalp block, combined with dexmetomidine conscious sedation is a safe and effective technique for awake craniotomy for functional testing with electrocorticography. An anticipation and appreciation of likely intraoperative events and interventions required is key. Interdisciplinary team work and collaboration between neurologist, neurosurgeon, neuroradiologist and the neuroanesthesiologist is mandatory for successful outcomes.

#### ISNACC-S-56

**Dangerous liaisons: Pituitary adenoma and aneurysm associations: A case report**

**J. S. Rodrigues, D. Patel, S. U. Goraksha, R. Chelani**

Department of Anaesthesia, P.D. Hinduja National Hospital and Medical Research Centre, Mumbai, Maharashtra, India

**Introduction:** The earliest mention of the coexistence of anterior circulation aneurysms and pituitary adenomas dates back to 1959. The coexistence of pituitary adenomas with anterior circulation intracranial aneurysms raises the question as to whether a causal relationship exists. **Case Summary:** A 49-year-old woman presented to our institution with a progressive visual field defect, occasional diplopia and oligomenorrhoea. Neurological examination revealed bi-temporal hemianopia (Left > Right). Hormonal studies showed a slight elevation in prolactin levels. MRI showed well defined solid cystic lesion invading seller and suprasellar region with displacement of B/L optic nerve. CT scan showed a slightly hyperdense lesion in the sellar region and a partially eroded sellar floor. The patient underwent a radical surgical decompression of the sella and

excision of the tumour (prolactin-secreting adenoma) via a transnasal trans-sphenoidal endoscopic approach. Intraoperative controlled normo-tension (Target MAP of 60 mmHg) was maintained with SNP and Esmolol. Patient was extubated (GCS 15/15) and shifted to the ICU. Post operatively she experienced severe headache with vomiting. She underwent MRA and was found to have a ruptured ACOM aneurysm. Supratentorial intracranial aneurysm clipping was performed. Specific attention was given to prevent major hemodynamic changes during the entire surgery. Intraoperatively heart rate, transmural pressure gradient, central venous pressure, SPO<sub>2</sub>, endtidal carbon dioxide, temperature, urine output, blood sugar, arterial blood gas and electrolytes were monitored. The patient was extubated successfully (GCS 15/15) without emergent hemodynamic changes. Postoperatively, we continued SNP infusion to maintain normo-tension. **Conclusion:** The key to the success in managing these dual lesions is modulating the hemodynamic targets for the individual conditions. Excision of the pituitary adenoma perioperatively demands controlled normotension. However, the cerebral aneurysm clipping requires strict control of the TMP gradient intraoperatively till the clipping of the aneurysm followed by controlled hypertension post clipping.

#### ISNACC-S-57

**Catastrophic presentation of venous air embolism in supine position**

**S. Agrawal, N. Bharti, V. Garg, D. Gupta<sup>1</sup>**

Department of Anaesthesia and Intensive Care and <sup>1</sup>Neurosurgery, PGIMER, Chandigarh, India

**Introduction:** Air embolism is a common complication during neurosurgery especially in sitting position with incidence of clinically significant venous air embolism around 25-40% followed by prone position. Risk of air embolism is usually neglected in supine position because of very low incidence. We report a case of massive air embolism in supine position during decompressive craniotomy for MCA territory infarct. **Case Summary:** 60 year male patient weighing 70 kg presented for decompressive craniotomy for MCA territory infarct. Patient was known hypertensive since 10 years taking amlodipin 5 mg and presented with GTCS, headache, vomiting since 2 days. Preoperative investigations were within normal limits. Patient was induced with propofol, morphine and vecuronium. Patient developed massive venous air embolism after bone flap elevation which was detected by fall in EtCO<sub>2</sub> more than 2 mmHg within 3 minutes followed by haemodynamic instability. Surgeon was informed about the possibility of air embolism, N<sub>2</sub>O was shut off, patient was ventilated with 100%

of O<sub>2</sub>, surgical field flooded with saline. Central line (rt subclavian) was inserted and around 20 cc air was aspirated. Associated hypotension was managed with IV fluid boluses, vasopressor and ionotrops and shifted to neurosurgery ICU. **Conclusion:** Risk of venous air embolism during craniotomy requires high index of suspicion even in supine position though the incidence is very less.

#### ISNACC-S-58

**Anaesthetic management of drainage of brain abscess in a child with untreated TOF physiology: A case report**

**Shankey, S Agrawal, N. B. Panda**

Department of Anaesthesia and Intensive Care, PGIMER, Chandigarh, India

**Introduction:** Cyanotic congenital heart disease accounts for 12.8 to 69.4% of all brain abscess with increased incidence in children. Right to left shunt along with hypoxia & hyperviscosity increases the propensity of seeding of microorganism in low perfusion area in brain.

**Case Summary:** Presenting a case of 8 year old female child planned for emergency drainage of brain abscess. The child was a case of TOF physiology diagnosed preoperatively. She presented with episode of seizure and altered sensorium since 15 days. Preoperatively, the patient was e4v5m6 with altered sensorium, Cyanosed. Baseline vitals were blood pressure of 106/78 mm of Hg, HR 82/min, spo2 86% on room air. A pansystolic murmur was present in precordial area with loud s2. Patient had left fronto parietal space occupying lesion? brain abscess on CT scan. On 2D ECHO, L- TGA with VSD with PS with PDA was diagnosed. Patient was planned for general anesthesia. After confirming NPO, all standard ASA monitors were attached with base line saturation 86% on room air. Child was preoxygenated for 3 mins. IV line 22 G was secured in right upper limb & preinduction 22 G canula inserted in left radial artery for invasive BP monitoring. Child was induced with inj fentanyl 40 mcg, thiopentone 100 mg and vecuronium 2 mg & airway secured with cuffed endotracheal tube size 5.5. Anesthesia was maintained with o<sub>2</sub> + air + isoflurane. SpO<sub>2</sub> was maintained to 95% intraoperatively and phenylephrine bolus was used to maintain systemic vascular resistance & minimize shunting. Intraoperative ABG showed 7.403/81.6/31.5/19.2/-4.4/96.2/146.3/3.53/43%. Patient was reversed & extubated. Postoperatively patient was E4V5M6 with vital HR 96/min, BP 112/65 mm of hg, spo2 88% on room air & shifted to ward. Patient was sent home after 1 weak without any neurological deficit & asked to follow up in cardiac OPD for heart disease. **Conclusion:** Children with undiagnosed heart disease may present directly to emergency for surgery & High suspicion of heart

disease should be kept in mind in patients presenting with brain abscess specially in children. Understanding pathophysiology of disease is very important for anesthetic management of such patient for neurosurgery.

#### ISNACC-S-59

**Cerebral hemodynamics and oxygenation during brain tumour resection: A comparative study between normal saline versus plasma-lyte A**

**S. L. Soni, V. K. Grover, H. Bhagat, N. B. Panda, K. Jangra, A. Luthra, N. Kaloria, R. Chauhan, S. K. Gupta<sup>1</sup>, P. Dutta<sup>2</sup>**

Department of Anaesthesia and Intensive care,  
<sup>1</sup>Neurosurgery and <sup>2</sup>Endocrinology, PGIMER, Chandigarh, India

**Introduction:** During craniotomy, it is important to maintain adequate intravascular volume and at the same time to reduce ICP. Intraoperative fluids determine the serum osmolality which governs the fluid shift in the brain. Normal saline (NS) and Plasma-Lyte A (PA) have different compositions, osmolality, acidic activities, oxygen-carrying capacity and electrolyte constituents. These differences can affect the integrity of the delicate cerebral hemodynamics and metabolism. So, the aim of this study was to evaluate the effect of both fluids on cerebral hemodynamics and oxygenation during brain tumour resection. **Methods:** A prospective, double-blind, randomized trial was conducted in 110 adult patients scheduled for elective resection of the brain tumour. (NS group, n = 55 or PA group, n = 55). This study commenced from preinduction period till 24 hours following extubation or till the time patients started receiving oral fluids, whichever was earlier. Both the groups received the assigned fluid in the perioperative period. The following parameters were recorded: brain relaxation (at the time of bone flap elevation), cerebral metabolism variables (SjvO<sub>2</sub>, AVDO<sub>2</sub>, CERO<sub>2</sub>, and eCMRO<sub>2</sub>), arterial blood gases including serum electrolyte and serum osmolality (after induction, bone flap elevation, after tumor resection and 24 hours after surgery). **Results:** Both the group were comparable with respect demographic and clinical characteristics of tumors. Brain relaxation was similar in both the groups. (p = 0.51). The cerebral metabolic parameters were comparable in both the groups [SjvO<sub>2</sub> (p = 0.12), AVDO<sub>2</sub> (p = 0.40), CERO<sub>2</sub> (p = 0.06), and eCMRO<sub>2</sub> (p = 0.73)]. No significant difference in serum osmolality (p = 0.20), serum electrolyte, blood urea and serum creatinine were observed in both the groups. **Conclusion:** We conclude that both NS or PA appear to have similar physiological, metabolic and clinical profile in patients undergoing craniotomy for supratentorial tumors.