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**Comparison of the analgesic duration using ultrasound guided  
popliteal sciatic nerve block between diabetics with neuropathy  
and non-diabetics without neuropathy**

GANESH PRASAD

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## TITLE PAGE

① Title :. **Comparison of the analgesic duration using ultrasound guided popliteal sciatic nerve block between diabetics with neuropathy and non-diabetics without neuropathy**

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## MANUSCRIPT

Title : Comparison of the analgesic duration using ultrasound guided popliteal sciatic nerve block between diabetics with neuropathy and non-diabetics without neuropathy - An observational prospective cohort study.

### SUMMARY :

The aim of this study was to know the time taken for onset of sensory and motor blockade and secondarily the duration to rescue analgesic, which was defined as the total time elapsed from the procedure of block to first opioid request and also the Visual Analog Scale (VAS) scoring after 24 hours. Hemodynamic outcomes such as heart rate and blood pressure were also monitored along with the above variables. 126 people in the age group of 18-85 years with ASA physical status of up to III were a part of the study who were divided into two groups based on patients without any documented evidence of diabetes mellitus undergoing foot surgeries and patients who are known diabetics on treatment, in whom clinical features of peripheral neuropathy were elicited clinically based on Michigan Neuropathy Screening Instrument, with blocks conducted in the preoperative holding room under Ultra Sound guidance before surgery. To compare quantitative parameters between groups independent t test was used. Chi-square test and ANOVA test was used to find association of categorical variables with group. It was observed that the onset of sensory blockade was faster in participants with diabetes mellitus with peripheral neuropathy as compared to the non-diabetic participants. The duration for onset of motor blockade in dorsiflexion was faster in diabetic patients as compared to the non-diabetic patients. However, there were no significant changes while comparing the onset of duration to loss of plantar flexion, in diabetics vs in non-diabetics. The duration for rescue analgesics was found to be longer in diabetic participants as compared to the non-diabetic participants. No differences were observed in the hemodynamic changes and the complications associated with local anaesthetics in either of the groups. The study concludes that diabetic patients with neuropathy have a faster onset of blockade when compared to non-diabetic patients without neuropathy which may be due to the degenerative condition of the peripheral nerves in them. The hemodynamic parameters did not play a role in defining the outcome of the block. It was also observed during the study that popliteal sciatic nerve block can act as a good alternate to ankle/spinal anaesthesia in diabetic foot surgeries. It also signifies the importance of ultrasound guided techniques for block over blind procedures and nerve stimulators since USG guidance technique had less complications.

### KEYWORDS :

US guidance, Popliteal nerve block, diabetes mellitus, non-diabetics, neuropathy, 0.5% bupivacaine, 2% lidocaine with adrenaline, hemodynamic, analgesia, first opioid request