

PLATELET RICH PLASMA THERAPY IN
OSTEOARTHRITIS

HEMA PARAMANATHAN

1001231587

MASTER OF SCIENCE (ANTI-AGING,
REGENERATIVE MEDICINE AND MEDICAL
AESTHETIC)

FACULTY OF MEDICINE AND HEALTH SCIENCES
UCSI UNIVERSITY

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ABSTRACT

Osteoarthritis (OA) is a slow developing condition that results due to the degeneration of hyaline cartilage. It causes significant disability especially in the elderly. Various conservative treatment have been practiced for symptomatic relieve. However, most of the treatments have been effective only for a short period of time or not effective. Platelet rich plasma (PRP) is platelet concentrate which is produced by centrifugation of whole blood drawn from the patient; hence it is autologous in nature. When platelets clot, through the activation of clotting cascade, various growth factors are released at a "supraphysiological" level, which enhances natural healing mechanism and tissue regeneration. It is with this ability, PRP is applied clinically to treat OA. The objective of this study is to know the basic science of PRP in the treatment of OA and the efficacy of PRP in OA. Using search engine like Google scholar and Cochrane database, structured Literature review done and total of 5 journals were collected based on specific inclusion and exclusion criteria. The journals were chosen based on related keywords and multiple journal databases were used to aid in collection of the papers. Quality assessments of these journals were also done based on the subjective scoring. The results have shown that the proteins, cytokines and other bioactive factors which are contained within platelets are responsible to initiate and regulate wound healing. In OA, these various growth factors play role in chondrocyte stimulation, stimulating collagen synthesis, cell growth, differentiation, angiogenesis and cartilage regeneration. With this basic science, studies have shown that PRP is an effective treatment in OA. However, more studies with longer period, large sample size, controlled and double blinded studies are needed in this field to establish concrete evidence.