

PE-75. IS IT POSSIBLE TO LOCALISE SENSORY NERVES WITH A NERVE STIMULATOR.? EXAMPLE WITH THE SAPHENOUS NERVE.

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Since many years the trend to perform regional peripheral nerve blocks is to use nerve stimulation.

It delivers a quantity of current on a motor nerve which produces a motor response. The muscular response of the motor nerves depends of duration (ms) and intensity (mA) of the stimulation. To be as closed as possible of the motor nerve the intensity has to be as low as possible for a constant duration (0.1ms). By this way only few local anesthetic solution is necessary to provide a block.

For the sensory nerves most of the time an infiltration around the nerve provides a block. The aim of this study is to show that the nerve stimulation can be used to located the sensory nerves.

Methods:Consecutive patients are scheduled for elective ankle or foot surgery. The anesthetic procedure included sciatic block by a posterior popliteal approach [1][2] with a stimulation of each branch of the sciatic nerve and 10 ml of local anesthetic solution on each branch associated with a saphenous nerve block just under the knee. The blocks were performed with a nerve stimulator (HNS6,B-Braun, Germany) with a 50 mm insulated needle (Stimuplex6 B-Braun, Germany) The nerve stimulator was twitched on at an intensity of 1,5mA, a Frequency of 2 Hz and a duration of stimulation of 0,1ms The saphenous nerve was located at the medial part of the leg just under the knee between the the tibial tuberosity and the proximal head of the gemellus muscle.[3] (Picture 1 and 2) The needle was inserted closed to the saphenous vein. The patient had to tell the anaesthesiologist when he felt a tingling sensation, rythmed by the nerve stimulator and the same when the stimulator intensity was decreased. The local anesthetic (LA) solution (Naropene 0.75%) was injected at as soon as the sensory may be lost(generally around 0,5 mA.) : 8 ml. The sensory block was tested every 30 seconds by lost of differentiation between cold and warm perception. The collected data were: Antropometric data, minimal intensity for the LA injection, onset time of sensory block (Mean, + SD, Min Max)

Results:Patients n=30 (19 men and 11 women) age: 41+/-17.8 weight 72.3+/-13.4 kg and height 169.3 +/-5.8

Cf table 1

Discussion:The neuro-stimulation of the saphenous nerve under the knee is similar to the neurostimulation of motor nerves. A tingling sensation in the territory of the nerve above the puncture site replace the muscular response. We need a patient absolutely awake. The advantage are to reduce the dose of local anesthetic and to prevent nerve damage by infiltration.

[1] Volka JD, Hadzic A, Singson R, Koorn R, Thys DM. The popliteal nerve block revisited: resultsof a RMI study. *Anesth Analg* 1997;84:S 344

[2] Gaertner E, Choquet O, Macaire P, Zetlaoui PJ. The sciatic bloc posterior popliteal approach. in *Anesthesie regionale* Editor Arnette 2001 pp 175-80

[3]Gaertner E, Choquet O, Macaire P, Zetlaoui PJ. Saphenous nerve blocks in *Anesthesie regionale* Editor Arnette 2001 pp 157-61

	minimal intensity (mA.)	Onset time (mn.)
Mean	0.71	5.67
SD	0.19	3.04
Min	0.40	3.00
Max	1.00	12.00

