Case Report: Bilateral Erector Spinae Plane Block For Surgery on the Posterior Aspect of the Neck

H Evans, G Leslie, O Rutka, D. Burkett-St.Laurent

Anaesthetics Department, Royal Gwent Hospital, Wales

Bwrdd Iechyd Prifysgol
Aneurin Bevan
University Health Board

BACKGROUND

The erector spinae plane (ESP) block is an interfascial plane block. Local anaesthetic is injected within the plane deep to the erector spinae muscle and superficial to the transverse process. It spreads craniocaudally leading to a multi-dermatomal sensory block. Its mechanism of action is still debated despite extensive cadaveric and radiological examination^{1, 2}.

To date, the ESP block has been used to provide analgesia in thoracic, abdominal and lumbar regions. It has even been used to provide complete surgical anaesthesia for mastectomy and axillary dissection³. We present the first case of the ESP block being used to provide complete surgical anaesthesia in the cervical region.

HISTORY OF CASE REPORT

A 50-year-old male with a large infected sebaceous cyst overlying the C2-4 spinous processes was admitted under the general surgeons. His numeric rating scale pain score was 7 at rest and 10 on movement despite paracetamol and oral morphine.

Antibiotics yielded no improvement. The surgeon abandoned incision and drainage under local anaesthetic tissue infiltration because the patient could not tolerate it. He had multiple risk factors for a general anaesthetic including obstructive sleep apnoea, a BMI of 50 and a predicted difficult airway.

CLINICAL PROCEDURE

Bilateral ultrasound-guided ESP blocks were performed at the level of the second thoracic vertebra with a curvilinear probe. 20mL of ropivacaine 0.375%, lignocaine 1% and adrenaline 1:400,000 was injected on each side.

Testing after 15 minutes revealed loss of cold sensation over the C4 to T4 dermatomes. Midazolam 0.5mg and 20-30mg boluses of ketamine (totalling 120mg) given pre-emptively provided mild sedation. The patient remained in verbal communication and fully cooperative throughout. He tolerated the procedure well and he remained comfortable without further opiates until discharge.

SUMMARY

The ESP block is an increasingly popular regional anaesthetic technique. It is easy, safe and quick to perform. This case contributes to the ever-expanding applications of this novel technique.

1. Forero, Mauricio, Sanjib D. Adhikary, Hector Lopez, Calvin Tsui, and Ki Jinn Chin. "The Erector Spinae Plane Block: A Novel Analgesic Technique in Thoracic Neuropathic Pain." *Regional Anesthesia and Pain Medicine* 41, no. 5 (2016): 621-27.

2. Ivanusic, Jason, Yasutaka Konishi, and Michael J. Barrington. "A Cadaveric Study Investigating the Mechanism of Action of Erector Spinae Blockade." *Regional Anesthesia and Pain Medicine* 43, no. 6 (2018): 567-71.

3. Kimachi, Pedro Paulo, Elaine Gomes Martins, Philip Peng, and Mauricio Forero. "The Erector Spinae Plane Block Provides Complete Surgical Anesthesia in Breast Surgery." *A & A Practice*, 2018, 1.

Graphic acknowledgement: Vicente Roques Escolar and Ki Jinn Chin; <https://www.youtube.com/watch?v=EVowRjEFUfk>

the transverse process. It spreads craniocaudally leading to a multi-dermatomal sensory block. Local anaesthetic reaches the paravertebral space where it blocks spinal nerves, providing anaesthesia to the territory supplied by both the ventral and dorsal rami. It also blocks the rami communicantes, thereby providing visceral as well as somatic analgesia. To date, the ESPB has been used to provide analgesia in thoracic, abdominal and lumbar regions. We present the first case of the ESPB being used to provide surgical anaesthesia in the cervical region.

Methods:

The patient was a 50 year old male with a large infected sebaceous cyst overlying the C2-4 spinous processes (figure 1). He had multiple risk factors for a general anaesthetic. Bilateral ultrasound-guided ESPB was performed at the level of T2 with a curvilinear probe.

Results

Formal testing after 15 minutes revealed loss of cold sensation over the C4 to T4 dermatomes. 100 mg boluses of ketamine (totalling 120 mg) provided analgesia. The patient remained in verbal communication and the procedure was well tolerated by the patient.

Conclusion

The ESPB is an easy, though underutilised regional anaesthetic technique as it is not taught in medical schools. This case demonstrates that the true scope of this technique is yet to be discovered.