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CORRESPONDENCE

Cervical erector spinae plane block catheter using a thoracic approach: an alternative to brachial plexus blockade for forequarter amputation

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To the Editor,

We read with interest the recent report outlining the utilization of an erector spinae plane block (ESPB) for chronic shoulder pain.[1] The reporting of clinical outcomes and the identification of contrast spread to the cervical spine nerve roots with an ESPB inspired us to use one in managing a patient who required analgesia of the brachial plexus and anterior thoracic distribution.

An 81-yr-old female (consenting to this report) with congestive heart failure and a history of breast cancer presented with a painful recurrent radiation-induced sarcoma of the left proximal humerus. The patient initially decided to forego further treatment because of anticipated debilitating pain and instead to seek an end-of-life care. After discussion with the surgical team, the patient elected to undergo forequarter amputation intended to optimize palliative pain control, but also had a reasonable possibility for a cure. In the preoperative area, we placed a left ultrasound-guided ESPB catheter (Flexblock, Arrow, Teleflex®, Morrisville, NC, USA) using an in-plane approach at the T5 transverse process. After saline hydrodissection of the fascial plane deep to the erector spinae muscle, the catheter was threaded 10 cm past the cephalad-oriented needle tip into the space. We injected 10 mL 0.5% ropivacaine through the catheter with complete relief of her shoulder pain 30 min prior to the induction of general anesthesia. Her complex five-hour surgery included removal of the left arm, scapula and clavicle. During the procedure, the catheter tip could be palpated by the surgeon at approximately the C5 and C6 level. Intraoperatively, the patient received ketamine 20 mg, methadone 5 mg, and fentanyl 250 μg.

At the end of surgery, the patient was extubated and transferred to the intensive care unit. She reported a pain score of 0 and the ESPB catheter was started with a continuous ropivacaine infusion 0.2% at 5 mL·hr^{-1} with a 5-mL demand every 30 min. On postoperative day (POD) 1, she was in good spirits and tolerated a full diet without any pain. She was transferred later that day to an acute care bed, started on oral oxycodone 5 mg (only as needed), and continued her ESPB catheter infusion. In the first 48 hr, the patient only received bolused ESPB local anesthetic for breakthrough pain and did not require any oxycodone. On POD 3, the infusion was then switched to an automatic 5 mL bolus every hour with a further 5 mL demand bolus every 30 min for breakthrough pain as well as a regularly scheduled oxycodone 5 mg dose every eight hours. On POD 4, the ESPB catheter was removed and the patient's pain remained well controlled with oxycodone. The patient was discharged on POD 5. During a follow-up visit a month later, she stated that she has been feeling "optimistic" and had well-controlled pain using only acetaminophen and gabapentin. She has had no evidence of local recurrence or metastasis.

This novel description of a cervical ESPB catheter being advanced into a cervical location from the thoracic region supports the utilization of ESPB as an alternative to the brachial plexus catheter for complex upper extremity procedures. This case also illustrates the impact of a regional analgesia-based regimen as an important

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complement to a well-executed, complex surgical intervention to optimize a patient's postoperative recovery.

In many advanced disease states such as metastatic sarcoma, pain is one of the most common and feared symptoms, leading to anxiety and depression.[2-4] For this patient, the implementation of regional anesthesia was key to successfully managing her immediate pain and facilitating early extubation. While technically possible, an interscalene catheter[2] was thought to be too close to the surgical site. A cervical epidural technique was also considered, but may not have been tolerated hemodynamically given this patient's advanced age and heart failure. In contrast, the cervical ESPB catheter threaded from the thoracic region provided a simpler and low-risk alternative. This case serves as a reminder of the importance of providing high-quality pain control, which not only facilitates short-term perioperative management but may also have favourable longer-term effects on patient outcomes. Further studies are needed to clarify the optimal dosage of local anesthetic for ESPB.[5]

Conflicts of interest None declared.

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