THE ANALGESIC EFFECT OF ELECTROTHERAPY IN PATIENTS WITH DIABETIC PERIPHERAL NEUROPATHY

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Background and Aims

Diabetic peripheral neuropathy (DPN) is a common complication of improperly regulated glycemia, affecting approximately 50% of diabetic patients, with half of them experiencing painful symptoms. Patients complain of pain, numbness, and tingling in the extremities. Both pharmacological and physical therapy methods are used in the treatment of painful diabetic peripheral neuropathy. The aim of this study is to demonstrate the analgesic effect of transcutaneous electrical nerve stimulation (TENS) and galvanic currents in patients with painful diabetic peripheral neuropathy.

Methods

The study included 18 patients diagnosed with diabetic peripheral neuropathy of the lower limbs, treated at the HO Polyclinic of the University "St. Cyril and Methodius" in Skopje, aged between 18 and 80 years. The patients were divided into two groups: 9 in the experimental group and 9 in the control group. The experimental group received 15 sessions of electrotherapy (TENS and galvanic currents), while the control group maintained regular foot hygiene and used orthopedic shoes. Pain levels in both groups were assessed using the Visual Analogue Scale (VAS) and the DN4 questionnaire for neuropathic symptoms, administered before and one month after the physical therapy intervention.

Results

The experimental group showed a significant reduction in pain compared to the control group. Neuropathic symptoms such as burning, tingling, and cold sensations in the lower limbs and feet were reduced in the experimental group, whereas these symptoms remained persistent in the control group.

Conclusion

Galvanic currents and TENS significantly reduced pain and neuropathic symptoms in patients with diabetic peripheral neuropathy.

Keywords: diabetic neuropathy, TENS, galvanic current