Efficacy of Combined Spinal-Epidural Labor Analgesia in Women with Prior Discectomy Surgery

Abstract Type: Original Research
Northwestern University Feinberg School of Medicine

Introduction: Discectomies are the most common neurosurgical procedure; symptoms related to acute herniated nucleus pulposus resolve faster with surgery than conservative therapy. Data suggest that neuraxial analgesia in patients with prior back surgery have failure rates ranging from 8.2-50%. This prospective observational case-matched study compares local anesthetic consumption as a marker of analgesic efficacy in parturients who had discectomy surgery with a cohort control.

Methods: Informed consent was obtained for this IRB-approved study. All parturients who had a discectomy (DISC) requesting neuraxial analgesia qualified. The control group (CONT) was case-matched for anesthesia provider and was recruited shortly after combined spinal-epidural (CSE) placement in the DISC group. 84 women were needed to detect a 2.2 mg/h difference in bupivacaine usage. All women received CSE analgesia followed by PCEA (spinal: bupivacaine 2.5 mg + fentanyl 15 µg; epidural: basal infusion 15 mL/h bupivacaine 0.625%+ fentanyl 2 µg/mL, demand 5mL q10 min prn). For breakthrough pain, 15 mL bupivacaine 0.125% was administered, followed by increasing the bupivacaine infusion concentration to 0.11%. Secondary outcomes included number of interspaces attempted, need to increase infusion concentration, epidural replacement and analgesic failures. Groups were compared using χ2 or Mann-Whitney U tests. P < 0.05 was significant.

Results: There were no analgesic failures in DISC (N=44) or CONT (N=48). There was no difference in bupivacaine consumption between DISC (12.7 mg/h) and CONT (13.1 mg/h)(Figure). Gravidity, parity, BMI, time to delivery, mode of delivery and infant wt were not different. Women were older in DISC (34 y (IQR 31-38)) vs CONT (31 y (IQR 28-34)) (P=0.003). There were no differences in interspaces attempted, epidural replacements or number of women requiring an increase in epidural infusion concentration (DISC (20.5%) vs CONT (25.5%)).

Conclusion: Consistent with the population at risk for disc herniation, women in DISC were older than CONT. We found no difference in bupivacaine consumption per hour between DISC and CONT suggesting that CSE provides labor analgesia as effective in women with prior history of discectomy as without prior back surgery.

2Smith PS et al. IJOA 2002; 212:17-22.