KEY WORDS
Bone atrophy, Pterygoid implants, Maxilla, Follow-up, Immediate loading

Cohort study

IMMEDIATE FIXED REHABILITATION OF THE ATROPHIC MAXILLA WITH PTERYGOID IMPLANTS: 3-YEAR POST-LOADING OUTCOMES OF A PROSPECTIVE COHORT STUDY

TOMMASO GRANDI, DDS
Private practice inn Modena, Italy

RAWAD SAMARANI, DDS, DES, MRes
Senior Lecturer, Department of Periodontology, Saint-Joseph University, Beirut, Lebanon. Private practice, Byblos, Lebanon

FILIPPO CASOTTO, DDS
Private practice in Este, Padova, Italy

LUCA SIGNORINI, DDS
School of Dentistry, Saint Camillus University of Health Science, Rome, Italy

Correspondence to
Tommaso Grandi
Via Contrada 323, 41126 Modena, Italy
t.grandi@grandiclinic.com

PURPOSE. To assess the three-year post-loading outcomes of pterygoid implants supporting immediate full-arch fixed prostheses in patients with atrophic posterior maxilla.

MATERIALS AND METHODS. Fifteen patients, either completely edentulous or with failing dentition, and with severe atrophy of the posterior maxilla requiring a full-arch fixed prosthesis, were enrolled in the study. Fifty-eight conventional implants and twenty-eight pterygoid implants were placed. All participants underwent fixed prosthodontic rehabilitation after implant insertion in both the anterior maxilla and pterygoid regions. Patients were followed-up for a period of three years. Outcomes considered were: implant and prosthesis failures, any complications, and peri-implant bone conditions, as assessed on panoramic radiographs.

RESULTS. Three years after loading no drop-out occurred, no implant or prosthesis loss was reported in any patient. Six minor complications occurred in six patients, and no peri-implant radiolucency was detected on any panoramic radiograph.

CONCLUSIONS. Three years after loading, all immediately loaded prostheses were successful, and no pterygoid implant failed.

CONFLICT OF INTEREST STATEMENT. Tommaso Grandi serves as consultant for JDentalCare, Modena, Italy. This study was completely self-financed and no funding was sought or obtained, not even in the form of free material.

INTRODUCTION

The loss of posterior maxillary teeth alters the occlusion, creating occlusal instability, chewing function deficiencies, and local bone loss[1]. Dental implants are considered the optimal option for the substitution of lost teeth. However, the posterior maxilla remains a challenging area for the insertion of dental implants due to the small quantity and low quality of available bone, and to the presence of the maxillary sinus[2]. Furthermore, high occlusal forces in the molar region during mastication may compromise the survival of implants placed in the posterior maxilla, increasing the risk of fatigue fracture of prostheses and/or screw and/or bone loss[3]. In cases of patients with reduced vertical maxilla height, the placement of implants is especially difficult, particularly when immediate function is required[4]. To overcome these difficulties, surgical techniques such as sinus lift, guided bone regeneration with either autogenous or heterologous materials, tilted implants, and zygomatic implants have been introduced.

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