

Editorial

Implant-supported mandibular overdentures: Is single median implant sufficient?



Implant-supported dentures including either complete overdentures or a hybrid prosthesis significantly improve the quality of life for edentulous patients compared with conventional removable complete dentures. Consensus statements (made by the expert teams) in 2002, 2009 and 2011 from symposium in Canada, England and US respectively suggested that the first-choice standard of care for an edentulous mandible should be the two-implant-retained mandibular overdentures (TIMODs).¹ In this regards, the TIMODs for edentulous patients have become the standard line of treatment. The concept of a single-implant-retained mandibular overdenture (SIMOD) was introduced by Cordioli² in 1993 and the first 5-year results were published in 1997 with implant success rates of 100%.³ Walton et al⁴ studied the patient satisfaction and prosthetic outcomes with mandibular overdentures retained by one or two implants and observed that lower component costs and treatment times, with comparable satisfaction, indicated that the SIMOD may be an alternative to the TIMOD during an observation time of 12 months. In 2007, Liddelow and Henry⁵ reported a 100% implant survival rate of immediately loaded implants after 36 months of observation when implants with oxidized surfaces were used.

When biomechanical rationale of a SIMOD system was studied, the dome-type magnet or ball attachments had biomechanical effects similar to TIMOD in terms of lateral forces to the abutment and denture base movements under molar functional loads.⁶ Liu et al⁷ evaluated strain distribution in periimplant bone, stress in the abutments and denture stability of mandibular overdentures anchored by different numbers of implants under different loading conditions, through the three-dimensional finite element analysis and suggested that the number of implants does not significantly affect the stain pattern and the SIMOD did not show damaging strain concentration in the bone around the only implant. There is a need of more clinical trials to compare the SIMOD and TIMOD in relation to implant success and patient's quality of life. From the biomechanical point of view, during mastication, the occlusal forces on the posterior teeth of the TIMOD cause maximum movement of the denture around the fulcrum line joining two attachments; hence, the freedom of movements is limited to around one axis. While in SIMOD cases the denture is free to move in all directions, and effective stress concentration around the crestal bone may be reduced compared with two implants.

The people with poor economical strata worldwide can afford to undergo the similar standard of care by reducing the number of implants from two to one. The large population can be covered for the implant-retained overdenture as a first-choice standard of care. I welcome all clinicians and researchers to share their experience with SIMOD and find out the answer for: 'Is single median implant sufficient?'

This issue contains research article on the sealing ability of root canal sealer with and without triple antibiotic paste. Two surveys are included in the issue (1) Dental implants as a treatment modality among the people from a city of Ahmadabad and (2) Caries and oral health knowledge in urban poor in the Philippines. Case reports highlighting aesthetic and functional rehabilitation of a patient with abrasion/attrition. The technique article in this issue describes duplication of the patient's palatal rugae in complete dentures. The review article is about contribution of prosthodontist in the field of forensic odontology.

Happy reading!

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