Ultrasound-guided (USG) Quadratus Lumborum (QL) block: The best in abdominal surgery?

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Background and aim

Prof. R. Blanco described his novel ultrasound-guided (USG) technique for abdominal wall blockade in May 2007 during his oral presentation in "Ultrasound guided blocks" at ESRA (GB&I) 2007, Annual Scientific Meeting, Exeter. Later, this new block technique now coined the “Blanco block”, was described on the LSORA homepage (www.lsora.com) as an USG block administered into the quadratus lumborum (QL) space. Carney et al (Anaesthesia 2011;66:1023-1030) was first to describe the spread of local anaesthetic resulting from the same block technique (after personal communication with Prof. Blanco) using MRI. Finally, Børglum et al (Reg Anesth Pain Med 2012;37(7):E137-E139) compared the USG Thoracic paravertebral (TVB) block with the USG QL block with regard to differences in the resulting dermatomal anaesthesia on the abdominal wall and the MRI evaluated spread of the injected local anaesthetic for 2 hours following administration.

The aim of this abstract is to describe the use of the USG QL block with respect to original technique, dermatomal anaesthesia, MRI evaluated spread of the injected local anaesthetic and to highlight a novel approach called the “Transmuscular QL block”.

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**Methods**

USG administration of (i) the TVB block in the lateral paravertebral space (ii) the original QL block lateral to the quadratus lumborum muscle (“Blanco block”) and (iii) the novel Transmuscular QL block. MRI evaluation of the resulting spread of local anaesthetic and dermatomal anaesthesia.

**Results**

Sensory dermatome testing results were different for the USG TPV block and the original USG QL block. At 30 minutes the dermatomal anaesthesia resulting from the TPV block was manifest from Th4-L1/L2. Both upper and lower and medial and lateral quadrants of the antero-lateral abdominal wall were anaesthetized. For the original USG QL block the on-set of dermatomal anaesthesia was significantly slower; i.e. at 30 minutes only the lower lateral quadrants of the antero-lateral abdominal wall was anaesthetized, whereas the dermatomal anaesthesia at 120 minutes was manifest from Th7-L1 in both upper and lower medial and lateral quadrants. In addition, dermatomal anaesthesia was also manifest on the back.

With the administration of the novel USG “Transmuscular QL block” the onset of the block effect was as fast as the TPV block but the resulting dermatome anaesthesia was similar to the original USG QL block.

Naturally, the MRI results were different for all three blocks. The novel transmuscular QL block showed a very clear distribution ventral to the QL muscle.

**Conclusion**

All three block techniques showed considerable and extensive dermatomal anaesthesia of the abdominal wall. The TPV and the novel transmuscular QL block had a significantly more rapid block onset as compared with the original QL block.