Intra-articular Autologous Conditioned Plasma Injections Provide Safe and Efficacious Treatment for Knee Osteoarthritis: An FDA-Sanctioned, Randomized, Double-blind, Placebo-controlled Clinical Trial.

As noted in an adjacent article (Smyth, others), more controlled studies are needed to verify results of PRP treatment of the joints. This is just such a well-designed U.S. study, and is consistent with the results of PRP/platelet plasma therapy of the knee that I have seen in my practice. I await longer follow-up and larger series of patients before moving to three (weekly) PRP injections. -Kelly Cunningham MD

BACKGROUND Platelet-rich plasma (PRP) injections have become an intriguing treatment option for osteoarthritis (OA), particularly OA of the knee. Despite the plethora of PRP-related citations, there is a paucity of high-level evidence that is comparable, cohort specific, dose controlled, injection protocol controlled, and double-blinded.

PURPOSE To determine the safety and efficacy of leukocyte-poor PRP autologous conditioned plasma (ACP) for knee OA treatment through a feasibility trial regulated by the US Food and Drug Administration (FDA).

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

METHODS In accordance with FDA protocol, patient selection was based on strict inclusion/exclusion criteria; 114 patients were screened, and 30 were ultimately included in the study. These patients were randomized to receive either ACP (n = 15) or saline placebo (n = 15) for a series of 3 weekly injections. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scores served as the primary efficacy outcome measure. Patients were followed for 1 year.

RESULTS No adverse events were reported for ACP administration. Furthermore, the results demonstrated no statistically significant difference in baseline WOMAC scores between the 2 groups. However, in the ACP group, WOMAC scores at 1 week were significantly decreased compared with baseline scores, and the scores for this group remained significantly lower throughout the study duration. At the study conclusion (12 months), subjects in the ACP group had improved their overall WOMAC scores by 78% from their baseline score, compared with 7% for the placebo group.

CONCLUSION ACP is safe and provides quantifiable benefits for pain relief and functional improvement with regard to knee OA. No adverse events were reported for ACP administration. After 1 year, WOMAC scores for the ACP subjects had improved by 78% from their baseline score, whereas scores for the placebo control group had improved by only 7%. Other joints affected with OA may also benefit from this treatment.


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