

**EVALUATION THE EFFECT OF PLATELET RICH  
FIBRIN MATRIX ON HEALING PROCESS OF THE  
EXTRACTED TOOTH SOCKET  
(Histological And Radiographical Studies In Rabbits)**

**A thesis**

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# Abstract

**Background:** This study was carried out to evaluate the histological and radiographical behavior of newly developed platelet rich fibrin matrix as a bone filler for dental socket after tooth extraction.

**Materials and Methods :** Twenty four rabbits were used for extraction of upper central incisors under general anesthesia .The left side was filled with platelet rich fibrin matrix material and the right side was left for normal healing as control group .The two sockets were sutured .

The results were studied radiographically and histologically after 1,2,3,4 weeks postoperatively. The histological examination was performed under light microscope for the section stained with haematoxylin and eosin with assessment of histometric analysis including counting of bone cells osteoblasts, osteocytes, bone trabecular number, bone trabecular width, bone trabecular separation, cortical width ,blood vessel number and bone marrow space volume at the 2<sup>nd</sup> ,3<sup>rd</sup> and 4<sup>th</sup> week periods interval post operatively.

**Results :** Histological examination showed the acceleration of bone formation and more rapid healing process in the socket filled with Platelet Rich Fibrin Matrix (PRFM) than in the control socket.

Radiographical examination showed that the process of ossification the socket PRFM started after 2weeks and completely filled with radiopacity after 4weeks.

**Conclusion:** This study illustrated that PRFM material was osteoinductive material that enhances of osteogenesis in the extracted tooth socket in comparison to the normal physiological healing process.

The results showed a positive effect of PRFM and it can be suggested for beneficial use in the practice of dentistry implantation, periodontics, oral surgery since this enhancement healing, reduce the period of patient suffering, incidence of post extraction complication and in improvement in esthetic out come.