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Do MDI-retained mandibular overdentures improve oral health quality of life? A case series report

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Abstract

Introduction, The Mini Dental Implant System (3M ESPE) consists of a self-tapping, threaded screw design implant with supporting instrumentation and accessories, and is indicated for long-term intra-bony application. Mini dental implants (MDI) can be inserted using a minimally invasive surgical technique.It is demonstrated that mandibular conventional implant retained overdentures can be an efficacious mode of treatment for completely edentate patients. They improve chewing ability, nutrition and quality of life. However, there is very limited evidence on the performance and effect of these emerging mini implants for edentate patients. This is the first study that uses OHIP-20E questionnaire to evaluate the effect of mandibular overdentures that are retained by four mini implants on the oral health quality of life of completely edentulous patients. **Study Objectives,**To measure the Oral Health Quality of Life (OHQoL) of edentulous patients who received the mandibular full dentures supported by four 3M ESPE IMTEC mini dental implants. **Methods & Materials**, Participants in this study were 10 denture wearers (M=5, F=5; 58-84 years old) who each received 4 MDIs in the interforaminal region of the mandible. The implants were placed by a general dentist (n=32) and a periodontist (n=8); 90% of the implants were inserted using a flapless procedure. Dentures were relined chairside, and the implants were immediately loaded. All clinical procedures occurred in one appointment that took less than two hours. All patients completed the OHIP-20E questionnaires at baseline prior to implant placement, then 6 months later. The responses were scored on a transcribed 5-point Likert frequency response format ranging from 0 = 'never' to 4 = 'very often'. A summary OHIP-20 score was generated by summing the response codes to the 20 questions. Scores could range from 0 to 80, and the higher the summary score, the poorer the 'oral health-related quality of life' of the patient. **Results**, There was a statistically significant improvement in the OHIP-20E scores at 6 months (Wilcoxon signed-rank test, p=0.03; median change = 28).Three patients each lost one implant, which was not replaced. These three patients had a median change (improvement) of 23 points on the OHIP-20E scale. **Summary,** Edentate patients who wear complete conventional dentures can receive a minimally invasive mini implant retained mandibular overdenture in less than two hours. This treatment costs a fraction of the amount of traditional implants that may require full osteotomy and many more post operative visits. **Conclusion,** Mandibular overdentures retained by MDIs can significantly improve the oral health quality of life of edentate patients.

Biography

Dr Shahrokh Esfandiari, BSc, MSc, DMD, PhD, FICOI is the associate professor and clinician scientist at the faculty of dentistry, McGill University in Canada. He teaches both undergraduate and graduate courses and supervises graduate trainees at Masters and PhD levels in various clinical research fields with keen interest in dental implantology. He is the first Canadian and one of only a few licensed dental surgeons worldwide with specialized training in International Health Technology Assessment and Management (HTA&M). In addition to his expertise in the HTM&A conceptual framework and technology transfer, he offers knowledge and experience in health economic evaluations, practice-based research, knowledge translation and hospital based medical technology evaluation, as well as in participatory action in health care decision making. Dr. Esfandiari is the author of the first and only book of Health technology Assessment in Oral Health (OHTA) and has authored many peer-reviewed manuscripts.