IMAGES

Sono-anatomy of the paravertebral space in a patient with end-stage renal disease

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A 39-yr-old man with end-stage renal disease presented for an ultrasound-guided thoracic paravertebral block (TPVB) for relief of post-herpetic neuralgia (PHN) in the right T8–T11 thoracic dermatome. The following parasagittal image was obtained with a 13–6 MHz linear probe (Edge II, Sonosite®, Bothell, WA, USA) with the patient in the left lateral decubitus position (Figure).

In contrast to a typical ultrasound image of the paravertebral space, a pleural effusion obscures the shimmering boundary between visceral and parietal pleura. Similarly, the intercostal vessels and nerve were clearly seen and characterized using colour flow Doppler. It is unclear why these structures, normally poorly seen in

this plane, were so prominent. Fluid overload, endothelial dysfunction from uremia, chronic hypoxemia, and increased respiratory workload may have contributed.^{1,2} To avoid damaging these structures, we adopted a mid-point transverse process to pleura approach.³ With an in-plane technique, a 22-G echogenic needle (Stimuplex®, B. Braun, Melsungen, Germany) was advanced between T9 and T10 level. Methylprednisolone 40 mg with lidocaine 1.5% (15 mL) was injected at the target site. At three months follow-up, there was 70% reduction in pain from baseline, without any complications related to TPVB.

This case highlights the benefit of a variety of approaches to paravertebral block and the benefit of the ultrasound-guided technique.

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Figure Sonography showing thoracic paravertebral space

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