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EFFECT OF TELESCOPIC CROWN, MAGNETIC ATTACHMENT AND RPI CLASP ON THE SUPPORTING STRUCTURES FOR LOWER KENNEDY CLASS I DENTURES

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Aim of the study: The aim of this study was to evaluate and compare the effect of RPI clasp, telescopic crowns and magnets as retainers for Kennedy class I partial dentures on the supporting structures using digital radiography.

Materials & Methods: Twenty one partially edentulous patients having Kennedy class I lower ridges with lower first premolar as last abutment were selected according to certain criteria. According to the type of direct retainer, patients were divided into three groups: group I, received removable partial dentures retained by RPI clasp; group II: received removable partial dentures retained by telescopic crowns exhibiting a 6 degrees taper angle and Group III: received removable partial dentures retained by magnetic attachments. Radiographic evaluation was performed to evaluate bone height mesial and distal to the abutments and the crestal bone height at specially marked points on the residual ridge by serial standardized periapical radiographs made by long cone paralleling technique.

Results: There was a statistically significant decrease in crestal bone height around the abutments, telescopic attachment retainer showed the statistically significantly highest crestal bone loss around the abutment, while RPI clasp retainer showed statistically significantly lower crestal bone loss followed by the magnetic attachment retainer that showed the lowest crestal bone loss. However, regarding the effect of different direct retainers on the residual ridge, there was a statistically significant decrease in the residual ridge height. RPI clasp retainer showed the statistically significantly highest amount of bone loss, however, there were no statistically significant differences between amounts of bone loss in telescopic attachment retainer and magnetic attachment retainer, both showed the lowest mean amounts.

Conclusion: RPI clasp retained partial dentures distributed more stresses on the residual ridge rather than on the abutment teeth. While, using telescopic retained partial dentures distributed more stresses on the abutment teeth rather than on the residual ridge. Finally using magnetic retained partial dentures distributed stresses more or less equally among the abutment teeth and the residual ridge compared to the other direct retainers.

BIOGRAPHY

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