

228. Comparison of sciatic nerve block with or without ultrasound guidance

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Aim: The evaluation of ultrasound imaging to facilitate the performance of sciatic nerve block in the lateral popliteal region.

Methods: 64 patients, ASA I-III, age 29-68 years, weight 71 ± 18 kg were randomly divided in two groups. In Group A (n=33) the location of the sciatic nerve was performed under sonographic guidance (Sonosite180 Ultrasound System 2-5MHz) at the lateral thigh, approximately 10-12cm proximal to the superior notch of the patella. In Group B (n=31) sciatic nerve was located at the same area, using anatomical landmarks. In both groups successful location of the needle was confirmed using a nerve stimulator (Pajunk). After visible muscle contractions with current $\leq 0,4$ mA, 20 ml of Ropivacaine 0,5% solution was injected. The block was conducted by the same anesthesiologist in each group. The time of the procedure, the number of needle withdrawal and redirection, the success rate, the complications and the patient's satisfaction were recorded.

Results: In Group A, the sciatic nerve was depicted sonographically clearly in 30/33 (91%) patients and in 3/33 (9%) cases the examiner was unable to identify the sciatic nerve. In Group B, failure to locate sciatic nerve was recorded in 3/31 (9,6%). Withdrawal of the needle to the subcutaneous tissue and redirection for more than 4 times was recorded in 7/33 (21%) cases of Group A and in 14/31 (45%) of group B ($P < 0,005$). The average time to perform the block was 210 ± 30 sec in Group A and 190 ± 50 sec in Group B (NSS). In both groups no complications were observed. "Very satisfied" by the technique declared 28/33 (85%) of patients in Group A and 24/31 (77%) of Group B was (NSS).

Conclusion: Ultrasound imaging in sciatic nerve block at the lateral thigh renders more accurate the needle insertion and reduces the unsuccessful needle attempts.

303. Ultrasound guided anterior approach to the sciatic nerve block

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Background & Aims: Ultrasound (US) guidance for nerve blockade is an emerging tool in our specialty and proved to be useful in several kind of regional anesthetics. Until now no reports have been published on ultrasound assisted anterior sciatic nerve blockade. We report our technique for this nerve block.

Methods: Following IRB approval and informed consent, 30 consecutive adult patients undergoing orthopedic surgery for leg, ankle and foot fractures were scheduled to receive US guided anterior sciatic nerve block. After obtaining a transverse US scan of the thigh from an anteromedial point of view, in a plane just below the lesser femoral throcanter, a 12cm needle is advanced in line with the US beam to the sciatic nerve. For each patient we evaluated: sciatic nerve visibility, consistency of regional sonoanatomy, ability of the needle to reach the target, number of passes of the needle to reach the nerve, relationship needle to vessels (color doppler), L.A. spread visibility and success rate of nerve block.

Results: In all 30 cases neurovascular and muscular structures could be recognised, and the needle could be successfully advanced to the target. A US detectable local anesthetics spread encircling the nerve was seen, and the block proved to be successful all the times. The needle was seen to pass very close to the femoral vessels, and a narrow space of needle handling between femur and vessels was noted in more than 50% of cases.

Conclusions: Ultrasound guidance for this block proved to be very useful to consistently detect where the nerve is, to assist optimal needle pathway to the nerve, to avoid hitting femoral vessels, to observe and optimize L.A. spread around the sciatic nerve and to gain confidence and awareness of the whole regional sonoanatomy. US imaging also demonstrates the critical points with this nerve block.