Consideration of Block Nomenclature

Erector Spinae Plane Block or Retrolaminar Block?

Accepted for publication: September 3, 2016.

To the Editor:

We congratulate Dr Forero et al1 on their article addressing the dermatomal effect of erector spinae plane block (ESPB). Their results show that the block may be effective with this easy maneuver. Moreover, the spread of the injectate was clearly shown with cadaveric dissection.

However, it is important to note that current literature on retrolaminar block (RLB),2–4 or paravertebral block lamina technique,5 has already shown similar technique and analgesic effect for surgical patients. The ultrasound-guided technique of ESPB is almost identical to that of ultrasound-guided RLB shown in the previous article.1 Dr Forero and colleagues have demonstrated that superficial ESPB had no cutaneous sensory block and that deep injection into the interfascial plane between the transverse process and the erector spinae muscle resulted in complete sensory loss over the ipsilateral thorax. The pictures of the anatomical location of the needle tip placement under ultrasound guidance were identical to that of RLB.1,3

At this early stage of investigation regarding ESPB and RLB, it remains unknown whether these different approaches will produce identical spread of local anesthetics or clinical effect. However, we have already confirmed that ultrasound-guided RLB injections, either on the lamina or on the transverse process, spread in the same plane. Hence, we consider that the deep injection of ESPB may be identical to RLB.

We believe it necessary to establish some consistency regarding the anatomical comprehension and the nomenclature of concerning block procedure. A new, different name for the same maneuver could be quite ambiguous and misleading. Until we have evidence to suggest otherwise, we should not assume that ESPB is novel.

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The author declares no conflict of interest.

REFERENCES

Reply to Dr Ueshima and Dr Murouchi

Accepted for publication: October 5, 2016.

To the Editor:

We thank Drs Ueshima and Otake1 and Dr Murouchi2 for their observations and we welcome the opportunity to clarify aspects of the erector spinae plane block (ESP) block.

We did not mean to suggest in our report3 that there are 2 alternative approaches to the ESP block but were instead describing the evolution of our development of the ESP block. We started with injection superficial to the erector spinae muscle but subsequently discovered that injection in the tissue plane deep to erector spinae muscle was preferable, and this is the only technique that we currently recommend and practice. We would discourage further use and promulgation of the terms "ESPB 1" and "ESPB 2" to avoid confusion.

Dr Ueshima2 is correct in pointing out that the rhomboid major muscle has its inferior border at T6, which limits its usefulness as a sonographic landmark at lower levels. This is another reason we recommend focusing on identifying only the transverse process and the erector spinae muscle and injecting deep to the latter. The erector spinae muscle extends all the way into the lumbar region, and our clinical experience to date indicates that the ESP block can, in fact, provide abdominal analgesia if performed at the level of the T7 or T8 transverse processes.

We respectfully disagree with Dr Murouchi2 insofar as we believe that the ESP block and retrolaminar block are distinctly different techniques that deserve their own names. There are some similarities, chiefly that injection occurs deep to erector spinae muscle and that the mechanism of action likely involves diffusion of LA into the paravertebral space through the nonbony gaps between adjacent vertebrae. However, the 2 blocks have very different sonoanatomical targets (lamina vs transverse process), and as a result, the insertion point is different: the ESP is at least 2 cm more lateral, as Dr Ueshima has pointed out. Voscopoulos et al4 illustrate this very clearly in their article when they describe the sequential visualization of ribs, transverse processes, and finally lamina. We believe Dr Murouchi may have misinterpreted the figure presented in their article in which they illustrate the different images obtained at different parasagittal planes through the thoracic vertebrae, including the transverse process view that we use in the ESP block, but the needle approach is clearly shown as one that contacts the lamina. The increased depth and bulk of the erector spinae muscle in this location may hinder local anesthetic spread and thus clinical effect; we note that the retrolaminar block produced inferior analgesia compared with thoracic paravertebral blockade following breast surgery.5

A technique that is much more similar to the ESP block is the intercostal-paraspinal block described by Roua et al.6 However, it again differs slightly in that it utilizes a parasagittal plane lateral to that of the ESP block, over the ribs, rather than the transverse processes. We agree with Dr Murouchi that further investigation is needed to determine if these various points of injection result in different patterns of spread and clinical effect.

Finally, we would like to point out that the thoracolumbar interfascial plane block7...
has a different mechanism of action and clinical application compared with the ESP block or the retrolaminar block. It targets only the dorsal rami of the lumbar nerve roots, produces a pattern of cutaneous sensory loss extending only 5 to 10 cm lateral to the midline, and is primarily designed to provide somatic analgesia in lumbar spine surgery.

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Single-shot Quadratus Lumbrorum Block for Postoperative Analgesia After Minimally Invasive Hip Arthroplasty: A New Alternative to Continuous Lumbar Plexus Block?

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To the Editor:

We would like to present a case of extensive and prolonged block of the lower thoracic and high lumbar dermatomes accompanied by significant postoperative analgesia after quadratus lumbrorum (QL) block in a patient undergoing minimally invasive hip replacement. Oral consent and written informed consent for publication of the patient's data in an anonymous form were obtained at the time of anesthesia consent.

A 71-year-old man with severe arthritis and a medical history of Legg-Calve-Perthes disease was scheduled for elective minimally invasive total left hip replacement. Based on our extensive experience with QL block in abdominal procedures and, more recently, in other types of hip surgical procedures, we opted for this type of block for primary postoperative analgesia, in addition to spinal anesthesia for the operative anesthetic.

A QL type 1 block was performed with 30 mL of 0.5% ropivacaine + 30 µg of dexametomidine + 4 mg of dexamethasone and 0.1 mg of epinephrine.

Within 5 minutes, the patient reported complete absence of pain at rest, with initiation of movement and on internal/external rotation of the hip (Numerical Rating Scale decreased from 7 to 0). Further testing with pin-prick and ice-cold test revealed complete loss of sensation to touch and cold sensation between the! T_10 and L_2 dermatome.

Surgery was uneventful, and our standard multimodal postoperative analgesic regimen was ordered (scheduled acetaminophen, celecoxib, oral ketamine, and gabapentin at bedtime in addition to oxycodone as needed). In the postanesthesia care unit, the patient reported no pain in the hip; and 3 hours after surgery, he was able to ambulate with a walker, completely unassisted and while having only mild pain.

After 24 hours, skin testing revealed that complete sensory block was still present. During this period of time, the patient had verbalized mild-to-moderate pain, requesting oxycodone only twice; breakthrough intravenous narcotics were never required. He was discharged home shortly after this follow-up visit. At 48 hours after surgery, the patient was contacted by phone. He reported having used only acetaminophen after discharge from the hospital. Of note, he felt the block had worn off approximately 30 hours after the surgery.

This case of extensive and long-lasting pain relief after hip arthroscopy using single-shot QL block with 0.5% ropivacaine, dexametomidine, dexamethasone, and epinephrine confirms our findings reported for other types of hip surgery. To the best of our knowledge, these are the only reports of single-shot QL block with adjuvants resulting in sufficient, reliable, and effective analgesia after hip surgery, although previously published papers have reported continuous QL block after hip replacement and QL block as alternative to femoral nerve block after fractured neck of femur.

Among the remarkable findings, we would like to emphasize the complete absence of motor weakness despite the use of ropivacaine 0.5% (as opposed to lumbar plexus block, where even analgesic concentration of local anesthetics can cause weakness), the prolonged duration of analgesia, and the significant cost savings over continuous techniques.

In summary, we report a case of excellent and prolonged analgesia after a single-shot QL block in a patient undergoing minimally invasive hip replacement. Although this nerve block is effective, reliable, and easy to learn and perform, future prospective studies are needed to clarify the role of QL block in surgical procedures involving the hip.

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