



MedStar Georgetown
University Hospital

13 year old Female with Loss of Sensation and Mobility of Right Lower Extremity after Resection of Osteosarcoma with Endoprosthesis Placement under Epidural Analgesia.

Thomas P Cestare, M.D. and Mohebat Taheripour, M.D.

Department of Anesthesiology, MedStar Georgetown University Hospital (MGUH), Washington, DC



Background

Complications from epidurals are well documented. They can be grouped into physiologic complications including bradycardia, heart block, and rarely cardiac arrest. Non-physiologic complications include high/ total block and local anesthetic toxicity from inadvertent intravascular injection. Finally, neurologic complications including epidural hematoma, epidural abscess, arachnoiditis, and trauma.

Material and Methods

The authors have no conflicts of interests or disclosures for this case report.

Case Report

The patient is a 13 year old female with an osteosarcoma in her right proximal tibia who underwent a right proximal tibia resection with endoprosthesis insertion. Her anesthesia consisted of a mask induction, followed by general anesthesia with an endotracheal tube. She had two peripheral IVs and an arterial line. After induction an epidural catheter was placed, on first attempt, with the patient in the left lateral position. The catheter was placed at the L3-L4 level with loss of resistance at 5cm and the catheter was secured at 9cm. The catheter was placed without complication and the test dose was negative for intravascular/intrathecal injection. The epidural was dosed by bupivacaine 0.2% at 0.2ml/kg/hr, without bolus dose during the case. After the surgery the epidural was dosed with bupivacaine 0.0625%/fentanyl 5mcg/ml at a basal rate of 4ml/hr, a bolus dose of 3ml, with a lockout interval of 15 minutes.

Case Report

On post-op day 1, the patient could not move her toes on her right leg and had no sensation below the ankle. Her left leg sensation and motor remained intact. This was blamed on the epidural by the surgery team so the epidural was held for four hours with the same changes in right lower extremity sensation and motor function so the epidural was restarted. Concern for compartment syndrome was relieved by the fact she was noted to have good pulses and warm foot. This loss of sensation and motor function was thus thought to be due to neuropraxia from the surgery. The epidural was removed on post-op day 4. An MRI study was suggested by the attending anesthesiologist, to rule out a nerve compression, which the surgery team did not find it necessary.

On post-op day 5, the patient was noted to have a cold right foot with loss of posterior tibial, anterior tibial, and dorsalis pedis pulses and the vascular surgery team was consulted. She underwent an angiogram of her right lower extremity with right femoral and right posterior tibial thrombectomy. However, no visible thrombus was removed and the patient had no significant dopplerable pulses post-op. She was placed on a heparin drip post-op for 48 hours. The patient then later underwent 13 treatments of hyperbaric oxygen treatments with only slightly improved sensation in her right lower extremity.

Results/Conclusion

This case illustrates the need to be well versed in the complications from the anesthetics we administer as anesthesiologists. This vascular/neurologic complication had delay in diagnosis because the floor and surgical team inaccurately believed this patient's unilaterally loss of sensation and motor function was due to her epidural administration. This is also why our post-operative epidurals are dosed with low potency local anesthetics and narcotics to ensure motor function remains intact.

References

Parnass, Samuel M., and Kevin J. Schmidt. "Adverse Effects of Spinal and Epidural Anaesthesia." *Drug Safety*, vol. 5, no. 3, 1990, pp. 179–194.