

THE REHABILITATION OF COMPLETELY EDENTULOUS MAXILLAE WITH DIFFERENT DEGREES OF RESORPTION WITH FOUR OR MORE IMMEDIATELY LOADED IMPLANTS: A 5 YEARS RETROSPECTIVE STUDY AND A NEW CLASSIFICATION

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PURPOSE

To report the long-term outcome of immediately loaded implants in the rehabilitations of completely edentulous maxillae with different classifications. The secondary aim was to evaluate the influence of possible explanatory variables on the incidence of biological and mechanical complications.

MATERIALS AND METHODS

In total, 221 patients were consecutively included and classified into four groups that allowed implant placement in a vertical position: Group 1 (bone available up to first molar), Group 2 (bone available up to second premolar), Group 3 (bone available up to first premolar) and Group 4 (bone available up to canine). Outcome measures were prosthesis and implant survival, and biological and mechanical complications.

RESULTS

A total of 995 implants were placed. Eighteen patients (8% of the sample) dropped out of the study. After 5 years, three patients lost their prosthesis due to implant failures, giving a survival rate of 98.6%; 25 patients lost 41 implants, giving a survival rate of 88.7% (25/221) and an implant-specific survival rate of 95.8% (41/995). According to the edentulism classification, the patient-specific survival rate after 5 years was 78.6% for Group 1, 89.3% for Group 2, 92.4% for Group 3 and 91.7% for Group 4. In total, 129 biological complications occurred affecting 129 implants (13%) in 66 patients (30%). Smoking was identified as a risk factor for the incidence of biological

complications with an OR of 3.03 (95% CI 2.03-4.56; $P < 0.0001$), while 'gender' (male; OR = 0.56; 95% CI 0.37-0.85; $P = 0.007$) was a factor that had a protective effect. A total of 170 mechanical complications occurred, affecting 170 implants (17%) in 71 patients (38%). Bruxism was identified as a risk factor for the incidence of mechanical complications with an OR of 60.95 (95% CI 21.40-173.54; $P < 0.0001$), while a Group 2 edentulism classification had a protective effect for the incidence of mechanical complications with an OR of 0.22 (95% CI 0.07-0.71; $P = 0.011$).

CONCLUSIONS

It is a viable treatment option to rehabilitate completely edentulous maxillae using four implants or more to support a fixed prosthesis.