Introduction: Epidural hematoma, usually caused by tearing of middle meningeal artery, is associated with hematoma expansion and rapid deterioration within first 24 hours. Nevertheless, hematoma size enlargement later than 3 days after injury rarely occurs. This case will outline a delayed progressive epidural hematoma patient who eventually deteriorated at fourth day after injury because of hematoma expansion.

Methodology/Description: An 18-year-old male patient with a history of motorcycle accident was referred to our hospital. Initial computed tomography (CT) scan showed right temporal bone linear fracture, small epidural hematoma at right temporal lobe, and subarachnoid hemorrhage. On admission, the Glasgow Coma Scale (GCS) was 10, pupils were equal and reactive bilaterally, and no signs of lateralization. Initial laboratory results show elevated level of D-Dimer (13.1 mg/L), leukocyte (27,800/µL), and blood glucose (222.6 mg/dL). Mannitol was administered, and patient was treated conservatively in neurology ward, then GCS level increases to 12. At day4, right pupil became dilated and had sluggish reaction to light. Subsequent CT scan shows enlargement of epidural hematoma size, and craniotomy was done. Concurrently, there were slight elevated fibrinogen levels (578.7 mg/dL), but decreased level of D-Dimer (0.4 mg/L) and leucocyte (12.510/µL), as compared with initial. At day8, patient improved and discharged from hospital with good recovery.

Conclusion: Epidural hematoma typically tends to progress acutely soon after injury. However, rare cases indicate a delayed progressive hematoma expansion. Therefore, identification of delayed hematoma expansion in the presence of risk factors (linear fracture, coagulopathy, decreased ICP) and close monitoring in epidural hematoma patients is essential, even after 3 days post injury.

Keywords: delayed epidural hematoma, linear fracture, coagulopathy

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A050 Pediatric Hemispherotomy: Unique Perioperative Challenges

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Introduction: About 30 to40% of pediatric patients with epilepsy remain refractory to medical management and require surgery. Disconnective procedures, such as hemispherotomy, can be challenging for the neurosurgeon as well as the anesthesiologist considering the longer duration of surgery, possibility of sudden massive blood loss, and some unique postoperative complications.

Methodology/Description: A 7-year-old female patient had a history of continuous left partial seizures since 1 year of age. She remained refractory to antiepileptics and was diagnosed as epilepsia partialis continua. She was posted for a functional right hemispherotomy. Her developmental age was of 3 years and 4 months with an IQ of 52 (moderate mental retardation). On the day of surgery, her antiepileptics were continued. Intravenous induction was done with propofol, followed by vecuronium as relaxant. Patient was intubated using flexometallic tube. Invasive BP monitoring was done and two large-bore IV lines were secured. Anesthesia was maintained with isoflurane and fentanyl. Injection mannitol and dexamethasone were given to decrease ICP. Temperature was maintained with air warming blankets. Blood loss around 250 mL was replaced with packed RBCs. Patient was extubated on table. Intravenous levetiracetam was given before extubation. Postoperatively patient remained seizure-free, alert, and oriented for 24 hours after which she became sleepy but arousable for next 5 days. She had fever on postoperative day 5 which subsided the next day with steroids and was discharged on the seventh day.

Conclusion: Pediatric patients present challenges to neurosurgeons as well as anesthesiologists. The intraoperative concerns include possibility of sudden massive blood loss, longer duration of surgery, and interaction of muscle relaxants with antiepileptic drugs, hypothermia, and delayed recovery. Increased sleepiness after 48 hours due to contralateral edema of the cerebrum or obstructive hydrocephalus increases postoperative ICU stay. A noninfectious fever mostly on day 4 or 5 is caused by chemical ventriculitis, and usually responds to steroids. Thus, a team approach including neurosurgeon, neurophysician, anesthesiologist and intensivist helps in making pediatric hemispherotomy a successful and safe surgery for intractable epilepsy

Keywords: pediatric epilepsy, hemispherotomy, neuroanesthesia

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A051 Comparison of Efficacy of Oral Escitalopram and Alprazolam as Premedication in Craniotomy Surgeries for Primary Brain Tumors

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Introduction: Reduction in anxiety and fear at preoperative period in patients of elective surgery is essential for surgical preparation. To allay the anxiety is among one of the most important components in neuroanesthesia practice.

Our aim is to compare the efficacy and safety profile of drugs escitalopram and alprazolam as preoperative medication.

Methodology/Description: Forty patients aged between18 and 60, scheduled for elective craniotomy surgery were included in this comparative study. Patients were randomly allocated into two groups of 20 each. Patients received tab. 5 mg escitalopram in Group E and tab. 0.5 mg alprazolam in Group A orally, 8 hours and 2 hours prior to surgery. Assessment of efficacy variables: anxiety, hemodynamic variables, sedation, postoperative pain, and anterograde amnesia. Anxiety was assessed using Amsterdam Preoperative Anxiety and Information Scale (APAIS). Pain was assessed using Visual Analog Scale (VAS).

Results: It was found that there was a significant difference in mean anxiety levels pre- and postoperative periods in both groups. Immediately before taking to operation theater, that is, 2 hours after drug administration, 5 patients in Group E were more anxious as compared with nine patients in Group A. Patients in Group E were more sedated in the postoperative period with better anterograde amnesia. There was no significant difference in pain scores in both the groups.

Conclusion: The inference drawn by the present study is that orally administered escitalopram produced superior anxiolysis, sedation, and anterograde amnesia compared with orally administered alprazolam.

Keywords: alprazolam, escitalopram, anterograde amnesia

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A052 Anesthetic Techniques for Awake Craniotomy: A Retrospective Review

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Introduction: Awake craniotomy facilitates excision of brain tumors near the eloquent area and requires an awake, cooperative patient. Aim was to review the management for the awake craniotomy patients, perioperative complications, and compare the hemodynamics, neurological monitoring, and complications observed with intravenous infusions, that is, propofol and dexmedetomidine.

Methodology/Description: We retrospectively reviewed the charts of 51 patients who underwent awake craniotomy for tumor excision over past 6 years. Anesthesia management mainly the IV drug infusions and scalp block techniques, perioperative complications, and postoperative course was noted.

Results: Anesthesia was by propofol and dexmedetomidine infusion with scalp block. Hemodynamics were maintained better with dexmedetomidine infusion; only one had severe bradycardia which resolved with atropine. Propofol-induced desaturation was seen transiently in one patient for which jaw thrust was sufficient. Scalp block was either with bupivacaine 0.25% or inj. ropivacaine 0.2%.None of the patients required the conversion to general anesthesia. Brain bulge was seen only in one patient for which mannitol was administered. Three (5.8%) patients had intraoperative seizures with less incidence in propofol. Forty-two patients had positive localization on cortical stimulation, 23.5% had motor deficits, and 5.8% had aphasia intraoperatively. In one patient, there was propofol-induced neurological deficit which disappeared after stopping the infusion.

Conclusion: MAC with fentanyl, propofol, and dexmedetomidine is the technique of choice in our institute. Patients receiving dexmedetomidine had better hemodynamics but higher incidence of seizures. Propofol can help in the unmasking of the neurological deficits. Mapping of motor and language areas can alert the surgeon for proximity to the eloquent cortex and hence aid in careful tumor resection.

Keywords: awake craniotomy, propofol, hemodynamics

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A053 Comparison of Pressure-Controlled with Volume Controlled-Ventilation in Prone Position in Spine Surgery Patients

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Introduction: Pressure-controlled ventilation (PCV) in comparison to volume-controlled ventilation (VCV) in prone position has shown improvement in lung mechanics in a few studies using frames. However, the effect of ventilation modes on airway pressures and cardiac output in prone position on bolsters which is commonly used in various centers to perform dorsolumbar spine surgery has not been studied. We thus aimed to compare the effect of PCV versus VCV in prone position on lung mechanics, oxygenation, and hemodynamics.

Methodology/Description: Sixty ASA grade I and II patients between age 18 and 65 years, BMI < 30 kg/m^2 scheduled for lower dorsal, or lumbar spine surgery in prone position on chest rolls were allocated to receive mechanical ventilation using either PCV (n = 30) or VCV (n = 30) mode. We measured these variables 15 minutes after induction (T0), 30 minutes after prone position (T30), and at the end of surgery (Teos). Primary outcome variable was mean airway