

Radiographic Assessment of Different Attachment System in Kennedy class I lower partially edentulous ridges with anterior modification space

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Abstract

Objectives: This research was carried out to evaluate different attachment systems in cases of distal extension partial denture with anterior modification area regarding the crestal bone level changes of the principal abutments.

Materials and Methods: Twenty patients exhibiting Kennedy class I lower edentulous ridges with anterior modification space with bilateral canines, and first or second premolars the standing abutments were selected. The abutments were prepared to receive splinted ceramometallic crowns. Patients were divided into two equal groups. Group one, partial denture retained by anterior splint bar with short distal cantilever extension was constructed, while for group two partial denture retained by extracoronal resilient attachments was constructed. Follow up visits were scheduled at time of denture insertion, six, twelve and eighteen months after denture insertion. Crestal bone level changes were assessed using intra-oral radiographs taken with the standardized long cone paralleling technique.

Results: This study showed that there was a statistically significant increase in crestal bone height loss around the principal abutments in both groups. For both groups; statistically significant difference was found comparing the amount of marginal bone loss at the anterior abutments; where group I showed less bone resorption from insertion to eighteen months in comparison to group II. Statistically insignificant difference was found in the amount of marginal bone loss of the posterior abutments.

Conclusion: Anterior splint bar with short distal cantilever should be considered as a treatment option in cases exhibiting Kennedy class I lower partially edentulous ridges with anterior modification space.

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