Intra-articular platelet-rich plasma injections were not superior to viscosupplementation for early knee degeneration

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This report commend Filardo *et al.* on their recent research entitled "Platelet-rich plasma intra-articular knee injections show no superiority versus viscosupplementation: a randomized controlled trial" (1). The aim was to assess the benefit provided by platelet-rich plasma (PRP) injections to treat early knee joint degeneration in comparison with hyaluronic acid (HA) injections. The authors conducted a randomized (allocation concealed), blinded (clinician, patients, and outcome assessors), controlled trial with 12 months of follow-up in a specialized center for orthopedics. It was a well-designed study with proper statistical analysis. A total of 192 patients with unilateral knee pain of minimum 4 months and imaging findings of chondropathy or osteoarthritis (Kellgren-Lawrence score of ≤3) were allocated to PRP injections (n=96, mean age 53.3 y, 63.8% women) or HA injections (n=96, mean age 57.5 y, 58.4% women). The patients received 3 weekly intra-articular injections of PRP or high-molecular-weight HA. There was no additional rehabilitation program following injections except the instructions for a short rest and cold therapy. Main outcome measure was the International Knee Documentation Committee (IKDC) subjective score. Secondary outcome measures were the Knee injury and Osteoarthritis Outcome Score, EuroQol visual analog scale, and Tegner score. Two patients from PRP group and seven patients from HA group were excluded from statistical analysis due to lack of complete data at final evaluation. The study had 80% power to detect a clinically relevant 6.7 points difference between groups in IKDC subjective score at the 12-month follow-up. The PRP and HA groups both improved from baseline in all the clinical scores used, with no statistically significant differences between groups. The authors concluded that the injections of PRP did not improve pain and knee function more than HA in patients with knee cartilage degeneration and osteoarthritis.

The study by Filardo is very useful in the care of patients with knee osteoarthritis. No significant differences were identified in any outcome measures at any time point after injections of PRP in comparison with HA injections. Both groups improved similarly, and significantly, from baseline. This study provides invaluable data regarding the use of PRP in these patients. Of the randomized controlled trials investigating the efficacy of PRP in knee osteoarthritis, the present one has ever been conducted on the largest cohort of patients with the longest follow-up period. The results of this study are in contrast with the prior studies (2-5) that suggested benefit with PRP treatment in knee osteoarthritis. It is suggested that PRP injections should not be preferred to HA injections for patients with knee cartilage degeneration.

Pain and disability caused by knee osteoarthritis is a growing problem exerting a large economic burden in terms of health care and loss of productivity (6). The early management of knee osteoarthritis is still challenging and the investigation continues for novel treatments. Biologic treatment offers a new and exciting possible avenue for cartilage degeneration. Promising results obtained with previous studies have led to high interest in using PRP in this field. However, as the study by Filardo indicates, there is a need for more well-designed studies with large sample size to make a true judgment for the role of PRP injections in the management of osteoarthritis.

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Footnote

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