

Multifidus Cervicis Plane Block For Posterior Approach To Cervical Spine Fusion: A Case Study

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INTRODUCTION

Cervical paraspinal interfascial plane (PIP) blocks have been described as a novel approach to treat post-surgical pain. Tseng et. al recently published a case series utilizing cervical PIP blocks for posterior cervical spine surgery showing potential benefit. Recent work by Ohgoshi et. al also highlights the potential benefit of multifidus cervicis plane block (referred to as cervical multifidus plane by Tseng et. al) in cervical spine surgery. In light of the reported success of these blocks, as well as the desire to improve upon narcotic sparing techniques, we have performed bilateral multifidus cervicis plane blocks for several patients undergoing posterior cervical spinal fusion with great success. Here we present the case of one such patient who received this block and subsequently underwent posterior cervical spinal fusion.

CASE REPORT

A 68 year old gentleman with past medical history of C4-C7 fusion, obstructive sleep apnea, hypertension and GERD presented to the Hartford Hospital Bone and Joint Institute for C3-C7 posterior laminectomy and fusion. He received bilateral multifidus cervicis interfascial plane blocks in pre-operative area approximately 30 minutes prior to surgery.

Intra-operative course was unremarkable. Induction of anesthesia with 2mg midazolam, 200mg propofol, 30mg ketamine, 150mcg remifentanyl bolus and rocuronium. Anesthetic maintained with propofol and remifentanyl infusions, as well as nitrous and sevoflurane inhalation. Total intra-operative narcotics included 1.7mg remifentanyl, and 0.8mg IV hydromorphone. Time in the operating room was approximately 3 hours and 15 minutes.

Upon arrival to PACU, patient received 0.8mg IV hydromorphone, and did not require further narcotic until reaching his room later that day.

Over the following 24 hours, patient received 10mg PO oxycodone, 4mg PO hydromorphone (split as two 2mg doses) as well as Tylenol PO around the clock.

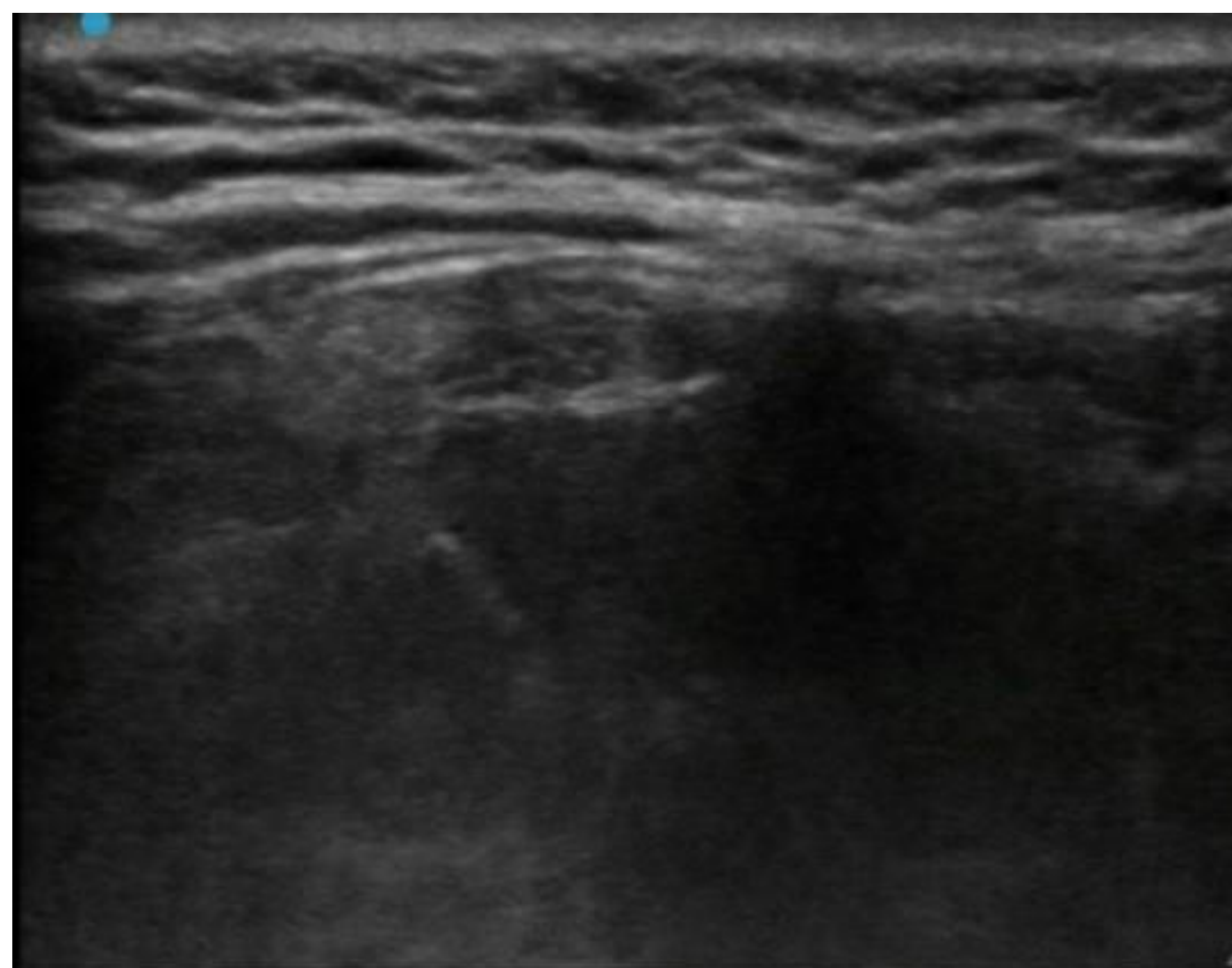


Figure 1: Ultrasound image of block needle approaching Multifidus Cervicis Plane

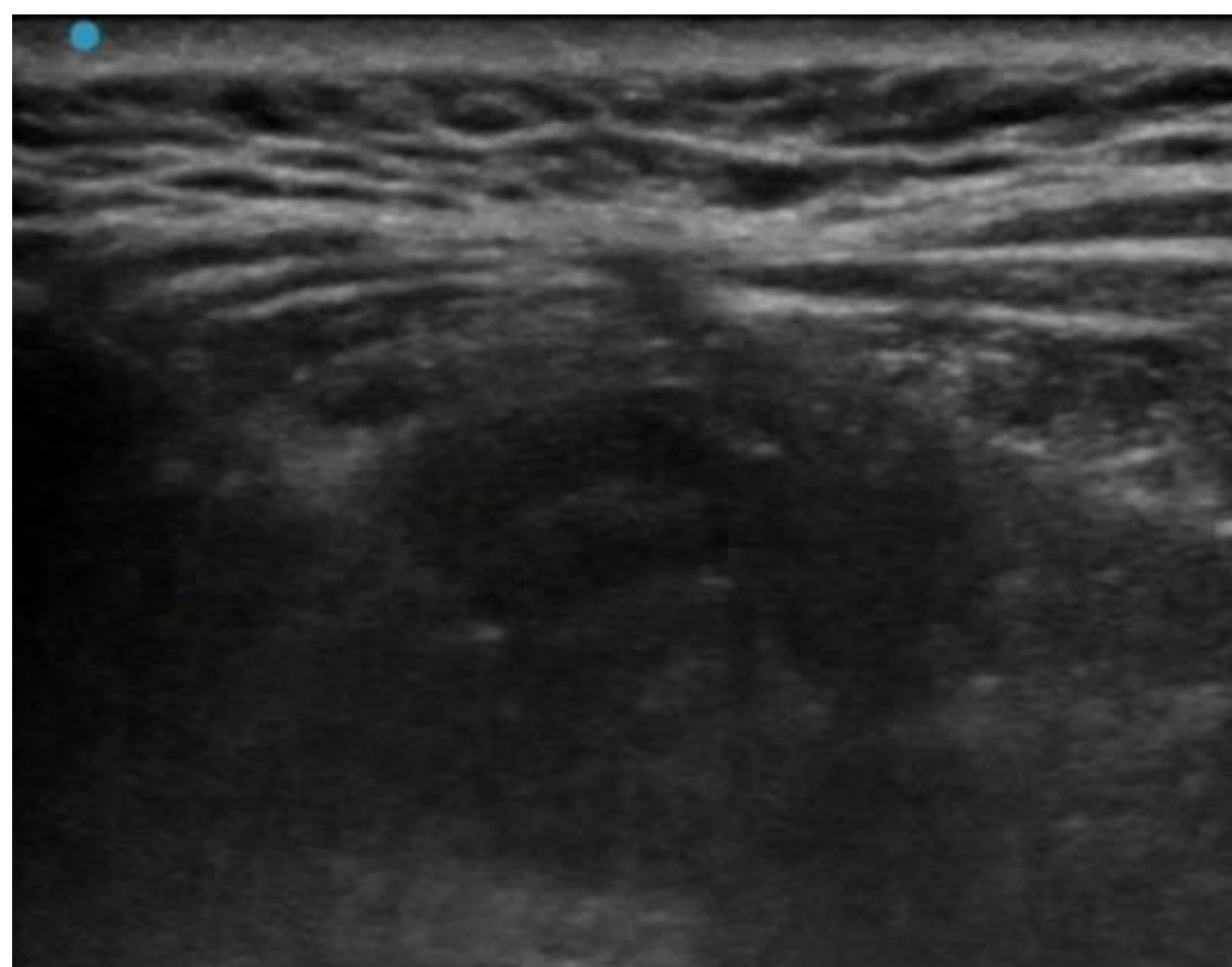


Figure 2: Ultrasound image of completed block, with local spread along Multifidus Cervicis Plane

Baseline pre-operative pain scores of 8/10 at rest and 10/10 with activity.

Initial pain score in PACU was 3/10 at rest.

After receiving 0.8mg IV hydromorphone in PACU, pain scores 2/10 at rest and 4/10 with activity

24H post-surgery, average pain scores as follows: 4.17 (rest), 5.81 (activity)

24H post-surgery, high pain score as follows: 7 (rest), 8 (activity)

Patient discharged home post-operatively day 2, without incident.

DISCUSSION

Cervical PIP blocks may be another avenue in which clinicians can decrease pain scores perioperatively, and as a result decrease narcotic use. In the case presented here, the patient received such a block, with good effect, and reported decreased pain as well as decreased narcotic consumption from what might otherwise be expected post-operatively in such a procedure. While there is certainly more research to be done, as suggested by others, the cervical PIP block remains a promising potential option for posterior cervical spinal fusion.

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