A retrospective analysis of bleeding complications following percutaneous dilatational tracheostomy in neurological patients receiving anticoagulant therapy

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Background: Patients in neuro-critical care may require tracheostomy for either long-term ventilation or for maintaining and protecting the airway. Many of these patients receive anti-coagulant/anti-platelet therapy for DVT prophylaxis or for primary disease like stroke, coronary artery disease, valvular heart disease. These drugs can't be withheld for prolonged periods while preparing the patients for percutaneous tracheostomy. Hence bleeding is a major concern for the anaesthesiologist. The aim is to assess the effect of anticoagulant/antiplatelet drugs in post tracheostomy bleeding. **Materials and Methods:** ICU records of patients who underwent percutaneous dilatational tracheostomy by Anaesthesiologists in the year 2012–13 were analyzed for bleeding incidences. Post procedure bleeding was classified as mild, moderate and severe within 72 hours. **Results:** Among 74 patients, 24 had mild to severe bleeding after tracheostomy. Most of the cases had mild oozing. No statistical differences were observed in the use of specific anticoagulants/antiplatelet agents between patients who had bleeding and the rest of the patients ($P > 0.05$). Bleeding episodes were managed with adrenaline packing, and Botropase infiltration. **Conclusion:** Our experience shows percutaneous tracheostomy can safely be performed in patients on anticoagulants without increasing risk of post procedure bleeding and prolonged stopping of anticoagulants/antiplatelet drugs.

Retrospective analysis of anaesthesia for awake craniotomy: A three year review of our institutional practice

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Background: The awake craniotomy technique aims to maximize lesion resection while sparing functional areas of the brain (motor, somatosensory, and language areas). Different anaesthetic care protocols for awake craniotomy

are advocated, however, there is still no consensus as to the best anesthetic technique. Our analysis aims to study the safety and efficacy of anaesthesia techniques and to conclude which technique provides the most optimal conditions for patient participation during awake surgery with least incidence of intra-op complications.

Materials and Methods: Awake craniotomies performed during the period from January 1st, 2011 to December 31st, 2013 were included and cases with inadequate data were excluded. Data evaluated in terms of which anaesthesia technique maintained patient awake enough to provide comprehensive answers to questions asked during surgery, perform motor activities as advised, maintained haemodynamics within 20% of baseline, adjunct drugs used and incidence of intra-op complications.

Results: Sixty three patients of 69 were included in the study- 90% of the patients did not require any adjuncts apart from scalp block during surgery. Additional infiltration by surgeon was required in 6% of patients. Propofol infusion was supplemented in 4% of patients and Dexmedetomidine in 9% of patients. One patient was done in awake-sleep-awake technique. Haemodynamics were maintained in all and no incidence of loss of airway was seen. Incidence of intra-op seizures was 5%.

Conclusion: A scalp block with conscious sedation of the patient is best standard of care for awake craniotomies. Dexmedetomidine is an emerging as a safe adjunct, but larger prospective studies are required to advocate its routine use.

Perioperative management of giant encephaloceles: A clinical report of 29 cases

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Background: Giant encephalocele, a seldom encountered entity makes anesthesiologist wary of turbulent anesthetic course. Apart from inherent challenges of paediatric anaesthesia, the anesthesiologist has to deal with unusual positioning, difficult airway and additional associated anomalies during perioperative management of such children. **Materials and Methods:** Medical records of 29 children with giant encephalocele who underwent excision and repair over a period of 13 years were analyzed, retrospectively. Data pertaining to associated anomalies, anesthetic management, perioperative complications, and outcome at discharge were collected and reviewed. **Results:** Average age of these children, at admission, was 164 days. Hydrocephalus and delayed milestones were present in 65.5% and 24.1% of children, respectively. Tracheal intubation was difficult in 15 (51.7%) children. Intubation was carried out by direct

laryngoscopy, most often, in lateral position (82.75%). Intraoperative haemodynamic disturbances and respiratory complications were observed in 31.0% and 17.2% of children, respectively. Intraoperative hypothermia was observed in 13.8% of these children. Postoperatively, six children underwent insertion of ventriculo-peritoneal shunt for hydrocephalus. The average stay in the intensive care unit (ICU) was 2.7 days and average hospital stay was 11.5 days. The condition at discharge was same as preoperative in 24 children (82.7%), deteriorated in 2 (6.9%) and three (10.3%) children died. **Conclusion:** Management of giant encephaloceles requires the knowledge of difficulties encountered during the perioperative period. This paediatric group requires specialized anesthetic care for dealing with difficult airway, unusual positioning, associated congenital anomalies, cardiorespiratory disturbances and even cardiac arrest, electrolyte abnormalities and hypothermia. For securing the airway, we suggest the practice of check laryngoscopy in lateral position following inhalational induction. Muscle relaxant should be administered after visualization of glottis. Though long-term outcome and mental development depends on various factors, avoiding perioperative insult is important.

Comparison of the effect of intravenous dexmedetomidine and lignocaine spray instilled into the endotracheal tube on extubation response in patients undergoing spine surgery: A randomized, double blind, placebo controlled study

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Background: In spine surgery rapid emergence and extubation with haemodynamic stability is crucial for early neurological examination. Here we have studied the effect of alpha-2 agonist – dexmedetomidine (IV) and lignocaine spray instilled into the endotracheal tube at the end of procedure to attenuate the extubation responses. **Materials and Methods:** All total 45 patients undergoing spine surgery, were randomly allocated in three groups. After the return of spontaneous respiration, Group-D:- Dexmedetomidine 0.3mcg/kg IV, Group-L:- 10% Lignocaine spray 1.5 mg/kg through endotracheal route and Group-P:- Normal saline IV given over 60 seconds. Haemodynamic responses (SBP, DBP, MAP, HR, SPO2) were recorded before and after administration of drugs and also duration of emergence, extubation, quality of extubation and post-op sedation level were evaluated. **Result:** The increase in MAP and heart rate during extubation were significantly less in group -D than group-L and group-P, 2 min

after administration of the respective drugs ($P < 0.05$). There was no significant differences in the grade of cough after extubation and post-op sedation level. **Conclusion:** Dexmedetomidine (0.3 mcg/kg) attenuates haemodynamic response better than lignocaine spray (1.5 mg/Kg) during emergence and extubation. It also provides smooth extubation and easy recovery without any post-operative sedative effect.

Comparison between suction above cuff endotracheal tube (SACETT) and standard endotracheal tube (SETT) on the incidence of the ventilator associated pneumonia in neuro ICU

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Background: Ventilator associated pneumonia (VAP) is one of the commonest complication associated with endotracheal intubation. Occurrence of VAP has been associated with significant mortality and morbidity. Subglottic secretion drainage (SSD), using a specially designed ETT with a separate lumen above the cuff has shown to reduce the occurrence of VAP in some studies while others have not shown difference. The incidence of VAP in neurologically injured patients is higher and has significant impact on the neurological outcome. This study aimed to estimate the incidence of VAP with standard endotracheal tube and suction above cuff endotracheal tube (SACETT) in neurologically ill patients. **Materials and Methods:** Patients with neurological illnesses aged more than 18 years and requiring endotracheal intubation and/or mechanical ventilation for management in the NICU and anticipated to remain on ETT for more than 48 hours were included in this study. They were randomized to either standard ETT (SETT) or SACETT. All the VAP preventive measures were similar between the two groups except for the difference in type of tube. **Results:** The incidence of VAP as detected by new or increasing infiltrate on chest radiograph was 24% in SETT vs 28% in SACETT group, while microbiological VAP was higher in both the groups. There was no difference in the length of ICU or hospital stay or duration of ventilation. **Conclusions:** Use of SACETT over convention ETT did not result in reduction of VAP nor other outcome parameters.

Effect of tranexamic acid on blood loss and the quality of surgical field in meningioma resection surgery

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