An American research group reviewed the literature & found evidence to support both the injectable & surgical use of PRP. More studies are needed. - Kelly Cunningham, MD

Purpose: The purpose of this study was to systematically review the basic science evidence for the use of platelet-rich plasma (PRP) in the treatment of pathologic processes of cartilage, both as an adjunct to cartilage repair and as a conservative management strategy for osteoarthritis, with the intent of determining the effect of PRP and whether a proof of concept for its use has been established to facilitate further investigation at a clinical level. Methods: Using the terms "platelet-rich plasma OR PRP OR autologous conditioned plasma OR ACP AND cartilage OR chondrocytes OR chondrogenesis OR osteoarthritis OR arthritis" we searched EMBASE and PubMed/Medline in April 2012. Two authors performed the search, 3 authors independently assessed the studies for inclusion, and 2 authors extracted the data. Extracted data included cytologic analysis of PRP, study design, and results. Results: Twenty-one studies (12 in vitro, 8 in vivo, one in vitro and in vivo) met the inclusion criteria. The effects of PRP in these studies included increasing chondrocyte and mesenchymal stem cell proliferation, proteoglycan deposition, and type II collagen deposition. PRP was also found to increase the cell viability of chondrocytes and the migration and chondrogenic differentiation of mesenchymal stem cells (MSCs) and to inhibit the effect of catabolic cytokines. In vivo, PRP was used as an adjunct to concomitant surgical management, including microfracture surgery and implant, scaffold, and graft insertion. Not all studies concluded that PRP has a positive effect on cartilage repair. Conclusions: The current basic science evidence suggests that PRP has several potential effects on cartilage repair and osteoarthritis, and a proof of concept has been established. Well-designed randomized controlled trials (RCTs I are needed to extrapolate this evidence to the clinical setting.


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