

# Re-Use of Contrast Media in Lumbar Epidural Steroid Injection: A Medically Challenging Case and Review

Tetyana Marshall M.D., John Yin M.D., Danielle Zheng M.D.  
Department of Anesthesiology and Perioperative Medicine,  
University of Pittsburgh School of Medicine, Pittsburgh, PA



## INTRODUCTION

- Millions of doses of iodinated contrast agents (ICA) are given each year. The main risks are anaphylactoid reactions and nephrotoxicity. However, there is also a risk of contamination and bacterial infection.
- As contrast media often comes in vials that can be split for multiple procedures, it can be tempting to use vials of contrast for multiple patients, especially in times of shortage.
- Some studies have shown that contrast media has bactericidal effects, slowing bacterial proliferation or not allowing bacterial proliferation. However, single use and multiple use drug vials remain prone to bacterial contamination and are potential sources of infection.
- Reusing single dose vials increases the risk of invasive infections, such as bacteremia and meningitis.
- We present ASRA recommendations for contrast utilization during shortage of ICA.
- This case report presents a patient who was mistakenly given a dose of contrast from a vial used for a previous patient. Fortunately, the patient did not experience any adverse outcomes.

## CLINICAL FINDINGS

- 78-year-old female with past medical history of osteoporosis complicated by compression fractures of T11-L3 as well as L4-L5 and L5-S1 arthropathy. She was scheduled to undergo a Lumbar Epidural Steroid Injection (LESI) for lower back pain.
- The procedure was performed under fluoroscopy. The epidural space was accessed using loss of resistance to preservative free normal saline. The posterior epidural space was entered and epidurography was performed by injection of contrast under live fluoroscopy. Unknown at the time, the contrast used was drawn from a vial used for a previous patient approximately 7 days ago.
- Radiologic examination confirmed proper spread of the contrast medium within the epidural space. There was no evidence of intrathecal or intravascular runoff. A mixture of preservative-free normal saline and dexamethasone was injected in small boluses without complication. The needle was withdrawn, and the area cleansed.
- The patient was discharged in stable condition. She was asked to report any new concerns prior to their follow-up appointment. The patient did not experience any adverse events such as pain at the injection site, fever, signs of infection, or neurological deficits. Follow up calls were made once the adverse event was identified. The patient presented to the next visit one month later and again did not endorse any symptoms or complications after the LESI.

## FIGURES / IMAGES

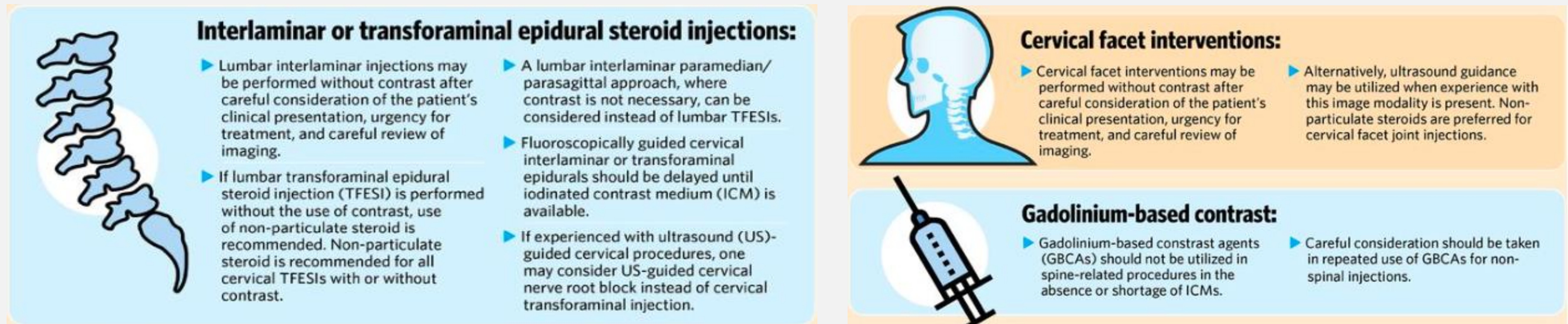


Figure 1: ASRA infographic of recommendations regarding contrast use in times of contrast shortage

## OUTCOME / SUMMARY

- Re-using contrast vials puts patients at risk for invasive infections. Fortunately, our patient did not suffer any consequences after the adverse event.
- In times of shortage, ASRA has issued recommendation for contrast use. It recommends to stratify procedures that can be delayed until after supply of contrast has returned, consider alternative forms of visualization, and to perform procedures without contrast if possible.
- If there is no other choice but to re-use vials, pharmacists are able to follow USP Pharmaceutical Compounding-Sterile Preparation guidelines to provide ICM for multiple patients, however this is a medium risk procedure.

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