البحث الثاني

Review Article:Meta-Analysis and Evidence Base for the Efficacy of Autologous Bone Marrow Mesenchymal Stem Cells in Knee Cartilage Repair: Methodological Guidelines and Quality Assessment

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Aim of Study: The aim of this study is to review all the published clinical trials on autologous bone marrow mesenchymal stem cells (BM-MSCs) in the repair of cartilage lesions of the knee.
Methodology : We performed a comprehensive search in three electronic databases: PubMed, Medline via Ovid, and Web of Science. A systematic review was conducted according to the guidelines of PRISMA protocol and the Cochrane Handbook for Systematic Reviews of Interventions. The modified Coleman methodology score was used to assess the quality of the included studies. Meta-analysis was conducted to estimate the effect size for Pain and function change after receiving BM-MSCs.
Results: Thirty-three studies—including 724 patients of mean age 44.2 years—were eligible. 50.7% of the included patients received cultured BM-MSCs for knee cartilage repair. There was improvement in the MINORS quality score over time with a positive correlation with the publication year. Meta-analysis indicated better improvement and statistical significance in the Visual Analog Scale for Pain, IKDC Function, Tegner Activity Scale, and Lysholm Knee Score after administration of non-cultured BM-MSCs when compared to evaluation before the treatment. Meanwhile, there was a clear methodological defect in most studies with an average modified Coleman methodology score (MCMS) of 55.
Conclusion: BM-MSCs revealed a clinically relevant improvement in pain, function, and histological regeneration.