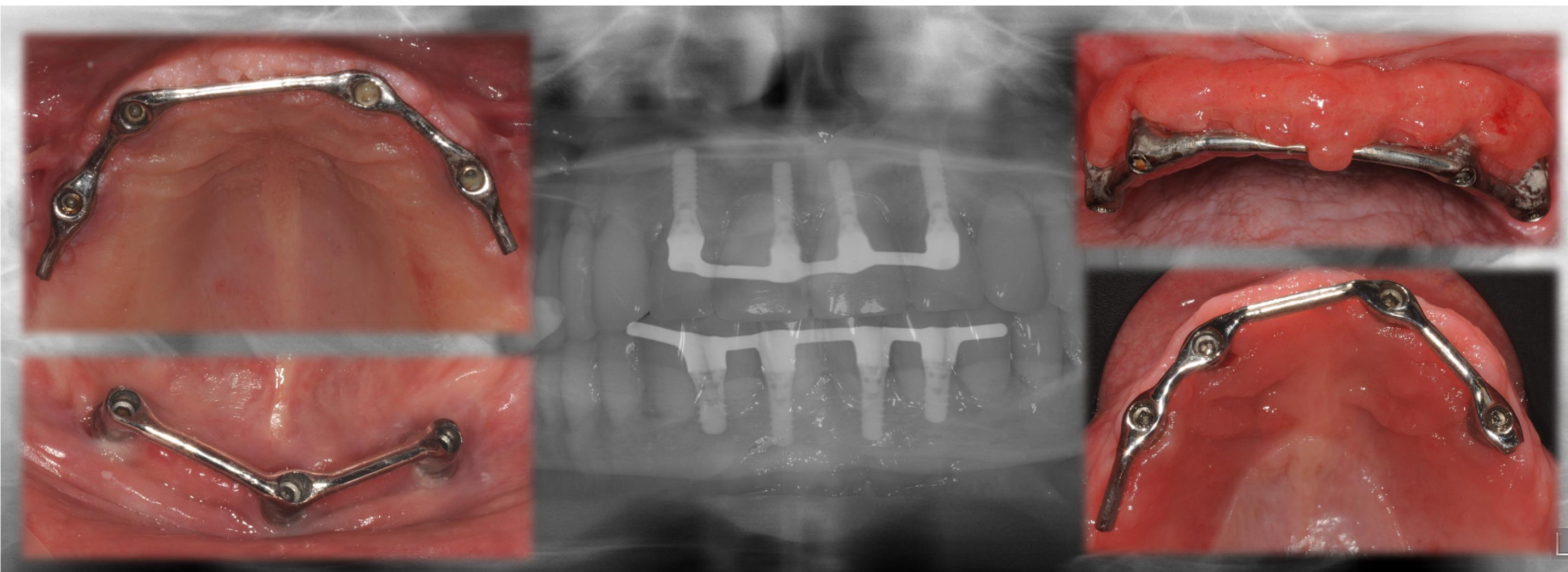


Maintenance of implant-supported bar overdentures

M. Sampaio-Fernandes, P. Vaz, M.H. Figueiral, J.C. Fernandes
Faculty of Dental Medicine, University of Porto, Portugal



Introduction

In the clinical setting, removable implant-supported prostheses are good options for edentulous patients, with confirmed high long-term success rates. A bar overdenture design has been a purposed solution, either for maxilla and mandible, with stability and retention advantages.

Aim: The present work, a retrospective study aimed to determine the prevalence of clinical complications associated with implant-supported bar overdentures, in a Portuguese population. Added to this, the comparison between maxillary and mandibular bar overdentures was one of the main objectives.

Material and Methods

Twenty-six implant overdentures, 17 maxillary and 9 mandibular, with at least 2 years in function, were evaluated. Each prosthesis was initially planned to be supported by 3 or 4 implants, splinted with a bar attachment system. At the examination, dental implants and removable prosthesis were assessed and data related to implant complications or prosthetic maintenance were also collected from the patient file.

Results

From a total of 112 inserted implants, only 98 implants (65 maxilla, 33 mandible) were examined. This difference was due to the implant loss (9.8% maxilla, 2.7% mandible; no statistical differences $\chi^2=3.7333$, $df=1$, $p=0.0533>0.05$). During the period of function (mean 5.7 years), implant loss occurred in 3 cases, all of them in the maxilla.

The frequencies of prosthetic complications are presented at Figure 1. Bar fracture occurred only one time, in a maxillary bar with a distal extension. The hyperplasia (26.9%) and the replacement of clips (76.9%) were the soft tissue and prosthetic complications more frequent, respectively.

The substitution and the relining of the prosthesis occurred in 30.8% and 53.8% of cases, respectively, and these maintenance requirements seemed to increase with the period of time of function, probably due to bone loss, wear and aesthetics. Fracture or losing of screws (23.1%) occurred more times at the maxilla. All the evaluated parameters presented no significant differences between maxillary and mandibular bar overdentures ($p>0.05$).

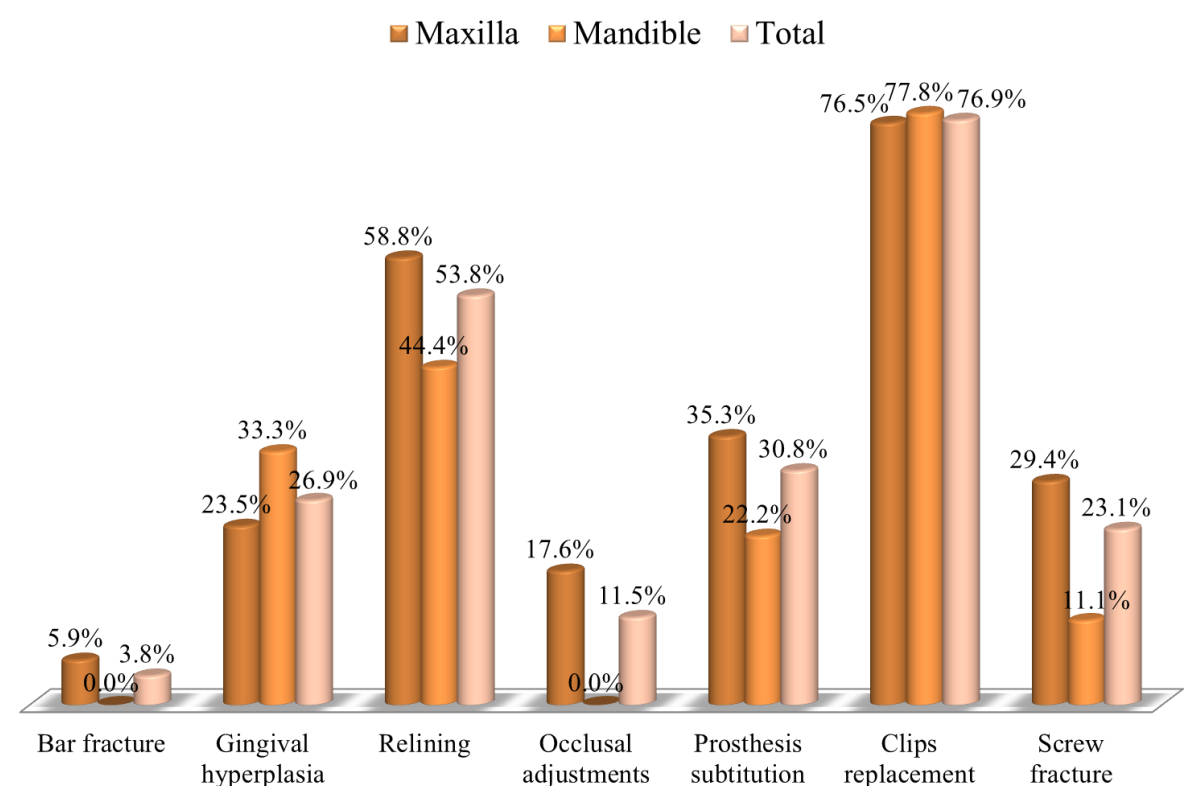


Figure 1 – Prosthetic complications frequencies.

Conclusion

Despite the relatively high complication rate of this type of oral rehabilitation, the survival rate of the removable prosthesis and the implant retaining system was very high. So, a bar-retained overdenture seems to be a predictable treatment option for both edentulous jaws, but a maintenance program care with frequent control appointments is essential to prevent any complex complication.

Berglundh T, Persson L, Klinge B. A systematic review of the incidence of biological and technical complications in implant dentistry reported in prospective longitudinal studies of at least 5 years. *Clin Periodontol.* 2002;29 Suppl 3:197-212; discussion 232-3.

Goodacre CJ, Bernal G, Rungcharassaeng K, Kan JY. Clinical complications with implants and implant prostheses. *J Prosthet Dent.* 2003;90(2):121-32.