

COMPLICATIONS OF ITI PROSTHETIC COMPONENTS.

AN 8-YEAR EXPERIENCE FROM A PRIVATE PRACTICE

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INTRODUCTION

The prognosis of dental implants has been extensively documented, however prosthetic complications have been less addressed, specially in a private practice. In a previous paper (Nedir et al.

COIR, 2003), we documented ITI implants placed in a private practice in a 7-year Life Table Analysis where all implants have been in function for at least 1 year. The cumulative success rate was 99.40 %.

The present study documents the prosthetic complications, type and frequency, of ITI components that have occurred over 8 years of practice, all implants have been in function for at least 2 years.

MATERIAL & METHODS

Between 1995 and 2000, 528 implants rehabilitated 235 patients (mean 57.5 years). The mandible/maxilla implant distribution was 327/201. The mean implant length per quadrant is given in figure 1.

Implants supported single crowns (38.7 %), short-span 2 to 5-unit bridges supported by 2-3 implants (32.5 %), full-arch bridges (1.2 %) and overdentures (27.6 %) as shown in figure 2. Most implants (57.6 %) supported

cemented prosthesis (fig 3). Prosthetic complications included, abutment fracture, abutment loosening, prosthesis debonding, screw loosening and screw fracture.

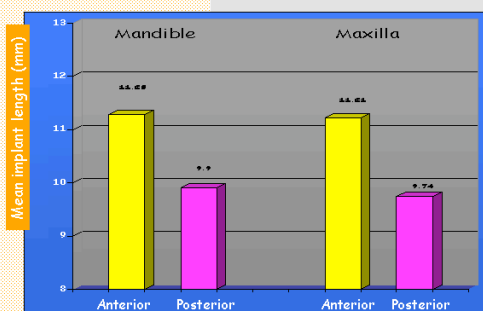


Fig 1 : Mean implant length by quadrant. Implants placed in the posterior region were short implants, mostly ≤ 10 mm.

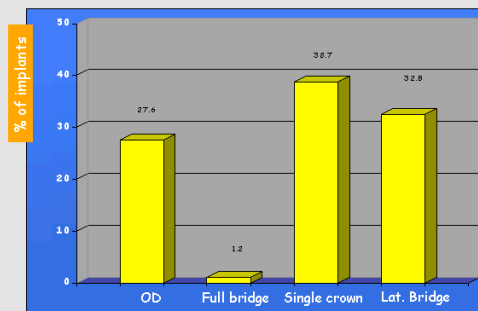


Fig 2 : Implant distribution by prostheses. Most implants supported fixed rehabilitations.

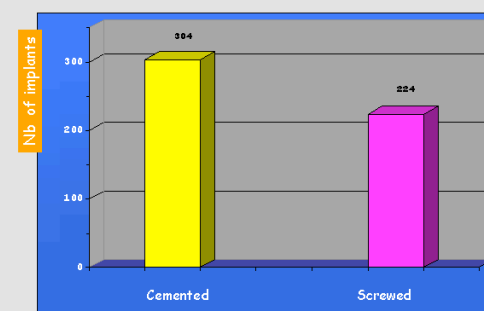


Fig 3 : Prosthesis fixation mode. Most suprastructures have been cemented.

RESULTS

One abutment fractured after 42 months (fig 4, 7), 2 abutments became loose after 8 and 10 months of function (fig 4), all supported single molar crowns. The abutments and the crowns had to be changed.

Prosthesis debonding was recorded for 4 implants, 2 single molars in the mandible after 9 and 41 months, a maxillary 3-unit bridges supported on 2 implants with a mesial extension after 20 months. No complication

was recorded in the anterior region (fig 5) and for any screw-retained prosthesis (fig 6). 2.9% of the single molars had a prosthetic complication. The cumulative ITI prosthetic components success rate was 97.97 %.

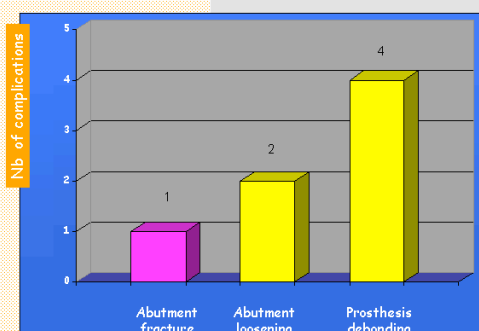


Fig 4 : Complication type and frequency. One abutment fracture was recorded. Abutment loosening led to prosthesis replacement.

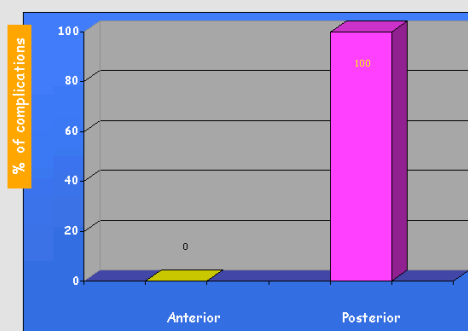


Fig 5 : Distribution of the complications. All complications occurred in the posterior region.

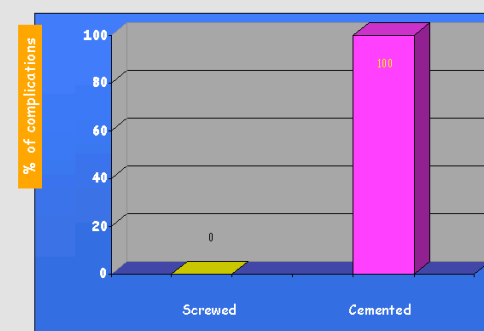


Fig 6 : Distribution of the complications. All complications occurred for the cemented restorations.

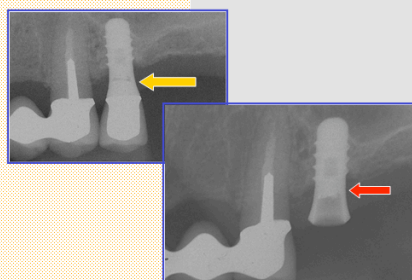


Fig 7 : Abutment fracture. The fracture seen on the X-ray (arrow). The fractured portion remained in the implant (red arrow).



Fig 8 : Edentulous patient rehabilitation. 2 spheric anchorages, a bar for an overdenture or a full-arch fixed prosthesis on 8 implants.

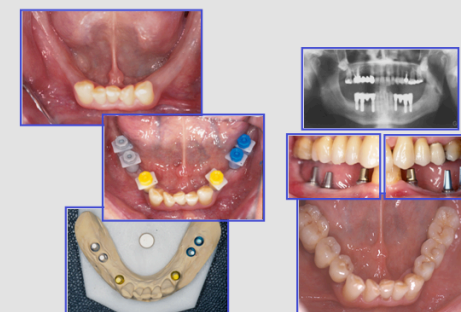


Fig 9 : Partially edentulous patient rehabilitation. The various stages of the treatment are shown, until completion of the bridges.

DISCUSSION & CONCLUSION

The posterior area and more specifically single single crowns in the molar area were concerned because of the higher stresses exerted in this part of the oral cavity. 2.9 % of the single crowns had a complication. Although all implants have not been in function for 8

years, it should be stressed that all implants have been loaded for at least 2 years. No implant fractured. Our results are in line with other reports on ITI implants (Brägger et al., COIR 2001). For the Brånemark implant system, Wennerberg et al. (CIDRR 1999) reported 5 % of

abutment screw fracture and 13 % of abutment or occlusal screw loosening in a 5-year follow-up. Complication with ITI prosthetic components is a rather rare event that occurred at 7/528 implants, i.e. for 0.95 % of the implants.