Unintentional Dural Puncture and Labor Outcome

Abstract Type: Original Research
Uma B. Sasso, M.D.; Laurie Chalifoux, M.D.; Robert J. McCarthy, Ph.D.; John T. Sullivan, M.D.
Northwestern University

**Background:** Higher doses of local anesthetic administered for epidural labor analgesia have been associated with an increased instrumental vaginal delivery (IVD) rate.1 Dural puncture epidural analgesia using a 25-gauge spinal needle has also been associated with a higher IVD rate.2 It is unclear if parturients who receive an unintentional dural puncture (UDP) with an epidural needle experience a higher rate of IVD, perhaps due to increased translocation of local anesthetic from the epidural to intrathecal space.3 The purpose of this study was to evaluate the impact of UDP and subsequent analgesic management on mode of delivery.

**Methods:** After IRB approval, we conducted a retrospective study of all singleton, laboring parturients who received UDP with a 17-gauge epidural needle between Jan 2004 and Feb 2010. Patients with UDP were identified from an existing departmental quality improvement database. Mode of delivery, parity, and anesthetic management subsequent to UDP (re-sited epidural catheter vs. intrathecal catheter) were collected from electronic medical records. The institutional IVD rate for the study period was extracted from our perinatal database for comparison.

**Results:** 277 singleton laboring parturients were identified with UDP. The combined IVD rate for all subjects was 9.0% following UDP, which compared to an institutional instrumental delivery rate of 10.6% during this same time period. 203 patients had an epidural catheter sited at the same or at a different intervertebral space, and 74 patients had subsequent labor analgesia managed with an intrathecal catheter. There were no differences in the mode of delivery following UDP based on subsequent analgesic management, nor was the mode of delivery different between nulliparous and parous parturients within analgesic management groups (Table).

**Conclusion:** The rate of IVD following UDP was similar to the institutional IVD rate. Further research may be needed to elucidate the impact of analgesia management following UDP on labor outcome.

**References:**