Neuraxial technique placement in the parturient with history of multiple back surgeries: A Case Report

Chloe M. Savino[1], BS, Mahmoud Abdelghaffar[2], MD, Dan M. Drzymalski[2], MD

Tufts University School of Medicine, Boston, MA[1]

Department of Anesthesia, Tufts Medical Center, Boston, MA[2]

Background:

- In patients with a history of spinal fusion procedures involving the lumbar region, neuraxial techniques are particularly challenging and may fail[1,2]
- Physiologic and anatomic changes in scoliosis patients can result in increased maternal morbidity and mortality when utilizing general anesthesia over neuraxial in cesarean sections[2]

Case: A 22-year-old G1P0 with a hx of kyphoscoliosis, restrictive lung disease, and asthma, was in labor requesting epidural analgesia.

- Patient had extensive back surgery history including thoracolumbar spinal fusion
- The back had a continuous rock-solid piece from the scapula down to the lower lumbar region, with only two small (1"x1") soft areas around L2/3 and L4/5 (figure 1a)

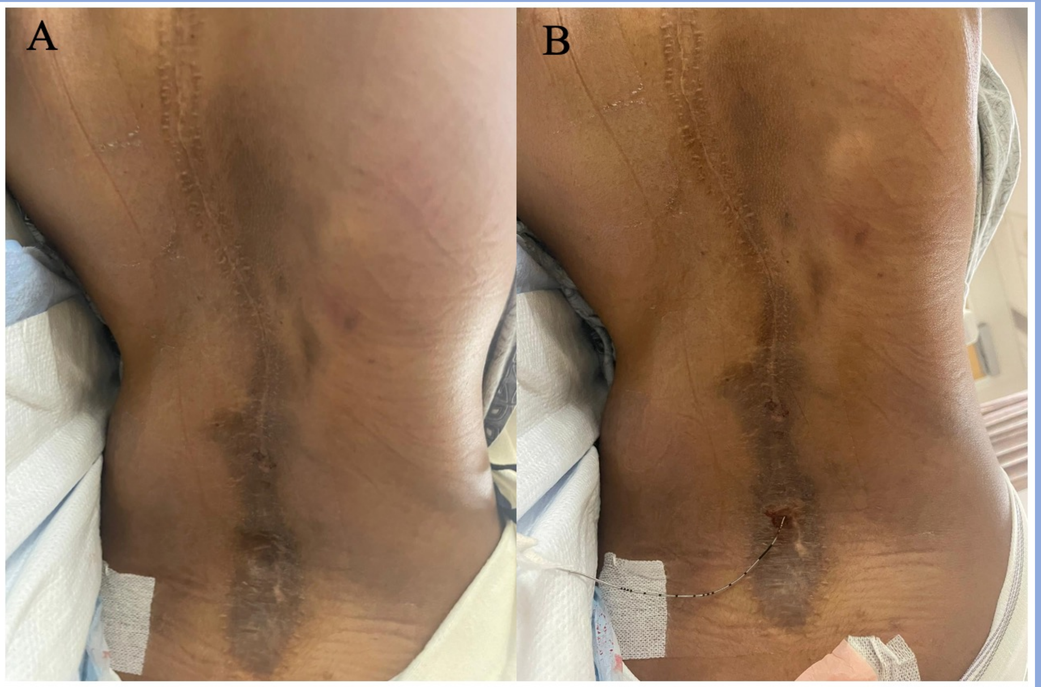

Figure 1: A – prior to neuraxial technique; B – after neuraxial technique

Case cont:

- Patient requested that we attempt a neuraxial technique despite high failure risk
- Attempt at L4/5 and L2/3 were unsuccessful.
- Returning to L4/5 we encountered loss of resistance and found brisk fluid flowing back. A spinal catheter was threaded at this location (figure 1b).

Case cont:

- Spinal catheter provided adequate labor analgesia and was eventually converted for cesarean anesthesia. Catheter was removed post-procedure without issue.
- One day after delivery patient had post-dural puncture headache and received an epidural blood patch after two attempts. Symptoms resolved and the patient returned home.

Conclusion:

- Patients with challenging back anatomy and surgical history should not be excluded from attempt of neuraxial techniques[3]
- Although the patient had inadvertent dural puncture, treatment using standard approaches was successful

References:

1. Cao Y, Shu S, Jing W, Zhu Z, Qiu Y, Bao H. Quality of Life During Pregnancy, Caesarean Section Rate, and Anesthesia in Women with a History of Anterior Correction Surgery for Lumbar Scoliosis: A Case-Control Study. *Med Sci Monit*. 2020 Oct 17;26:e926960.
2. Ko J, Leffert L. Clinical implications of neuraxial anesthesia in the parturient with scoliosis. *Anesth Analg* 2009;109:1930-1934
3. Moreno-Duarte I, Hall RR 3rd, Shutran MS, Radhakrishnan MG, Drzymalski DM. Epidural Anesthesia for Cesarean Delivery in A Parturient With Lumboperitoneal Shunt: A Case Report. A A Pract. 2019 Jan 10.