

EFFECTS OF PHYSICAL THERAPY ON ELECTRODIAGNOSTIC PARAMETERS AND QUALITY OF LIFE OF PATIENTS WITH DISTAL SYMMETRIC SENSORIMOTOR DIABETIC POLYNEUROPATHY

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EFEKAT FIZIKALNE TERAPIJE NA ELEKTRODIJAGNOSTIČKE PARAMETRE I KVALITET ŽIVOTA BOLESNIKA SA DISTALNOM SIMETRIČNOM SENZOMOTORNOM DIJABETESNOM POLINEUROPATIJOM

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ABSTRACT

Objective. To determine effects of physical therapy on electrodiagnostic parameters of peroneal and sural nerves (conduction velocity, latency, amplitude) and on the quality of life of patients with distal symmetric sensorimotor diabetic polyneuropathy (DSPN).

Methods. The clinical study included 30 subjects who suffer from type 2 diabetes mellitus and who had been diagnosed with DSPN based on clinical symptoms, signs and parameters of the nerve conduction study. Each of those 30 patients was treated with the identical combination of physical agents: pulsed electromagnetic field and kinesiotherapy. Physical therapy was conducted within three ten-days cycles (five days a week), with a two-month break between the cycles. At the time of admission and after the end of the third series of therapy, an analysis of the following parameters was conducted: European EuroQol (EQ-5D) test and the Short-Form McGill Pain Questionnaire (SF-MPQ).

Results. After completion of all three series of physical therapy statistics indicated a significant increase of conduction velocity of the left peroneal nerve ($p=0.027$) and the sural nerve - both sides (right $p=0.0063$, left $p=0.005$). There was a significant reduction of latency for peroneal in both sides (right $p=0.003$; left $p=0.0006$). Analysis of these results indicated statistically notably high reduction of pain sensations/nuisance ($p<0.001$) and highly significant reduction of worry/depression after physical procedures ($p<0.001$). Furthermore, there was a statistically significant increase in EQ-VAS values after physical procedures ($p<0.001$).

Conclusion. The results attained in this research encourage further use of physical therapy agents in treatment of sensorimotor diabetic polyneuropathy.

Key words: diabetic neuropathies; pain measurement; quality of life; electromagnetic fields; exercise therapy.

SAŽETAK

Cilj. Utvrditi efekat fizikalne terapije na elektrodijagnostičke parametre n. peroneusa i n. suralisa (brzinu provođenja, latenciju, amplitudu) i na kvalitet života kod bolesnika sa distalnom simetričnom senzomotornom dijabetesnom polineuropatijom.

Metode. Kliničkom studijom obuhvaćeno je 30 ispitanika koji boluju od diabetes mellitusa tip 2 i kod kojih je na osnovu kliničkih simptoma i znakova i parametara elektromioneurografskog nalaza postavljena dijagnoza DSPN. Svaki od 30 bolesnika lečen je identičnom kombinacijom fizikalnih agenasa: pulsirajućim elektromagnetnim poljem i kineziterapijom. Fizikalna terapija je sprovedena u tri desetodnevne serije (pet dana u nedelji), sa pauzom od dva meseca između serija. Prilikom prijema bolesnika i po završetku treće serije terapija analizirani su sledeći parametri: Evropski test za ispitivanje kvaliteta života (EuroQol; EQ-5D) i kratka forma Mekgilovog upitnika o bolu.

Rezultati. Nakon sprovedene sve tri serije fizikalne terapije došlo je do statistički značajnog povećanja brzine provođenja levog n. peroneusa ($p = 0,027$) i oba n. suralisa (desnog $p = 0,0063$; levog $p = 0,005$). Statistički je značajno smanjena latencija za oba n. peroneusa (desnog $p = 0,003$; levog $p = 0,0006$). Analiza rezultata je ukazala na statistički visoko značajno smanjenje osećaja bola/nelagodnosti ($p < 0,001$) i visoko značajno smanjenje osećaja brige/potištenosti nakon sprovedenih fizikalnih procedura ($p < 0,001$). Uočeno je i statistički značajno povećanje vrednosti EQ-VAS nakon sprovedenih fizikalnih procedura ($p < 0,001$).

Zaključak. Dobijeni rezultati ohrabruju dalju primenu agenasa fizikalne terapije u lečenju senzomotorne dijabetesne polineuropatije.

Glavne reči: dijabetesne neuropatije; procena bola; kvalitet života; elektromagnetna polja; terapija vežbanjem.

