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A009 Case Report: Near Accidental Extubation in a Case of Juvenile Scoliosis Associated with Neurofibromatosis during Elongation-Derotation-Flexion Casting

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Introduction: Elongation-derotation-flexion (EDF) casting is emerging as a promising nonsurgical technique for the treatment of infantile and juvenile scoliosis, involving a custom-made thoracolumbar cast that acts simultaneously in the frontal, sagittal, and coronal planes. Latest studies have found that general anesthesia along with muscle relaxants have provided better results for casting. The anesthetic complications of this procedure are concerned with the temporary procedural chest pressure making ventilation difficult, while the cast is being set.

Methodology/Description: A 6-year-old male child, known case of neurofibromatosis with café-au-lait spots, the Lisch nodules, and severe thoracolumbar kyphoscoliosis, was posted for casting of kyphoscoliosis. Patient was given general anesthesia with muscle relaxant and was intubated with 5.5 mm uncuffed endotracheal tube with throat pack. Air entry was bilaterally equal and there was no audible leak. Patient was placed on improvised reduction apparatus comparable to the Cotrel frame and was given axial correction of spine. Subsequently, entire trunk was plastered and thoracoabdominal window was cut. As soon as the spine was subjected to elongation traction, it was noted that there was an audible leak around ETT. But as the ventilation was possible, procedure was allowed to be completed. Check laryngoscopy done prior to reversal revealed that the level of the tube was at the level of vocal cords, confirming the migration of tube in trachea despite of proper fixation.

Conclusion: Anesthetic concerns reported till now related to EDF casting have been mostly regarding temporary increase in inspiratory peak pressure. Auscultation of chest and visualization of chest expansion in post-EDF casting becomes difficult. This could be the first case report encountering relative change in position of endotracheal tube, probably due to elongation of the trachea during traction correction of spine.

Keywords: EDF, Lisch nodules, laryngoscopy

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A010 A Case Series Elucidating the Anesthetic Management of Brachial Plexus Injury Repair: A Three-Year Review of Our Institutional Experience

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Introduction: A brachial plexus injury (BPI) could be one of the most devastating injures to a patient effectively crippling function and potentially leading to unemployment, hardship and depression. With modern techniques in hand along with microsurgery and individualized anesthetic techniques, it is totally feasible to restore function in this valuable segment of our population.

Methodology/Description: Information of BPIs from 2015 to 2017 was obtained from the Department of Anesthesia, P. D. Hinduja Hospital, Mumbai, using the Anesthesia Record Keeping System. We operated upon 48 cases in the year 2015, 64 cases in the year 2016, and 45 cases till date in the year 2017. Out of these, four were position-related iatrogenic injuries.

Conclusion: Successful management of a case of BPI involves a balanced approach involving TIVA, inhalational agents along with monitoring of the depth of anesthesia and neuromuscular monitoring. Drugs should be well-titrated to avoid awareness and present a deep plane of anesthesia without using muscle relaxants.

Keywords: brachial plexus injury, anesthetic management, BPI

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A011 A Retrospective Analysis of Perioperative Factors affecting Outcome in Children with Cervical Spine Injury

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Introduction: Not much has been described about perioperative factors affecting outcome in children cervical spine injury (CSI).

Methodology/Description: Data of children (age ≤ 18 years) with CSI who underwent surgery during a period of 7 years were reviewed, retrospectively. Various factors affecting outcome were included in the study.

Results: A total of 112 children with CSI received surgical treatment during the study period. Sixteen children were in the age group of 0 to 8 years, whereas 96 belonged

to the age group 8 to 18 years. One hundred one children underwent surgical fixation of cervical spine under anesthesia. Intravenous anesthetic agents were used for induction, and inhalational anesthetics were used for the maintenance of anesthesia. In majority of the children (62.4%), the airway was secured with fiberoptic intubation. Children in the age group 0 to 8 years (56.3%) had better outcome as compared with those in 8 to18 years age group (39.6%). Fall from height constituted the major cause of injury (n = 68, 69.6%), and majority of the children suffered injury at the upper cervical spine (58.9%). Spinal canal was compromised in 77.4% of children and these children had poor outcome. Various complications were observed in 45 (40.2%) children during their hospital stay and 37 (82.2%) of these children had poor outcome. Nine children died owing to different reasons.

Conclusion: The overall outcome was good in 42% of children with CSI. The outcome at discharge was poor in children belonging to the age group of 8 to 18 years, who had compromised spinal canal, ASIA scale (A, B, or C) at admission, and those who suffered complications during the hospital stay.

Keywords: fiberoptic intubation, CSI, anesthetic

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A012 Remote Ischemic Preconditioning in Decreasing Post-Electroconvulsive Therapy-Induced Cognitive Dysfunction

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Introduction: Ischemic injury has been implicated in causing post-electroconvulsive therapy (ECT) cognitive dysfunction. Remote ischemic preconditioning (RIPC) causes nonlethal ischemia on a limb, which results in protection of distant organ from ischemic injury. Hence, we studied the role of RIPC in decreasing post-ECT cognitive dysfunction.

Methodology/Description: The study was conducted on 80 patients after obtaining their informed consent and ethics committee approval. Patients 18 to 65 years of age, of either gender with a diagnosis of schizophrenia and ASA 1 to 2, were included. The patients were randomized into two groups. The intervention group received RIPC and the control group received sham RIPC before each ECT session for six such ECTs. The RIPC protocol included three 5-minute cycles of upper limb ischemia inflated to a cuff pressure of 30 mm Hg above the systolic BP with 5 minutes intervals of reperfusion in between. The cuff in the control group was inflated to a pressure of 30 mm Hg only. The cognitive assessment was done before the first and after the sixth ECT. Mann–Whitney U test, ANOVA, and paired t-test were used for analysis of data.

Results: There was no significant statistical difference in the cognitive and memory assessment scores of HMSE test (p = 0.908), PGI memory scale test (p = 0.123), B4ECT ReCODE test (p = 0.308) both within and in between the two groups.

Conclusion: RIPC has not been found effective in preventing cognitive and memory impairment post-ECT in schizophrenia patients.

Keywords: RIPC, ECT, ASA

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A013 Clinical Efficacy of Scalp Infiltration with 0.25% Levobupivacaine to Attenuate Hemodynamic Response to Skull Pin Insertion in Supratentorial Craniotomies under General Anesthesia

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Introduction: Sudden hemodynamic changes caused by skull pins in neurosurgery can be prevented by combining scalp block, which blocks both the superficial and deep layers of the scalp. Levobupivacaine has been used in 0.75% and 0.5% concentrations for this purpose. However, no previous study has determined the efficacy of 0.25% levobupivacaine for scalp block.

Aims: To determine the effects of scalp block with 0.25% levobupivacaine on the hemodynamic response to head pinning and incision during craniotomy and evaluate the analgesic requirements intraoperatively.

Methodology/Description: This prospective observational study included 50 patients, after obtaining approval from ethics committee of Grant Government Medical College and Sir J.J. Hospital and written informed consent from patients (ASA status, I or II; age, 18 to 60 years) who underwent supratentorial craniotomy at this institute. Patients with coagulation disorders, inflammatory skin lesions, pre-existing neuropathies, pregnant and lactating mothers were excluded. Scalp block with 20 mL of 0.25% levobupivacaine was given bilaterally after induction of general anesthesia and prior to application of Mayfield skull pin head holder. The hemodynamic parameters were recorded at baseline, during scalp block and after head pin insertion, incision, and at craniotomy.

Results: Values of heart rate and blood pressure before and after anesthesia induction compared with values after painful stimuli were in the 10 to 15% range. Mean intraoperative fentanyl requirement was 150 µg (2–3 µg/kg).

Conclusion: Levobupivacaine (0.25%) when used for scalp block ensures hemodynamic fluctuation of upto