refractory status epilepticus or uncontrolled intracranial hypertension. It is major disadvantage being neurological suppression including loss of brainstem reflexes mimicking brain death posing diagnostic dilemma during neurological assessment of the patient.

Case Summary: A 17-year-old poorly built male, an old operated case of head injury, was admitted to the NIMS Hospital. He suffered cardiac arrest from which he was successfully revived. Post-arrest, he was ventilated. Some hours later, he developed generalised tonic-clonic seizures. He was given injection midazolam 4 mg (in graduated doses) followed by injection phenytoin 1000 mg. He was already on inj levetiracetam 500 mg BD. Injection midazolam infusion was started at 2 mg/h and increased to 5 mg/h without success. Injection valproate bolus 1 g intravenous (IV) was administered without success. Injection thiopentone 150 mg IV bolus followed by 25 mg twice aborted the seizures. Patient was later started on thiopentone infusion at 50 mg/h which successfully stopped the seizures for about 2–3 h. Midazolam infusion was stopped. Later, he developed focal facial seizures for which infusion was progressively increased to 150 mg/h which achieved total seizure control, confirmed by Burst suppression on electroencephalography (EEG). He was continued on the same dose for 2 days. With no evidence of seizures on a repeat EEG, the patient was slowly weaned off thiopentone over 24 h. No seizures were reported during or after this period. On the 2nd day of thiopentone infusion, oculocephalic reflexes were found to be absent. Other reflexes including pupillary reaction to light were present. Oculocephalic reflex became positive on the next day after stopping the infusion.

Conclusions: (1) Oculocephalic reflexes were as a result of use of thiopentone infusion. (2) The loss of brainstem reflex in our case was at a lower dose than reported in earlier studies. It can be a confounding factor during the assessment of neurological status of patients with brain trauma or post-cardiac arrest and may mimic brain death when all the brainstem reflexes including pupillary reaction to light are lost.

ISNACC-C-11

Spontaneous sinus arrest following intravenous phenytoin for post-operative seizure prophylaxis

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Background: In resistant epilepsy invasive techniques remains important because of poorly defined or close proximity of the epileptogenic zone to eloquent cortex. Grids are inserted by open craniotomy. In the second surgery, the electrode grids and seizure focus

is removed. Anti-epileptic prophylaxis is instituted for the management of patients with brain surgeries, hence prophylactic anticonvulsants are given for suppression of post-operative seizures. Phenytoin when compared to placebo has been reported to be significantly more effective in preventing post-traumatic seizures during the 1st week.

Case Summary: A 4-year-old child with history of refractory seizures on antiepileptics, underwent craniotomy with contact grid placement with localisation of ictal focus. The patient received phenytoin as surgical prophylaxis during second sequential surgery, after which he went into spontaneous sinus arrest following the recommended dose. He was successfully reverted to sinus rhythm after resuscitation as per ACLS guidelines. Following surgery, there was 90% reduction of abnormal electroencephalography activity. Post-operatively phenytoin was omitted from the drug list. Next 5 days, he was seizure free; after 2 days of ventilator support, he was extubated following which he was seizure free and was later.

Conclusions: It is common to have seizures in the early post-operative period, with no implications in the long run. The brain trauma foundation suggests prophylaxis, including a treatment option of giving phenytoin or carbamazepine to prevent seizures in the 1st week. With the use of phenytoin there is always an unpredictable cardiac risk. Side effects associated with parenteral phenytoin are caused by its high pH level and the propylene glycol or ethanol content used to increase solubility. The vehicle for the most widely used parenteral formulation of phenytoin is 40% propylene glycol and 10% ethanol, adjusted to a pH of 12 with sodium hydroxide. This glycol solvent is linked to seizures, arrhythmia, asystole, hepatic and renal damage. Other toxic include hyper osmolality, haemolysis and lactate-associated metabolic acidosis. It is recommended to have continuous monitoring of blood pressure and pulse in patients who are started on phenytoin. Also, for risk patients, a baseline echocardiography is also suggested. The Naranjo scale which is an adverse drug reaction probability scale, utilising a set of questionnaires, to assess drug-related adverse events this can be implemented.

ISNACC-C-12

Anaesthetic management of emergency craniotomy in a patient with left ventricular assist device

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Introduction: Left ventricular assist device therapy is an established treatment modality for patients with advanced heart failure. Short-term use of these devices

in patients awaiting heart transplantation normalizes haemodynamics, improves end-organ dysfunction and exercise tolerance, with a relatively low incidence of major adverse events Thoratec, a continuous flow device need to be anticoagulated with Coumadin. Complications related to this anticoagulation include amongst other bleeding, intracerebral haemorrhage which requires emergent evacuation. **Case Report:** A 27-year-old female with a left ventricular assist device presented for emergent frontotemporal craniectomy, evacuation of intracerebral haemorrhage, partial frontal lobectomy and external ventricular drain placement. Computed tomography scan demonstrated a large right frontal haemorrhage extending into the ventricular system, causing 1.5 cm of midline shift. She had required automatic implantable cardioverter-defibrillator (AICD) placement for recurrent polymorphic ventricular dysrhythmias and reduced EF (20%) in the past after failed ablation. Temporary paddles were placed, and a magnet was placed to deactivate the AICD. In the operating room, anaesthetic induction and intubation were uneventful. She was supported with vasopressors. There was significant blood loss which reduced flows in the left ventricular assist device (LVAD). This was corrected with volume resuscitation with packed cells, Fresh frozen plasma and cryoprecipitate. The primary goal was to prevent further neurologic insult. Thromboelastogram was done which revealed fibrinolysis, and so 1 g of tranexamic acid (TXA) was given. **Discussion:** In summary, the emergent nature of this procedure required rapid optimisation of cardiac, coagulation and neurologic systems in a patient with end-stage cardiac disease. These patients with LVAD require careful management of preload and afterload. Multiple agents to improve her coagulation status were used. TXA is reported to reduce the risk of death from traumatic bleeding but not in intracerebral bleeding. The use of prothrombin concentrate complex in intracerebral haemorrhage is being reviewed.

ISNACC-C-13

An unusual case of paraneoplastic neurological syndrome

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Background: Paraneoplastic neurological syndromes (PNS) could be present in 3–5% of patients with small cell lung cancer (SCLC). Coexisting myasthenia gravis (MG) and Lambert–Eaton myasthenic syndrome (LEMS) have been reported in non-cancer patients. LEMS has been reported in 16–40% of paraneoplastic

cerebellar degeneration (PCD) cases associated with lung cancer. Reports of endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) performed via tracheostomy tube are rare. We report a case initially presenting with symptoms of PNS that underwent EBUS-TBNA through tracheostomy tube for diagnosis of SCLC while still on ventilator support. **Case Summary:** A 75-year-old female was transferred to Sheffield Teaching Hospitals with history of difficulty in walking, leg weakness, respiratory distress, dysarthria and ataxia. Provisional diagnosis was MG, and she was put on pyridostigmine, intravenous IgG and steroids. Computed tomography chest showed a 33 mm suspicious lesion in right hilum. She eventually developed respiratory failure requiring intubation followed by tracheostomy. Due to slow respiratory wean, EBUS-TBNA was performed on Intensive Care Unit while the patient was still being ventilated through tracheostomy tube. Histology results showed that SCLC and chemotherapy with carboplatin and etoposide were started. The patient was successfully weaned off ventilator, decannulated and transferred to ward. Initial repetitive stimulation electromyography (EMG) and single fibre EMG were consistent with MG hence treatment continued for the same. Anti-AChR antibodies, anti-MuSK antibodies and paraneoplastic cerebellar antibody screen were negative. Repeat EMG results after discharge to ward were more in favour of LEMS. Voltage-gated calcium channel antibodies titres were high (254). Hence, patient was put on 3,4-diaminopyridine as well and finally discharged from the hospital. **Conclusion:** This case was unusual in that she had features suggestive of MG, LEMS and PCD and that she underwent EBUS-TBNA through tracheostomy tube while still on ventilator, leading to early diagnosis and chemotherapy.

ISNACC-C-14

Endoscopic skull base surgery-anaesthesia considerations

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Background: Endoscopic skull base surgeries (ESBSs) present a special challenge to neuroanaesthesiologist for a safe outcome. Specialised endoscopic surgical techniques, equipment and advanced intraoperative monitoring require skill full anaesthesia management specially designed to the needs of minimally invasive fully ESBSs. The aim of anaesthesia is being a balanced technique with adequate depth to have an ideal surgical field, stable haemodynamics, smooth emergence