

A014 Intraoperative Lumbar Subarachnoid Drain Placement—Challenges and Complications

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Background: Lumbar subarachnoid drain (LSAD) is a closed sterile catheter system placed in the lumbar subarachnoid space to drain cerebrospinal fluid (CSF) perioperatively to assist in endoscopic skull base surgeries. The placement and use of LSAD are associated with technical challenges and complications.

Materials and Methods: This prospective observational study was conducted after IRB approval. All patients planned for endoscopic TNTS/skull base tumor excision requiring LSAD were studied. LSAD was placed using 18-G epidural catheter either under GA or under LA according to the discretion of the anesthesiologist. The following parameters were noted: number of attempts, number of levels attempted for identifying the space, siting the catheter and for free flow of CSF and the volume of CSF drained. The primary investigator followed up all patients and documented complications associated with the LSAD as per defined criteria.

Results: A total of 50 patients were studied. Only in 18 patients (36%) the tapping and siting was done at 1st attempt, rest 32/50 had difficulty in placing either for tapping (29/32) or siting the catheter (15/32). Fifteen patients needed >2 attempts and in 13/32 patients, it was tried in ≥ 2 levels. In 16/50 patients needed manipulation for free flow of CSF. 23/50 patients had head ache, 13/50 had backache which had correlated with number of attempts. No patient had meningitis, paresthesia, nerve root irritation, or PDPH needing epidural blood patch.

Conclusions: Though the rate of technical difficulties while placing LSAD using the epidural catheter was unacceptably high, the incidence of major complications was lower in our series.

A015 A Prospective Randomized Controlled Study to Analyze the Efficacy of Scalp Block in Providing Analgesia for Supratentorial Craniotomies Using Surgical Pleth Index, Response Entropy, and Hemodynamics

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Background: Supplementing general anesthesia with regional technique has markedly improved intraoperative hemodynamics and intraoperative analgesia. We compared the effects of scalp block (study group) and no scalp block (control group) on intraoperative hemodynamics and correlated surgical plethysmographic index with other variables like response entropy, state entropy and mean arterial pressure to assess the depth of analgesia.

Materials and Methods: In this prospective study, a total of 30 ASA physical grade-1 and -2 patients, satisfying the

inclusion criteria, undergoing supratentorial craniotomies were double blinded, and divided into two groups (study group, control Group). Study group received 0.2% ropivacaine 20 mL for scalp block and control group received 20 mL normal saline for scalp block and for both the groups received fentanyl infusion at 1 $\mu\text{g}/\text{kg}/\text{h}$. Intraoperatively injection fentanyl (1 $\mu\text{g}/\text{kg}$) was given as rescue analgesia when there was >20% raise in hemodynamics above baseline. Quality of analgesia was assessed by using surgical plethysmographic index, response entropy and state entropy at different time points (induction, postinduction, intubation, postintubation, pin, postpin, incision, postincision, craniotomy, postcraniotomy, durotomy, and postdurotomy).

Results: We found that patients in study group had stable intraoperative hemodynamics with decrease in requirement of intraoperative fentanyl. Intraoperative fentanyl consumption (in $\mu\text{g}/\text{kg}$) was decreased in study group (0.06 ± 0.04) compared with control group (1.73 ± 0.52). We found that surgical plethysmographic index, response entropy, state entropy, and mean arterial pressure positively correlated intraoperatively as depth of analgesia monitors.

Conclusion: We conclude that scalp block when given along with general anesthesia can offer better intraoperative hemodynamic stability and decreased intraoperative fentanyl requirement. Surgical plethysmographic index, response entropy, and static entropy correlated well as depth of analgesia monitors.

A016 The Effect of Change of Position on Surgical Pleth Index in Patients Undergoing Lumbar Spine Surgery under General Anesthesia

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Background: To study the effect of change in position from supine to prone position on surgical pleth index (SPI) under GA. Correlation between SPI and heart rate (HR), mean arterial pressure (MAP), and pulse pressure variation (PPV).

Materials and Methods: After informed written consent, 25 patients undergoing lumbar spine surgery were recruited into study. Patients were connected with ECG, NIBP, SpO₂, temperature monitors. Induction was with fentanyl 2 $\mu\text{g}/\text{kg}$, titrated dose of propofol, and vecuronium 0.1 mg/kg. Patient was intubated and ventilated to maintain ET/CO₂ 32 to 35 mm Hg. Morphine 0.1 mg/kg was given intravenously. Anesthesia was maintained with propofol TCI pump and fentanyl infusion 1 $\mu\text{g}/\text{kg}/\text{h}$ to achieve the static entropy of 40 to 60. Arterial line was inserted. HR, MAP, PPV, and SPI were recorded in supine position 0, 5, 10, 15, and 20 minutes after positioning patient in prone at 0, 5, 10, 15, and 20 minutes. Additionally, they were recorded at 0, 2, and 5 minutes pre- and postskin incision, muscle splitting, and laminectomy. Repeated measures data were analyzed