

Introduction: Subarachnoid haemorrhage (SAH) in patients with coarctation of aorta (CoA) is uncommon but well documented. Management in anaesthesia and in intensive care unit (ICU) must involve monitoring and management of perfusion in both pre-stenotic and post-stenotic circulation. We report a case of SAH in a patient with CoA who developed post-stenotic hypotension and its complication despite adequate pre-stenotic perfusion. **Case Summary:** A 41 year old hypertensive male was admitted with complaints of sudden headache, vomiting and palpitation of 1 day duration and blood pressure (BP) of 210/108 mmHg. Non-contrast computerised tomography head showed SAH. Cardiac evaluation showed complete stenosis of descending thoracic aorta just distal to the origin of left subclavian artery with post-stenotic refilling through intercostals. Anterior communicating artery aneurysm was seen on magnetic resonance (MR) angiography. Aneurysm was coiled through right carotid approach under general anaesthesia. Left radial artery was cannulated for invasive BP monitoring. Intraoperatively filling of the aneurysm and formation of thrombus was observed. Intra-arterial eptifibatide was administered and patient extubated keeping systolic BP 20% below baseline. He was maintained on same BP in ICU for next 48 hours. On third postoperative day the patient developed paraplegia and bowel distension. Urine output was normal. MR imaging revealed central intramedullary acute ischemic changes from conus medullaris upto D8 level. **Conclusion:** CoA is essentially two parallel circulations comprising of pre-stenotic and post-stenotic component. This case report underscores the importance of monitoring both components during management in anaesthesia and in ICU.

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Direct motor evoked potentials and cortical mapping using the NIM nerve monitoring system: A technical note

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Introduction: Motor evoked potentials (MEPs) are commonly used to prevent neurological injury when operating in close proximity to the motor cortex or corticospinal pathway. We report a novel application of the NIM nerve monitoring system (Medtronic@ NIM response 3.0) for intraoperative direct cortical (dc)-MEPs monitoring. **Case Summary:** A 69-year-old female patient presented with a 4 month history of progressive left hemiparesis resulting from a large right sided posterior

frontal meningioma that abutted and compressed the motor cortex. Motor cortical mapping and MEPs were indicated. The patient was anesthetized and maintained on total intravenous anesthetics. Compound muscle action potentials (CMAP) of the right upper limb were monitored using the NIM system. After a craniotomy was performed, we first used the Ojemann stimulator (monopolar) for dc-stimulation and then switched to use the monopolar nerve stimulator probe of the NIM system. The CMAP response was successfully elicited using the NIM stimulating probe (pulse width = 250 s, train frequency = 7 pulses/s, current = 20 mA). A gross total resection of the tumor was achieved with intermittent cortical mapping of MEPs. There were no intraoperative complications and the patient's motor function was preserved after the surgery. **Conclusion:** We conclude that the NIM nerve monitoring system is a feasible alternative to standard neurophysiological monitoring systems.

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Benign intracranial hypotension: An unusual presentation with bilateral subdural hematoma and successful management with epidural blood patch

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Introduction: Benign intracranial hypotension is characterized by orthostatic headache, nausea, vomiting, tinnitus, vertigo, diplopia and wide variety of symptoms. It is mainly because of CSF leakage which can be caused by trauma, epidural analgesia, dural puncture but in most of the cases it is spontaneous. Rarerly patient will present with subdural hematoma. In that cases proper history, meticulous investigations, high index of suspicion and appropriate management will be required. Here we are presenting a case who presented with bilateral subdural hematoma because of benign intracranial hypotension managed successfully with epidural blood patch and evacuation of hematoma. **Case Summary:** Forty year male patient presented to casualty with orthostatic headache, vomiting since 1 month and altered sensorium, giddiness since 2 days. There was no history of trauma. MRI brain showed prominent subdural hematoma in the late subacute stage in right frontotemperoparietal region with mass effect associated with thin subdural hematoma on left side. There was mild inferior displacement of floor of third ventricle which was draping along the dorsum sellae. There was associated effacement of prepontine cistern. There was mild compression and distortion of bilateral cerebral peduncles. These findings were suspicious of benign

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.

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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