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Introduction: Cervical meningocele (MMC) is an extremely uncommon congenital spinal anomaly with incidence of 3-5% among spina bifida cystica. These babies also have associated multiple congenital anomalies. Anaesthesia for MMC poses a challenge to anaesthesiologist as one has to deal with infants, difficulty with positioning, airway problems and prone ventilation. **Case Summary:** A 3 month old female child, weighing 3 kg, came with complaint of swelling at the back of neck (3x4 cm) diagnosed as cervical meningocele with hydrocephalus. Patient also had complete cleft palate, imperforate anus and spina bifida. Patient was posted for MMC repair surgery. Patient was brought to the OT and baseline vitals were noted. Premedication in the form of inj glycopyrolate for anti-secretory effect and Inj ondansetron for anti-emetic effect was given. Induction was done with Inj thiopentone supplemented with inhalation induction with sevoflurane. To get ideal position for intubation the head was supported by an assistant to avoid pressure over swelling. The cleft in the palate was packed with a gauze piece. Intubation was done with endotracheal tube no 4. Air entry was confirmed and then inj atracurium was given for muscle relaxation. Throat was packed and tube was tied with a roller gauze. Patient was then given prone position and pressure points covered by soft gamzy rolls. Surgery lasted 2 hours. At the end, patient was reversed with inj neostigmine and inj glycopyrolate. Recovery was uneventful and patient was shifted to PICU for further management. **Conclusion:** Paediatric patients are prone for anaesthetic complications. Early repair of MMC is crucial to prevent sequale. Anaesthetic management in this case focuses on difficult airway management, positioning, fluid management and maintenance of temperature. The case is presented for its rarity and its successful management.

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Comparative study of postoperative pain following general anaesthesia with isoflurane and sevoflurane in spine surgery

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Introduction: Analgesic requirement following spine surgery is not addressed exhaustively, thus offering immense scope for continued research. Volatile anaesthetics have a biphasic effect on pain sensitivity;

they increase sensitivity to pain at low concentrations, and relieve pain at higher concentrations. This study was conducted to compare the differences in post-operative pain severity, duration and analgesic requirements with isoflurane and sevoflurane based anaesthetic regimens in patients undergoing elective spine surgery. We hypothesized that "General anaesthetics administered to provide anaesthesia will not affect postoperative pain and analgesic requirements independently, when analgesics are given in similar doses in the pre- and intra-operative periods." **Methods:** This was a prospective, observational study involving a total of 100 patients randomized into two groups - Group S (n = 50), who were maintained on sevoflurane and Group I (n = 50), who were maintained on isoflurane. Severity of pain of all patients was assessed preoperatively and upto 72 hours after extubation or till discharge using VAS scale and compared. **Results:** The mean preoperative VAS was comparable between the two groups (4.08 and 4.04, $p = 0.889$) as well as upto 4 hours postoperatively. Beyond 4 hours up to 72 hours, the mean VAS was higher in Group S, the difference being statistically significant ($p < 0.05$ at all times). The mean VAS scores were 5.76, 5.68, 4.28, 2.44, 1.52 in Group I and 6.56, 6.56, 5.36, 4.24, 3.96 in Group S at 6, 8, 24, 48, 72 hours respectively. 17 patients in Group I and 34 patients in Group S needed tramadol in addition to diclofenac postoperatively. **Conclusion:** Patients anaesthetised with isoflurane for elective spine surgery have significantly less pain and are pain-free earlier as compared to those anaesthetised with sevoflurane.

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A case series of 5 "awake" craniotomies with intraoperative electrocortical mapping

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Introduction: "Awake" craniotomy is standard for resection of intracranial tumours located near the eloquent areas of the cortex however functional mapping and stimulation in an awake patient is recent. **Case Summary:** We report a case series of 5 patients that underwent an "awake" craniotomy for resection of tumours in eloquent areas of the cortex. All patients were clinically evaluated, airway assessed, counselled, a rapport developed and optimised preoperatively. Functional MRI was done with activation mapped for finger, lip and tongue movement, word generation and counting paradigms. In the operation theatre, pre-oxygenation via nasal cannula was commenced and SpO₂, EtCO₂, NIBP, EKG, BIS monitoring initiated. A

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 as 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.

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

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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, SPO₂, 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.

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Catastrophic presentation of venous air embolism in supine position

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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 amlodepin 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 EtCO₂ more than 2 mmhg within 3 minutes followed by haemodynamic instability. Surgeon was informed about the possibility of air embolism, N₂O was shut off, patient was ventilated with 100%