Title: A Review of Bone Marrow Aspirate Concentrate Therapy in the Treatment of Knee Osteoarthritis

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Design: Literature review including case series, prospective and retrospective clinical trials, with evidence levels ranging from III to IV.

Level of Evidence: IV

Abstract Body:

Purpose: Bone marrow aspirate concentrate (BMAC) provides a novel therapeutic option for knee osteoarthritis. The authors aim to systematically evaluate functional and clinical outcomes after BMAC injection treatment for knee osteoarthritis.

Methods: We used articles found in PubMed and Google Scholar using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Studies published from January 2018 through November 2023 on patients treated with a bone marrow aspirate concentrate injection with a focus on grades I-IV Kellgren-Lawrence osteoarthritis of the knee. Reports contained functional and clinical outcomes.

Results: Eleven articles were used in the extraction of data. Eight hundred seventy-six patients were injected with BMAC and 1,010 knees with osteoarthritis were included in this literature review. For studies that passed inclusion and exclusion criteria, reported outcomes included improved pain, function, and quality of life post-procedure.

Conclusion: The literature reviewed indicates that the intraarticular injection of BMAC warrants additional investigation in treating mild to severe osteoarthritis (classified under Kellgren-Lawrence I-IV). Factors such as the preparation and concentration of BMAC remain subjects of ongoing debate and scrutiny. Consequently, further research is needed to determine the feasibility and effectiveness of BMAC as a treatment modality for knee osteoarthritis.

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