EVALUATION OF THE BLOCK EFFICACY FOR SCIATIC NERVE BLOCK: A COMPARISON OF ONE INJECTION TO TWO INJECTIONS IN THE POPLITEAL FOSSA

ELdegwy, M.(1);Ibrahim, S.(1); Hanoura, S.(1); Elkarta, E.(1);Ibrahim, H.(1)
(1) Department of Anesthesiology and ICU, and perioperative Medicine, HMC, Qatar

ABSTRACT

Objective: *Ultrasound was used to guide needle adjustments to achieve circumferential spread, to prevent intravascular or intraneural injection. Block of the sciatic nerve at the politeal fossa can be performed proximally or distally to the bifurcation of the sciatic nerve using lateral, medial, or posterior approaches. It is frequently used for surgeries below the knee specially the foot and ankle operations.*

Purpose: *This Retrospective review compares one and two injections of the sciatic nerve in the politeal fossa with ultrasound-guided block in foot or ankle surgeries.*

Methods: *Forty patients undergoing foot or ankle surgery received a sciatic nerve block either proximal or distal to the point of bifurcation. The patients received ultrasound-guided sciatic nerve block using the posterior approach. The patients were enrolled into two groups (20 patients each), group 1: received one injection at 2 cm cephalad to the bifurcation of the sciatic nerve, and group 2: received two injections caudate to the sciatic bifurcation; one for tibial nerve and the other for common peroneal nerve. All patients received 20 ml of levobupivacaine 0.5%. The block performance time, block efficacy, success rate, complications and patient's satisfaction were evaluated. Block success was defined as a loss of sensation to pinprick in both nerve distributions within 45 minutes.*

Results: Block the tibial and common peroneal nerves separately distal to the point of bifurcation of the sciatic nerve (group 2) has a significantly ($P<0.05$) faster time to complete sensory block of tibial and common peroneal nerves compared to a pre-bifurcation sciatic nerve block (group 1). For tibial nerve block, it was 21.8 ± 5.3 versus 28.2 ± 7.85, respectively. Also for common peroneal nerve block, it was 11.5 ± 2 versus 15.75 ± 4.6, respectively. The complete motor block, block time performance, success rate and patient's satisfaction were not significantly different between the two groups ($P>0.05$).

Conclusion: *The block of tibial and common peroneal nerves separately after the sciatic nerve bifurcation is superior to single injection block of sciatic nerve before the bifurcation in the popliteal fossa as regard complete sensory block time.*

Keywords: *sciatic nerve block; popliteal fossa; ultrasound-guided.*

Table 1. Complete sensory and motor blocks

Variables	Group 1(n=20)	Group 2 (n=20)	P value
Complete Sensory block of TN (min)	28.25±7.85	21.85±5.3*	0.04
Complete Sensory block of CPN (min)	15.75±4.6	11.5±2*	0.001
Complete Motor block of TN (min)	26.5±4.9	24.8±3.9	0.25
Complete Motor block of CPN (min)	19.2±3.2	17.6±3.6	.014