Unilateral Analgesia Following Epidural and Subarachnoid Block

PETER M. BOZEMAN, M.D.,* AND PHOOL CHANDRA, M.D.†

A case report of unexpected hemianalgesia following epidural and subarachnoid block is presented, with a possible explanation.

REPORT OF A CASE

Anesthesia for cesarean section was requested for a 27-year-old woman, gravida 1, para 0, at 36 weeks gestation. Review of systems and prenatal and past medical histories were unremarkable. The patient denied previous regional anesthesia.

Vital signs revealed supine blood pressure 120/80 torr and pulse rate 100 beats/min. The rest of the physical examination and laboratory studies disclosed no abnormalities. A single-dose epidural technique was planned.

The patient was placed in the left lateral position and a 17-gauge Tuohy epidural needle placed in the epidural space at the L2–3 level on the first attempt. A total of 19 ml 0.75 per cent bupivacaine was injected. After a 20-min wait, sensory level to pin pricks was found to extend from the L2 to T8 dermatomes, but only on the right side. There was no change in the anesthetic pattern following an additional 20 min. The patient expressed a desire to be awake during the procedure and, therefore, a subarachnoid block was used.

Two unsuccessful attempts were made with the patient in the left lateral position. The patient was then moved to the sitting position. A successful lumbar puncture was achieved at the L3–4 interspace, with a free flow of cerebrospinal fluid in all four quadrants of needle position. Tetracaine, 1 ml, 1 per cent, with 1:200,000 epinephrine, was used. When the patient was sitting, it could be seen that she had a lumbar scoliosis that had not been evident when she was in the lateral position. The scoliosis may have contributed to the difficulty of the block. The sensory level now extended over the entire lower extremity up to the T6 level, but, surprisingly, only on the right side. The patient could not tolerate surgical stimulation left of the midline, and local lidocaine infiltration was necessary. The skin incision to the right of the midline was well tolerated and no local anesthetic was needed in this area.

DISCUSSION

In this patient, epidural and subarachnoid block resulted in unilateral analgesia. Four causes have been described for unilateral epidural analgesia. 1)
As mentioned, this patient had scoliosis of the lumbar spine. Valentino has demonstrated with myelography a unilateral distribution of contrast medium in some patients with severe scoliosis. He hypothesized that the dura on the convex aspect of the spine is tensed like the chord of an arc, causing the spinal cord to be pressed against the opposite surface of the spinal canal and the subarachnoid space to be squeezed between the spinal canal wall and the cord. This condition could also hinder the movement of cerebrospinal fluid and local anesthetics placed in the subarachnoid space.

**SUMMARY**

A case of unintentional unilateral analgesia following both epidural and subarachnoid block is presented. It is suggested that the presence of an anomalous congenital midline diffusion barrier in both the epidural and subarachnoid spaces could explain this phenomenon.

**REFERENCES**

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**Experiences with a New Endotracheal Tube for Microlaryngeal Surgery**

Luis E. Torres G., M.D.,* and Robert C. Reynolds, M.D., Ph.D.†

The introduction of the operating microscope and anesthetic techniques inadequately for microlaryngeal surgery.

In developing new methods, Urban and Oulton turned to the venturi principle for their techniques of nonintubated ventilation. Carden and Sporeci

* Resident in Anesthesia.
† Associate Professor of Anesthesia.

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Address reprint requests to Dr. Torres: Department of Anesthesiology, UCLA School of Medicine, The Center for the Health Sciences, Los Angeles, California 90029.