

Background: Cerebral vasospasm is defined as a delayed but reversible narrowing of the cerebral blood vessels. Stellate ganglion block (SGB) causes sympathetic denervation, which may lead to dilatation of intracerebral vessels and an improvement in cerebral blood flow. Our study assessed the efficacy of ultrasound guided SGB in relieving symptomatic cerebral vasospasm following aneurysmal clipping using digital subtraction angiography (DSA) technology. **Materials and Methods:** Twenty patients who underwent clipping for cerebral aneurysm and developed cerebral vasospasm later were included in the study. DSA was performed. Vasospasm was classified with respect to diameter at the mid A1 and mid M1 segment of anterior cerebral artery (ACA) and middle cerebral artery (MCA) respectively. Location of vasospasm, parenchymal filling, and venous sinus filling time were calculated. Ultrasound guided SGB was given using 10 ml of 0.5% injection bupivacaine on the same side of vasospasm or the side contralateral to the deficit. The neurological condition and DSA parameters were reassessed after 30 min. **Results:** Five patients had neurological improvement; among these, four patients had vasospasm involving a single vessel. The mean vessel diameter measured at the mid A1 segment of ACA ($P = 0.002$) and mid M1 segment of MCA ($P = 0.003$) increased significantly. Twelve patients had an increase in vessel diameter. Vasospasm grade improved in three patients. The mean parenchymal filling time and mean venous sinus filling time did not decrease significantly after SGB ($P = 0.163/0.104$ respectively). **Conclusion:** Our study shows that SGB results in improvement in vessel diameter of large cerebral blood vessels. It had no impact on the cerebral microvasculature as evidenced by lack of significant changes in parenchymal filling time and venous sinus filling time. Thus, SGB has a limited role in management of patients with cerebral vasospasm.

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Anaesthetic considerations for intraoperative neurophysiological monitoring in neurosurgical cases

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Introduction: Intraoperative neurophysiological monitoring (IONM) is the standard of care for a wide range of surgeries where neurological insult is anticipated. The choice of anaesthesia depends on the signals being monitored, patient's comorbidities and the intraoperative course of physiological parameters. We report here a retrospective case series to highlight the

anaesthetic considerations in various neurosurgeries. **Methods:** We reviewed all neurosurgical cases ($n = 43$) which required IONM in the last 3 months (since the inception of IONM services in our hospital). This included cerebellopontine angle tumours ($n = 15$), compressive spinal cord myelopathies ($n = 10$), spinal cord tumours ($n = 4$), tumours of caudaequina ($n = 3$), brain tumours in the vicinity of speech area ($n = 4$), brain tumours in the vicinity of motor area ($n = 3$), sellar-parasellar tumours ($n = 2$), trigeminal neuralgia ($n = 1$) and spinal nerve root tumour ($n = 1$). Various neurophysiological techniques used in these cases for neuromonitoring included transcranial electrical motor evoked potentials (MEPs), somatosensory evoked potentials (SSEPs), free-run and triggered electromyography (EMG), direct cranial and peripheral nerve stimulation, motor mapping, language mapping, bulb cavernous reflex testing, raw and processed electroencephalography (EEG). In cases requiring MEPs and SSEPs, we used total intravenous anaesthesia and avoided relaxants. Soft bite block helped avoid tongue bites. In cases where EMG alone was monitored, only muscle relaxants had to be avoided and inhalational agents could be used. Awake craniotomy under local anaesthesia with an 'asleep-awake-asleep' technique was used for language mapping. Systemic blood pressure and core body temperature also had to be maintained for optimal neurophysiologic signals. EEG and bispectral index monitoring were used to assess the depth of anaesthesia. **Results:** By customising anaesthesia according to neurophysiological requirements, we achieved good baseline monitor ability in 42/43 cases (one patient had severe neurological deficit that baseline signals could not be recorded). Monitoring was successful in all 42 cases except one (monitoring had to be discontinued in a case, as inhalational agent was kept above 0.5 minimum alveolar concentration). **Conclusion:** Good signal acquisition for a reliable neuromonitoring is teamwork between neurosurgeons, surgical neurophysiologists and anaesthesiologists. Inhaled anaesthetics are to be used frugally/not at all, in cases requiring MEP monitoring.

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Comparison of awake endotracheal intubation using intubating laryngeal mask airway and fiberoptic bronchoscope in patients with unstable cervical spine

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Background: Anaesthetists often encounter patients at their initial resuscitation phase after acute spinal cord injury. Therefore, they are ideally placed to influence