

Effect of two Different Abutment Designs on Implants Supporting Mandibular Distal Extension Prostheses

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Abstract

Single implants may be placed at the distal extension of the denture base to minimize the potential for dislodgement of the bilateral or unilateral distal extension partial dentures. The premise is that this will minimize the risk of potential problems of patient discomfort associated with prosthesis retention and stability from residual ridge resorption

Aim: Evaluation of two different abutment designs on marginal bone loss and bone density around implants supporting mandibular distal extension removable partial overdentures

Materials & Methods: Thirty partially edentulous patients with unilateral distal extension and modification area in the other side (Kennedy class 2 modifications 1) were selected for this study. Patients were divided into 2 groups, Group 1: received a distal extension removable prosthesis supported by one implant with conventional dome shaped abutment. Group 2: received a distal extension removable prosthesis supported by one implant with a ball and socket abutment. Radiographic evaluation of marginal bone loss and density around all implants in both groups was carried out using digital radiography (Diogra) for one year period every three months interval.

Results & Conclusions: After 12 months, group 1 showed statistically significantly higher mean amount of marginal bone loss than group 2. A constant increase in bone density values was denoted in both groups throughout the whole study period although there was no statistically significant difference between bone density values in the 2 groups. It can be concluded that the ball and socket abutments showed less marginal bone loss around implants when compared to conventional dome shaped abutments for implant supported mandibular distal extension partial overdentures.

Egyptian Dental Journal 2012, July