A047 Perioperative Management and Functional Outcome Post Cranioplasty: A Retrospective Observational, Single Institutional Study

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Introduction: Patients with an acute increase in intracranial pressure (ICP) due to cerebrovascular accident (CVA) or traumatic brain injury (TBI) undergo decompressive craniectomy. The surviving patients then undergo cranioplasty procedure in future for rehabilitation by having a positive effect on the cerebrospinal fluid (CSF) dynamics. A high rate of perioperative complications is associated with this procedure. We conducted a retrospective analysis of the cranioplasty surgeries which took place in our center.

Methodology/Description: After taking permission from the Institute Review Board, data was collected from the Anesthesia and Neurosurgery registers from June 2016 to June 2017. A retrospective analysis was performed.

Results: The overall complication rate found was 6.6%. Cranioplasties were done post craniectomies for TBI in 60% of cases and post-CVA in 40% of cases. Sixty-six percent of cranioplasties were with acrylic, 20% with autologous bone, and 13.3% with titanium plates. The only complication encountered intraoperatively was seizure in one patient. No deaths were noted. One patient developed deterioration in the Glasgow Coma Scale on the third postoperative day and had to undergo removal of the acrylic bone. The functional outcomes post cranioplasty were similar to presurgical status.

Conclusion: Cranioplasty appears as an easy surgical procedure but may have a complication rate as high as 41% which is in direct contrast to the complication rate for the routine neurosurgical procedures. Our results show 6.6% complication rate because preventable complications were avoided by optimal preparation perioperatively. The results also indicate that synthetic implants may be utilized in patients with irretrievable bone flaps or delayed time to cranioplasty.

Keywords: Cranioplasty, CVA, TBI

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A048 Anesthetic Management of Pediatric Awake Craniotomy with Intraoperative Neurophysiological Monitoring

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Introduction: Awake craniotomy in pediatric group is challenging. Its success depends on maintaining a good rapport with the child, careful titration of anesthetic agents, and managing intraoperative challenges.

Methodology/Description: An awake craniotomy with neurophysiological monitoring was planned for this 10-year-old girl with lesion at the right motor cortex. After adequate counseling, she was acquainted to the environment with repeated visits to the perioperative suite. She was also familiarized with the motor function testing during surgery. Under standard monitoring, propofol infusion at 100 to 150 µg/kg/min and fentanyl infusion at 0.5 µg/kg/h were initiated after a bolus dose of 15 µg of fentanyl. A 22-gauge cannula was inserted in the right radial artery for blood pressure monitoring. Scalp block was performed with mixture of 2% lignocaine with adrenaline and 0.5% ropivacaine (7 mL each). Sedation was continued during painful procedures like pin fixation, insertion of needle electrodes, and all steps of craniotomy. Throughout the procedure oxygen was given through nasal prongs and her respiration was monitored with the chest leads used for ECG. Propofol infusion was stopped after exposure of duramater. She was comfortable throughout the procedure and co-operated for motor assessment of limbs. Careful titration of sedatives helped in electrophysiological assessment like cortical and subcortical mapping and ECoG. Propofol infusion was restarted after dural closure. No significant complications occurred and the patient recovered without any motor deficits.

Conclusion: Our case report illustrates that with proper planning and careful titration of anesthetics, awake craniotomy along with intraoperative neurophysiological monitoring is safe and feasible in pediatric age group.

Keywords: pediatric, awake craniotomy, intraoperative

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A049 An 18-Year-Old Man with Delayed Progressive Epidural Hematoma in 4 Days after Injury

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