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Hyaluronic acid and platelet-rich plasma for the management of knee osteoarthritis

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PMID: 32935198 DOI: 10.1007/s00264-020-04801-9

Abstract

Purpose: Symptomatic knee osteoarthritis (OA) remains a substantial cause of pain and disability worldwide and effective management in young patients without indications for total knee arthroplasty remains challenging. Intra-articular injections represent a viable option in the non-operative treatment of knee OA. Hyaluronic acid (HA) and platelet-rich plasma (PRP) are two commonly utilized intra-articular treatment modalities that are of particular clinical interest in the current literature. The purpose of this manuscript is to provide a concise review of the current literature on the use of HA, PRP, and HA-PRP conjugates for the treatment of symptomatic knee OA.

Methods: A review of the literature utilizing PubMed, OVID/Medline, and Cochrane databases on basic science and clinical literature pertaining to preparation, composition, and outcomes of HA, PRP, and HA-PRP conjugates in patients with symptomatic knee OA.

Results: Both HA and PRP have been shown to be efficacious for the treatment of symptomatic knee OA, with HA injections providing limited short-term improvement, while PRP may provide greater therapeutic relief, particularly with the use of leukocyte-poor (LP-PRP) formulations. Despite limited data, the combination of different formulations of HA-PRP conjugates may provide a synergistic effect, resulting in a clinically significant improvement in both pain and function.

Conclusion: In patients with symptomatic knee OA, intra-articular HA and PRP provide short-term improvement in pain and function, while the efficacy of HA-PRP conjugates warrants further study.

Keywords: Hyaluronate; Hyaluronic acid; Knee; LP-PRP; Osteoarthritis; PRP; Platelet-rich plasma.

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