

Influence of the number and design of implant, implant/abutment connection and attachment systems on the stress distribution of mandibular implant retained overdentures**Marina Xavier Pisani**

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This study evaluated the stress behavior of single (S) and two (T) implants retained mandibular overdentures on periimplantar and alveolar bone regions. Photoelastic mandible models (n=14) were obtained from transfer impression of implant analogs inserted in prototypes varying implant locations in the canines or middle regions, design of implants as regular (RI) or one-piece mini implants (MI), implant/abutment connection as morse taper (CM), internal hexagon (HI), external hexagon (HE) and attachments as ball (B) and equator (E). The S and T overdentures over the photoelastic models (RI/HI/B); (RI/HE/B); (MI/B); (RI/CM/E); (RI/HI/E); (RI/HE/E) were positioned on a circular polariscope, submitted to a bilateral load (150 N) on first molars and photographed. Stress distribution was qualitatively analyzed (software fringes) according to isochromatic fringes orders (0 black; 1 violet/blue transition; 2, 3, 4 red/green transition); the greater the number and proximity of the fringes, the higher the stress. The lowest stress on periimplantar was found in (MI/B order 1) followed by (RI/CM/E order 1); (RI/CM/B order 1); (RI/HI/B order 1); (RI/HI/E order 1 and 2); (RI/HE/E order 2 and 3), (RI/HE/B order 2 and 3) for S group and in (MI/B order 1), (RI/HI/B order 1); (RI/CM/B order 1); (RI/HE/B order 1); (RI/HE/E order 1 and 2); (RI/HI/E order 2), (RI/CM/B order 2) for T group. The worst situation was presented by S groups (RI/HE/B) and (RI/HE/E). Overall, for MI, the photoelasticity showed the lowest stress on implants and the highest and best distributed stress on alveolar bone. Both attachments presented similar stress behavior.

Biography

Marina Xavier Pisani has completed her PhD from University of Sao Paulo and a partnership with McGill University in Canada. Currently she is, she is a Post-doctoral student at Piracicaba Dental School (Unicamp). She has published 20 papers in reputed journals of Dental Prosthodontics.

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