

PubMed

U.S. National Library of Medicine
National Institutes of Health

Display Settings: Abstract

Performing your original search, *platelet rich plasma intra articular*, in PubMed will retrieve **12 records**.

Clin Exp Rheumatol. 2009 Mar-Apr;27(2):201-7.

Intraarticular administration of platelet-rich plasma with biodegradable gelatin hydrogel microspheres prevents osteoarthritis progression in the rabbit knee.

Saito M, Takahashi KA, Arai Y, Inoue A, Sakao K, Tonomura H, Honjo K, Nakagawa S, Inoue H, Tabata Y, Kubo T.
Departments of Orthopaedics, Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Kyoto, Japan.

Abstract

OBJECTIVE: To investigate the therapeutic potential of administration of gelatin hydrogel microspheres containing platelet-rich plasma (PRP), by examining its effects on progression of osteoarthritis (OA) in a rabbit model.

METHODS: PRP and platelet-poor plasma (PPP) were prepared from rabbit blood. Adult rabbit chondrocytes were cultured in the alginate beads with the presence of 3% PRP or 3% PPP. Glycosaminoglycan (GAG) synthesis was quantified using dimethylmethylene blue assay. To confirm the anabolic effect of PRP in vivo, cartilage matrix gene expression was examined after intraarticular administration of PRP contained in gelatin hydrogel microspheres. The PRP contained in gelatin hydrogel microspheres was administered into the rabbit knee joint twice with an interval of 3 weeks, beginning 4 weeks after anterior cruciate ligament transection (ACLT). Ten weeks after ACLT, gross morphological and histological examinations were performed.

RESULTS: PRP significantly stimulated chondrocyte GAG synthesis in vitro. In the knee joint, expression of proteoglycan core protein mRNA in the articular cartilage increased after administration of PRP contained in microspheres. Intraarticular injections of PRP in gelatin hydrogel microspheres significantly suppressed progression of OA in the ACLT rabbit model morphologically and histologically.

CONCLUSION: The present findings indicate that sustained release of growth factors contained in PRP has preventive effects against OA progression. These preventive effects appear to be due to stimulation of cartilage matrix metabolism, caused by the growth factors contained in PRP.

PMID: 19473558 [PubMed - indexed for MEDLINE]

Publication Types, MeSH Terms, Substances

LinkOut - more resources