

Rapid Response called after Outpatient Lumbar Epidural Injection: Case Report

Simon Katz, DO, Daniel Phelan, MD, Michael Flamm, DO

INTRODUCTION

62-year-old male with a complex medical history including thrombocytosis, chronic post-laminectomy pain syndrome, severe knee osteoarthritis, cervical and lumbar spondylosis with radiculopathy, and a history of multiple lumbar surgeries, presented with complaints of radiating lower back pain. He sought a repeat epidural lysis of adhesions, which had previously alleviated his symptoms effectively.

EPIDURAL INJECTION PROCEDURE

The procedure was conducted in a sterile environment with the patient in the prone position. After skin disinfection with chlorhexidine, local anesthesia was administered using 3 mL of 1% lidocaine. Under fluoroscopic guidance, an 18-gauge Tuohy needle was inserted into the epidural space at the L5-S1 level, confirmed via the loss of resistance technique. A catheter was then advanced, and an injectate comprising 80 mg of triamcinolone, 10 mL of 0.9% NaCl, and 5 mL of 1% lidocaine (totaling 17 mL) was administered. The procedure was uneventful, and initial post-procedure monitoring indicated stability.

POST-PROCEDURE COMPLICATIONS

Approximately 10 minutes post-procedure, the patient reported leg weakness and nausea while attempting to stand. He subsequently experienced a syncope episode with transient unresponsiveness and jaw clenching. His blood pressure was noted to be critically low at 66/44 mmHg, and his pulse was slow and weak.

A rapid response team was summoned immediately. Upon their arrival, they administered supplemental oxygen and initiated intravenous fluids (500 cc of lactated Ringer's solution) and a 250 mcg bolus of phenylephrine to counteract the hypotension. The patient's condition stabilized with these interventions, and he was transferred to the emergency department for further evaluation and monitoring.

EMERGENCY DEPARTMENT FOLLOW-UP

Following his discharge after the initial rapid response post-epidural procedure, the patient returned to the emergency department two weeks later, presenting with symptoms consistent with a post-dural puncture headache (PDPH). The chief complaints upon this visit were headache, nausea, and vomiting. He reported that the headache was severe, exacerbated by upright positions, and slightly relieved when lying flat, which is characteristic of PDPH.

Upon examination, the patient was found to be alert and oriented but in considerable discomfort from his headache. The initial management included hydration with intravenous fluids and administration of analgesics. Given the typical presentation and history of recent epidural procedure, a post-dural puncture headache was highly suspected.

DISCUSSION

The patient's post-procedural complications raise important concerns regarding the safety and monitoring protocols associated with epidural injections. Despite the general safety profile of epidural anesthesia, complications such as hypotension, syncope, and post-dural puncture headaches can occur and pose significant risks, especially in patients with complex medical histories. The occurrence of severe hypotension and vasovagal reactions in this patient post-epidural injection may be influenced by his underlying anatomical abnormalities and a complex history of spinal surgeries. According to studies, such structural changes can alter the typical physiological responses to epidural anesthesia and increase the likelihood of adverse reactions including hypotensive episodes. This aligns with our patient's history of multiple lumbar surgeries, which could have contributed to an atypical spread or absorption of the local anesthetic, potentially exacerbating the vasovagal response. In general, thrombocytopenia has been concluded to be a relative contraindication to epidural injection due to the elevated risks of epidural hematoma. However, recent studies have shown that patients with thrombocytopenia undergoing epidural injections had no long term complications. However, an epidural hematoma can often present similar a vasovagal response, with hypotension and leg weakness. It is, therefore, an important co-morbidity to consider when evaluating patients prior to an epidural injection. Some studies have suggested this patient population undergo thromboelastography prior to an epidural injection to mitigate risks of an epidural hematoma and further complications. Lumbar epidural injections are among the most frequently performed procedures by interventional pain physicians, however, this case demonstrates the importance of carefully considering patient comorbidities and pre-existing anatomical anomalies prior to undertaking such interventions.

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