Oral Communication

OC-102

Comparison of the Effects of Radial ESWT With Different Pulses on Pain, Functionality, Electrophysiological, and Ultrasonographic Findings in Patients With Carpal Tunnel Syndrome: A Prospective, Randomized, Single-Blind Study

Topic: Physical Modalities

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BACKGROUND

Carpal tunnel syndrome (CTS) is the most common entrapment neuropathy of the upper limb. Extracorporeal Shock Wave Therapy (ESWT), which has recently been introduced for treating musculoskeletal disorders, has emerged as a novel conventional treatment for CTS. Studies in the literature investigating the effects of ESWT on CTS have utilized varying pulse counts. While many of these studies indicate that ESWT alleviates CTS symptoms, there is no consensus on the optimal pulse count. This study aims to determine the most effective pulse count by comparing the effects of low (1,000 pulses) and high (2,000 pulses) pulse counts on CTS.

METHODS

A total of 129 patients were initially assessed for inclusion in the study; 31 patients who did not meet the inclusion criteria were excluded. The remaining participants were randomly assigned to three groups using the closed-envelope method. Group 1 received night splinting, tendon gliding exercises, and 1,000 pulses of radial ESWT (5 Hz, 4 Bar). Group 2 received night splinting, tendon gliding exercises, and 2,000 pulses of radial ESWT (5 Hz, 4 Bar). Group 3 received only night splinting and tendon gliding exercises. Assessments were conducted at baseline (week 0), post-treatment (week 4), and follow-up (week 12).

RESULTS

The results indicated that Groups 1 and 2, which received radial ESWT, experienced greater reductions in CTS symptoms compared to Group 3, which received only splinting and exercises. Specifically, the group receiving 2,000 pulses of radial ESWT demonstrated statistically significant improvements in pain and grip strength compared to the other groups. Regarding ultrasound findings, the median nerve cross-sectional area significantly decreased only in the 2,000-pulse radial ESWT group after treatment. Conversely, the median nerve flattening ratio, a parameter expected to decrease, showed a statistically significant increase in Group 3 compared to the other groups.

CONCLUSION

These findings suggest that radial ESWT is an effective treatment for reducing symptoms in patients with mild-to-moderate CTS, with higher pulse counts potentially leading to better therapeutic outcomes.

Statement of Disclosures

None

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