



LETTER TO THE EDITOR

Is it possible to exactly visualize the superior cluneal nerve using ultrasound imaging?

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To the Editor:

We have taken interest in a recently published study by Nielsen *et al.*¹ They demonstrated a novel ultrasound-guided nerve block technique for anaesthetizing the region supplied by the superior cluneal nerve. The figure of cadaveric dissection for the nerve branches is impressive. The authors intended to apply this method for better anesthetic coverage for hip surgeries. However, if we want to use their approach for management of superior cluneal nerve entrapment, like radiofrequency ablation, identification of individual nerve branches is needed.

Ultrasound diagnosis of nerve entrapment mainly relies on comparisons of echotexture and sizes of the affected nerves. Because the superior cluneal nerve is a cutaneous nerve at the buttock level, it has a monofascicular or oligofascicular structure with a relatively thicker epineurium.² Therefore, the superior cluneal nerve may appear hyperechoic in the short-axis view under ultrasound imaging,

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Inspired by the article of Nielsen *et al.*,¹ we would like to propose an effective way to precisely locate the branches of the superior cluneal nerve. First, the linear transducer is placed distal and parallel to the middle iliac crest. Light touch is needed to prevent compression of the subcutaneous tissues. The terminal branches of the superior cluneal nerve would be seen as hyperechoic ovoid structures inside the hypoechoic subcutaneous layer (figure 1A). The investigator can swap the transducer back and forth to prevent misrecognition of the connective septa as the nerves. Moving the transducer

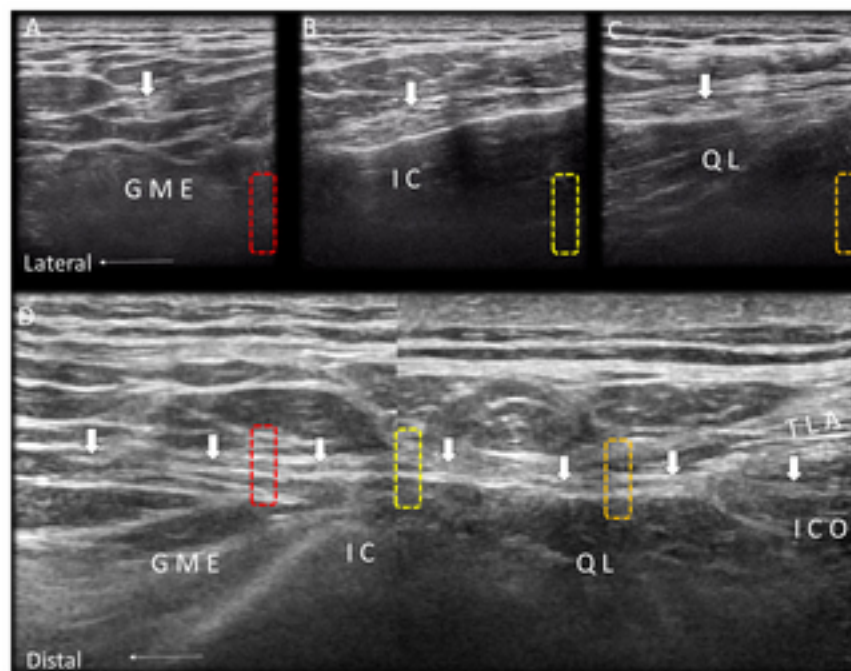


Figure 1 The short-axis view of the superior cluneal nerve branch (white arrows) on top of (A) the gluteus medius muscle, (B) the iliac crest and (C) the quadratus lumborum muscle, and (D) the long-axis view of the same nerve. GME, gluteus medius muscle; IC, iliac crest; ICO, ilio-costalis muscle; QL, quadratus lumborum muscle.

more cranially, the nerve is seen coursing underneath the thoracolumbar fascia and on top of the iliac crest (figure 1B), quadratus lumborum (figure 1C) and ilio-costalis muscles (online supplementary video 1). After the nerve enters the ilio-costalis muscle, it takes a steep course, making us difficult to delineate it on the short-axis view. Fortunately, the entrapped segments are usually found at the iliac crest level. The physicians can also pivot the transducer to inspect the nerve's long axis for better determination of the exact compressive point (figure 1D). Finally, we would like to express our wholehearted gratitude for the team of Nielsen *et al.* Their pioneer work really made exact visualization of the branches of the superior cluneal nerve possible!

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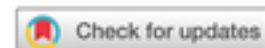
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