

Fluoroscopy Guided Erector Spinae Plane Block: A Case Report and Review

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INTRODUCTION

- An Erector Spinae Plane (ESP) Block is performed in the plane between the Erector Spinae muscles and the transverse processes of the vertebral column.
- This block is most usually done peri-operatively for pain control in cardiac, thoracic, abdominal, and spine surgeries.
- Recently this block has been performed outpatient for chronic pain. Typically done under ultrasound, however 4 case reports have reported good outcomes under fluoroscopy. No studies have looked at outpatient ESP blocks under fluoroscopy.
- Benefits of fluoroscopy include visualization of exact location of needle, easier TP recognition, confirmation of appropriate plane access with contrast, and monitoring of intravascular uptake.
- Benefits of ultrasound include avoidance of radiation hazards and sufficient scientific literature support for success and safety. This method is preferred in populations such as pediatric or pregnant patients.
- We present a successful case of fluoroscopy guided ESP block performed due to poor visualization under ultrasound.

CLINICAL FINDINGS

- 43-year-old male with a BMI of 54 with prior bilateral rib fractures who presented with difficult to control thoracic radiculopathy, left more than right. Pain was 9 out of 10 and was described as persistent, sharp, shooting and numb. His medical management included methocarbamol 500mg TID, Magnesium 500mg QD, Gabapentin 600mg TID, Celecoxib 200mg QD and duloxetine 60mg QD. As medical management was not controlling the pain the patient agreed to undergo a left T10 ESP block.
- The ultrasound transducer was placed over the target sites however landmarks were difficult to ascertain so X-ray was used.
- The target transverse processes were identified with fluoroscopy, and the target site over the transverse process was marked with a marking pen. The skin and soft tissues were then anesthetized with 1% lidocaine. Under x-ray guidance, a 23-gauge needle was inserted directly over the transverse process and the needle was advanced until it touched the transverse process, then pulled back slightly. Contrast was injected and radiographic views were taken to demonstrate spread of injectate. Once cranial-caudal spread was demonstrated, the needle was injected with 5 mg dexamethasone and 20 ml of 0.25% bupivacaine after negative aspiration.
- ESP block resulted in 90% relief for about 5 months. He rescheduled for another block on follow-up.

FIGURES / IMAGES



Figure 1: Fluoroscopy image of injection needle at transverse process before administration of dexamethasone and bupivacaine

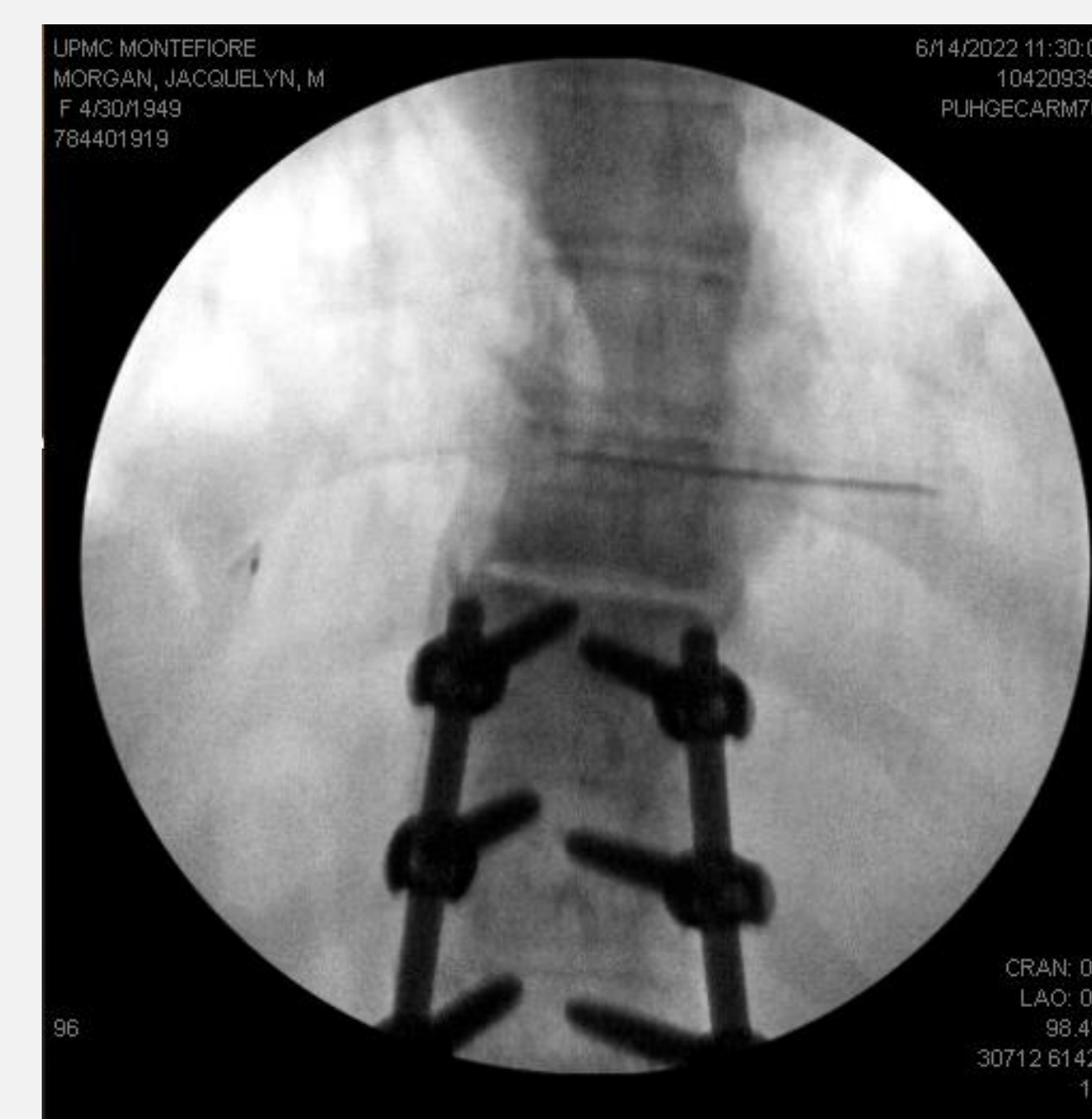


Figure 2: Fluoroscopy image from another patient who received an ESP block under fluoroscopy in the clinic

OUTCOME / SUMMARY

- ESP blocks are done for post-operative pain control in cardiac, thoracic, abdominal, and spine surgeries.
- Since 2016 ESP blocks have been used to treat neuropathic thoracic pain and have further been explored in chronic thoracic and abdominal pain.
- In the outpatient setting ESP blocks are typically done under ultrasound, however case reports have reported good outcomes under fluoroscopy. No studies have been done under this modality.
- Our case report provides more evidence for fluoroscopic guided ESP blocks in the outpatient setting and demonstrates the feasibility of this modality in treating refractory thoracic and abdominal chronic pain syndromes.

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