E-Poster

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Platelet-Rich Plasma Improves Pain and Function in Knee Osteoarthritis: A Cohort and Subgroup Analysis Study

Topic: Health Conditions (Nervous System, Musculoskeletal System, Cardiopulmonary System)

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BACKGROUND

The application of platelet-rich plasma (PRP) therapy for treating knee osteoarthritis (KOA) has been on the rise. However, the factors that may influence on the effectiveness remain debated. This study retrospectively analyzed the effectiveness of PRP in the treatment of KOA and investigated whether baseline characteristics and PRP intervention parameters are associated with variations in treatment outcomes.

METHODS

This study retrospectively analyzed 140 patients with KOA who received PRP treatment, with a follow-up period of three months. Pain and function were assessed using the Visual Analog Scale (VAS) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) total. Individuals were categorized into effective group and ineffective group based on the Minimal Clinically Important Difference (MCID) of outcomes. Statistical analyses were performed to identify factors influencing the efficacy of PRP treatment.

RESULTS

The VAS score was 65.3 ± 17.1, and the WOMAC score was 29 (19, 40.8) before treatment. At the three-month follow-up, these scores decreased to 35 (20.1, 49.5) and 15.5 (9, 23), respectively. A total of five adverse events was reported, all of which were post-injection pain and resolved with observation. Subgroup analysis identified gender and Kellgren-Lawrence (KL) grade as key factors influencing PRP efficacy. Males showed greater improvement in pain relief and functional recovery compared to females ($\chi^2 = 7.079$, $p = 0.008$; $\chi^2 = 4.305$, $p = 0.038$), while higher KL grades were associated with poorer treatment outcomes ($\chi^2 = 9.917$, $p = 0.021$). No significant associations were found between age, disease duration, body mass index, injection frequency, or number of injections and PRP efficacy.

CONCLUSION

Platelet-rich plasma is an effective and safe treatment for KOA, particularly for males and those with lower KL grades.

Statement of Disclosures

Not applicable

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