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A novel hypothesis: the application of platelet-rich plasma can promote the clinical healing of white-white meniscal tears.

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Abstract

The white-white tears (meniscus lesion completely in the avascular zone) are without blood supply and theoretically cannot heal. Basal research has demonstrated that menisci are unquestionably important in load bearing, load redistribution, shock absorption, joint lubrication and the stabilization of the knee joint. It has been proven that partial or all-meniscusectomy results in an accelerated degeneration of cartilage and an increased rate of early osteoarthritis. Knee surgeons must face the difficult decision of removing or, if possible, retaining the meniscus; if it is possible to retain the meniscus, surgeons must address the difficulties of meniscal healing. Some preliminary approaches have progressed to improve meniscal healing. However, the problem of promoting meniscal healing in the avascular area has not yet been resolved. The demanding nature of the approach as well as its low utility and efficacy has impeded the progress of these enhancement techniques. Platelet-rich plasma (PRP) is a platelet concentration derived from autologous blood. In recent years, PRP has been used widely in preclinical and clinical applications for bone regeneration and wound healing. Therefore, we hypothesize that the application of platelet-rich plasma for white-white meniscal tears will be a simple and novel technique of high utility in knee surgery.

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