

IMMEDIATE ALL-ON-FOUR FULL-ARCH REHABILITATION OF THE MAXILLA: A RETROSPECTIVE COHORT STUDY WITH A MEAN FOLLOW-UP OF 8 YEARS



TOMMASO GRANDI, DDS
Private practice in Modena, Italy

FLAVIA MASTANDREA
Mechanical engineer, Modena, Italy

CESARE PAOLESCHI
Private practice in Florence, Italy

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

PURPOSE. To report the outcomes of all-on-four treatment of patients with completely edentulous maxilla and a mean follow-up of 8 years after loading, and to investigate risk factors associated with marginal bone loss and/or the occurrence of biological or mechanical complications.

MATERIALS AND METHODS. A total of 112 patients (64 women and 48 men; mean age at intervention 64.0 ± 9.2 years, range 44-81 years) either presenting with edentulous maxillae or who underwent tooth extractions because of severe periodontal disease and/or caries were included in the study. All participants were assessed after implant surgery and every year thereafter, with a mean follow-up period of 8.3 years (3025 days, range 2508-3650 days). Primary outcome measures were prosthesis and implant success, while secondary outcome measures were peri-implant marginal bone loss, as measured on periapical radiographs, and biological and mechanical complications.

RESULTS. Thirteen patients dropped out (11.6%). The implant survival rate at the end of the follow-up period was 95.5%. Six implants failed in three patients and the prostheses had to be replaced. Biological and mechanical complications were reported in 17 (17.1%) and 18 (18.1%) patients, respectively. The average marginal bone level at baseline was -0.02 mm. Significant marginal bone loss was observed at 10-year follow-up (2.4 mm). Multivariate logistic regression analysis showed a significant association ($P < 0.01$) between smoking and marginal bone loss >3 mm. Finally, a significant ($P = 0.01$) association was observed between bruxism and mechanical complications.

CONCLUSIONS. The high implant and prosthesis survival rate, the acceptable amount of bone loss, and the moderate incidence of biological and mechanical complications indicate that the all-on-four treatment can be considered a viable option for immediate fixed prosthetic rehabilitation of the edentulous maxilla.

CONFLICT OF INTEREST STATEMENT.

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