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Effect of Magnetic Therapy on Balance Deficits in patients with Diabetic Polyneuropathy: Randomized Controlled Trial.

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Abstract

Background: Diabetes mellitus (DM) is one of the most common chronic diseases all over the world. Incidence of and complications of DM has been increased over the last decade. Diabetic polyneuropathy (DPN) plays a significant role in falling among elderly patients because of significantly impaired sensation in the feet and reduced ability to properly control balance during daily activities. **The aim** of this study was to evaluate the effect of low frequency pulsed magnetic therapy (LFPMT) on balance in patients with DPN. **Methods:** Thirty male patient with DPN were randomly assigned into two groups G_1 (Study group) and G_2 (Control group). Balance was evaluated pre and post-study using the Biodex Stability System and Short Form of Berg Balance Scale (SFBBS). G_1 was treated with LFPMT for 30 min in session, 3 sessions in a week, for six weeks, while G_2 received identical sham sessions. **The results:** Pre-study (between groups) comparison revealed that the mean values of the overall stability indices (OSI) were (1.75 ± 0.75, 2.12 ± 0.45) for G_1 and G_2 respectively (P=0.11), the mean values of the SFBBS were (18.8± 3.61, 19.8± 1.93) for G_1 and G_2 respectively (P=0.35). At the end of the study (within groups) comparison revealed that the mean values of the OSI were (1.41 ± 0.78, 2.16 ± 0.7) for G_1 (P=0.02) and G_2 (P= 0.77) respectively, the mean values of the SFBBS were (23.07 ± 3.61,19.6 ±1.18) for G_1 (P=0.00002) and G_2 (P= 0.68) respectively. Post-study (between groups) comparison revealed that there were significant differences in SFBBS (P= 0.002) and OSI (P = 0.01), but in favor of G_1. **Conclusions:** LFPMT is an effective therapeutic modality in improving balance in patients with DPN.

Key words: Diabetes - Polyneuropathy - Balance Deficits - Magnetic therapy.

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