ABSTRACT

BACKGROUND: Platelet-Rich Fibrin (PRF) is a new second-generation platelet concentrate, with simplified processing, and no biochemical blood handling. It is a natural bioactive membrane, which can enhance soft/hard tissue healing, at the same time, can also protect surgical sites and grafted materials from external aggressions. The purpose of this study is to compare the efficacy of platelet-rich fibrin in regeneration of bone when mixed with porous hydroxyapatite and grafted in mandibular third molar socket with that of plain hydroxyapatite (without PRF), with a follow up period of 6 months.

MATERIALS AND METHODS: A total of 30 patients divided into 3 groups (10 patients in each group); both male and female, aged between 17 and 45 years, who had impacted mandibular third molars with similar anatomical position were randomly selected for this study. The evaluation of osseous regeneration by trabecular pattern assessment was done for a period of six months. Bone density was calculated at the end of six months.

RESULTS: An increase in bone density was observed in the PRF with hydroxyapatite group (Group I) compared to hydroxyapatite (Group II) and control groups (Group III).

CONCLUSION: Definitive improvement in initiation and acceleration of hard tissue healing was seen along with increase in bone density in the PRF with hydroxyapatite group (Group I).

KEY WORDS: Impacted mandibular third molar, Hydroxyapatite, Platelet rich fibrin, Bone density, Computed tomography scan