Abstracts of scientific papers presented during the 18th Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2017) held at Chandigarh

ISNACC-S-01

Dexmedetomidine as anesthetic adjuvant in moyamoya patients for EDAS procedure: Our institutional experience

P. Agrawal, V. Ganeriwal

Department of Anesthesiology, Grant Medical College and Sir Jamshedjee Jeejeebhoy Group of Hospitals, Mumbai, Maharashtra, India

Introduction: Moyamoya disease is an occlusive cerebrovascular disorder characterized by stenosis of the internal carotid arteries. The goal of surgical intervention in moyamoya disease is to establish collateral blood flow to revascularise previously ischemic areas of the brain, the most common procedure being encephalo-duro-arterio-synangiosis (EDAS). Anesthetic management of patients with moyamoya disease focuses on maintenance of adequate cerebral blood flow, normalization of intracranial pressure, and avoidance of both cerebral vasoconstriction and vasodilatation. Dexmedetomidine is a short-acting alpha 2-adrenoceptor agonist which decreases mean arterial presuure, heart rate and has reasonable analgesic effect hence can be used as an anesthetic adjuvant. The purpose of this article is to present a case series of five patients with moyamoya disease, and the effect of dexmedetomidine on their hemodynamic and recovery profile, which underwent EDAS procedure at our tertiary care hospital. **Case Summary:** Five diagnosed cases of moyamoya disease of pediatric and adult age group who underwent elective EDAS procedure were studied. The patients received an initial bolus dose of dexmedetomidine (1 mcg/kg) over 10 min, just before induction, followed by continuous infusion at the rate of 0.3 mcg/kg/hr during intraoperative period. All the patients were extubated in immediate postoperative period. Hemodynamic parameters, emergence response, and recovery time were noted. Smooth emergence with stable hemodynamic and reduced recovery time were observed with use of dexmedetomidine. **Conclusion:** Dexmedetomidine can be used as an effective anaesthetic adjuvant for stable hemodynamics and smooth emergence in patients with moyamoya disease undergoing EDAS procedure.

ISNACC-S-02

Central neurogenic hyperventilation with acute respiratory alkalosis and transient lactic acidosis following endoscopic third ventriculostomy in a child - A case report

L Ahamed, N. Kumar, F. Habib[1], T. Mehta[1], A. S. Yousef[1], A. Khan[2]

Departments of Anesthesiology, [1]Pediatric Intensive Care and [2]Neurosurgery, Hamad Medical Corporation, Doha, Qatar

Introduction: Central neurogenic hyperventilation (CNH) is a rare but well documented complication after endoscopic third ventriculostomy (ETV) in adults. However, it is not well described in the pediatric population. CNH is attributed to irritation of the hypothalamus while irrigating the floor of the third ventricle with normal saline. **Case Summary**: 6 year old child developed CNH, acute respiratory alkalosis, intraoperative tachycardia and lactic acidosis following ETV for a pineal gland tumour causing obstructive hydrocephalus. CNH has been attributed to irritation of the hypothalamus while irrigating the floor of the third ventricle with normal saline. Treatment with sedation and oxygen via rebreathing mask resulted in normalization of symptoms and blood gas. **Conclusion**: CNH can occur in the pediatric population as well following ETV. A high index of suspicion is essential for early recognition. Measurement of ICP during ETV and use of alternative irrigation fluids such as lactated ringer's or artificial CSF may minimize occurrence.

ISNACC-S-03

Non-asleep fibreoptic intubation in a 5 year old child with C1/C2 subluxation - A case report

L. Ahamed, T. Sinha, M. Al-Khelaifi

Department of Anesthesiology, Hamad Medical Corporation, Doha, Qatar

Introduction: Spinal cord damage following cervical spine injury is a feared complication that can leave the

patient disabled for life. Although awake fibreoptic endotracheal intubation is the gold standard in adult patients with unstable cervical spine injury to both minimize the manipulation of the neck and continued neuromonitoring, it is not a popular choice in the pediatric population due to their inability to tolerate the procedure and comprehend its need. Here we describe a non-asleep technique for endotracheal intubation in a 5 year old child with cervical spine injury. **Case Summary:** A previously healthy 5 year old child developed C1/C2 subluxation after falling from height. Her neck was stabilised with Somi brace and subsequently posted for C1/C2 wire fixation under general anesthesia. Her airway was intubated successfully without inducing anesthesia using a combination of flexible fibreoptic bronchoscope and sedation - midazolam + dexmedetomidine, while her Somi brace was left in place. This technique was opted to minimize neck manipulation and to allow for neurological examination immediately after intubation. **Conclusion:** Non-asleep fibreoptic endotracheal intubation is a feasible alternative and largely underutilized technique in the pediatric population which provides the advantages of an awake intubation and avoids the disadvantages of an asleep technique in patients with unstable cervical spine injuries.

ISNACC-S-04

Vein of Galen malformation presentation in parturient: Case report

Amanpreet, V. Pathak, G. Dhir, P. Kumar

Department of Anaesthesia, Pt B.D Sharma PGIMS, University of Health Sciences, Rohtak, Haryana, India

Introduction: A Vein of Galen (VOG) malformation is congenital malformation of blood vessels of brain, representing less than 1%of intracranial vascular malformations. It usually presents in early childhood but rarely it presents in adulthood also. **Case Summary:** A 22 year female was brought to emergency department of obstetrics and gynaecology, in our institution with complaint of altered sensorium and seizures 2 days postpartum. Airway was secured with endotracheal intubation under sedation. Eclampsia was questioned with normal BP and negative urine proteins and no past history of hypertension during pregnancy. Antiepileptic drugs were started. Patient had a history of headache once or twice a month since childhood which was considered as migraine and was not investigated further. Brain imaging was done which showed bilateral dilated ventricles with a lesion posterior to thalamus with intensity of that of blood vessels. which conformed a diagnosis of VOG malformation. An emergency ventriculoperitoneal shunting was done to relieve increased intracranial pressure. And after stabilization of patient she was referred for endovascular procedure. **Conclusion:** Every chronic headache should be investigated and brain imaging should be done. And every postpartum patient with seizures is not eclampsia, even if a patient presents with sudden onset of seizures after delivery with no past history of preeclampsia or eclampsia, she should be subjected to brain imaging and complete neurology workup.

ISNACC-S-05

Bedside sonographic optic nerve sheath diameter measurement in severely pre-eclamptic parturients: A prospective, observational study

S. M. Assu, N. Bhatia, K. Jain, S. Gainder[1], P. Sikka[1]

Departments of Anaesthesia and Intensive Care and [1]Obstetrics and Gynaecology, PGIMER, Chandigarh, India

Introduction: A simple bedside sonographic measurement of optic nerve sheath diameter (ONSD) has been shown to correlate with raised intracranial pressure (ICP). This study aims to detect serial ONSD changes in severely pre-eclamptic parturients admitted for labour and delivery. **Methods:** After ethical approval and written, informed consent 30 pre-eclamptic parturients with severe features were subjected to serial bedside ONSD measurements by an experienced anesthesiologist at admission (baseline), 4 & 12 hours following prophylactic IV MgSO4 therapy and at 24 hours postpartum. An average ONSD value of >5.0 mm was taken as corresponding to an ICP of ≥ 20 mm Hg. Hemodynamic profile, serum Mg levels, neurological signs and symptoms and mode of delivery were also recorded. **Results:** A total of n = 27/30 (90%) parturients showed baseline ONSD >5.0 mm. Neurological symptoms were reported in 74% (n = 20/27) of patients (mean ONSD 6.3 mm). Following MgSO4 therapy, neurological symptoms declined (n = 16/20) but mean ONSD remained >5.89 mm. 18 patients underwent cesarean delivery under spinal anesthesia. None of the patients progressed to eclampsia. **Conclusion:** Sonographic ONSD measurement is a simple bedside tool to observe intracranial pressure in severely pre-eclamptic parturients with or without neurological symptoms. It may be a useful aid to the attending anaesthesiologist to guide peripartum management of these patients.

ISNACC-S-06

Subarachnoid haemorrhage and paraplegia in coarctation of aorta

M. A. Azimee, A. Chakravarty, S. Anand

Artemis Hospitals, Gurgaon, Haryana, India