

Comparison between hyaluronic acid and platelet-rich plasma, intra- articular infiltration in the treatment of gonarthrosis.

HA is a commonly used joint "lubricant". - Kelly Cunningham, MD

Abstract

BACKGROUND: Arthrosis is particularly prevalent in the knee. Infiltration treatment for gonarthrosis is among the most widely used techniques in orthopaedic practice.

PURPOSE: To compare the clinical response of hyaluronic acid (HA) and platelet-rich plasma (PRP) treatment in 2 groups of patients affected by gonarthrosis.

STUDY DESIGN: Randomized controlled trial; Level of evidence, 1.

METHODS: A total of 120 patients affected by clinically and radiographically documented gonarthrosis were included in this study. The gonarthrosis was graded using the Kellgren-Lawrence radiographic classification scale. The 120 patients were randomized into 2 study groups in a 1:1 ratio: 60 patients received 4 intra-articular injections of PRP (specifically, autologous conditioned plasma [ACP], 5.5 mL), and 60 patients received 4 intra-articular injections of HA (20 mg/2 mL). An unblinded physician performed infiltration once a week for 4 weeks into the knee affected by clinically relevant gonarthrosis (in both groups). All patients were evaluated with the Western Ontario and McMaster (WOMAC) score before the infiltration and at 4, 12, and 24 weeks after the first injection.

RESULTS: Treatment with a local injection of ACP had a significant effect shortly after the final infiltration and a continuously improving sustained effect up to 24 weeks (WOMAC score, 65.1 and 36.5 in the HA and ACP groups, respectively; $P < .001$), where the clinical outcomes were better compared with the results with HA. In the HA group, the worst results were obtained for grade III gonarthrosis, whereas the clinical results obtained in the ACP group did not show any statistically significant difference in terms of the grade of gonarthrosis. The mean WOMAC scores for grade III gonarthrosis were 74.85 in the HA group and 41.20 in the ACP group ($P < .001$).

CONCLUSION: Treatment with ACP showed a significantly better clinical outcome than did treatment with HA, with sustained lower WOMAC scores. Treatment with HA did not seem to be effective in the patients with grade III gonarthrosis.

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