

**EVALUATION OF THE ROLE OF
SYNTHETIC BIOMATERIAL (CALCIUM
PHOSPHATE CERAMIC) ON HEALING OF
EXTRACTED TOOTH SOCKET.**

(An experimental study in rabbits)

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ABSTRACT

Back ground: There are very few data about the effect of calcium phosphate ceramic on the healing of tooth extracted sockets after tooth extraction and it still controversial.

This study was carried out to evaluate the clinical applicability and histological behavior of newly developed phosphate ceramic as a bone filler for dental socket after tooth extraction.

Materials and methods: Twenty four rabbits were used for extraction of upper central incisor under general anesthesia. The left side was filled with phosphate ceramic material, and the right side was left for normal healing as a control group, the two sockets were sutured.

The results were studied radiographically and histologically after 1,2,4,6 weeks postoperatively. The radiographic examination was performed also immediately after operation by using parallel technique in a digital radiographic examination and histological examination was performed under light microscope for the section stained with heamatoxiline and eosin to assist histometric analysis including counting of bone cells and new bone trabeculea thickness, at the end of each four periods interval post operatively.

Results: Radiographical examinationS showed that phosphate ceramic materials reduced vertical resorption of alveolar ridge after tooth extraction.

Histological examination showed the acceleration of bone formation in the socket more than bone destruction within first few weeks after tooth extraction that prevent alveolar ridge resorption.

Conclusion: This study was illustrated that phosphate ceramic material was osteinductive material that enhances the osteogenesis process in the extracted tooth socket more than normal physiological healing process.