E-Poster

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Solution Study: A New Approach for Lower Limb Spasticity Post-Stroke Using Shock Wave Therapy and Botulinum Toxin: A Pilot Randomized Clinical Trial

Topic: Complications/Sequelae (ie spasticity, Immobilization and Frailty)

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BACKGROUND

Lower limb spasticity post-stroke affects 30-80% of patients, significantly impairing mobility, strength, and functional independence. Botulinum toxin (BoNT) is an effective, safe treatment for focal spasticity. Shock wave therapy (SWT) has emerged as a promising complementary tool.

To evaluate the efficacy, feasibility, and safety of radial-SWT as an adjuvant to BoNT for managing post-stroke spasticity.

METHODS

A pilot randomized controlled trial enrolled 20 patients (mean age 55.61 ± 16.06, 50% women) with equinus gait due to spasticity. Patients were randomized (1:1) to either BoNT + SWT (Group 1) or shamSWT-BoNT alone (Group 2). Group 1 received one SWT session/week for three weeks post-BoNT injection, while Group 2 received a single BoNT session and 3 shamSWT. Both groups followed a standardized stretching program. Spasticity (Modified Ashworth Scale, MAS) and functional outcomes were assessed at baseline, six weeks, three months, and six months. Statistical analysis included t-tests and ANOVA ($p < 0.05$).

RESULTS

Significant MAS improvements were observed in Group 1 at six weeks ($p < 0.05$) compared to Group 2. MAS gains were maintained at six months intragroup for Group 1 but not for Group 2. No significant changes were noted in gait parameters or quality of life. SWT was well-tolerated with no adverse events.

CONCLUSION

SWT combined with BoNT improves spasticity outcomes at five weeks, with sustained effects at six months. The treatment is safe and feasible.

Statement of Disclosures

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