EARLY AND LATE ITI IMPLANT FAILURES
RESULTS FROM A 10-YEAR EXPERIENCE IN PRIVATE PRACTICE

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INTRODUCTION

The predictability of dental implants has been extensively documented in the last twenty years. The topic of early and late failure has rarely been addressed, especially in private practice. In order to rehabilitate a more important population practitioners wish to avoid too strict exclusion criteria. Implant treatment should answer a succession of simplified radiological, surgical and prothetic procedures.

They must however, be highly predictable, aesthetically powerful and of accessible cost. This clinical study documents the occurrence of early and late failures recorded over a 10-year period with 2021 ITI implants in private practice.

MATERIAL & METHODS

Between January 1995 and December 2004, 2021 implants were placed and 874 patients rehabilitated. The distribution between mandible / maxilla implant was 1048 / 973, in 37.7 % males and 62.3 % females. Among the supposed risk factors, there were 6.8% (137/2021) involved in an immediate loading protocol. Smokers, medically compromised patients and bruxers received respectively 20.8 %, 17.1 % and 20.3 % implants.

55.6% were short (< 11 mm) , and 77.7% were Ø 4.1 mm. Early failure was defined as a failure occuring before insertion of the final prosthesis *ie.* around 10 weeks after implantation.
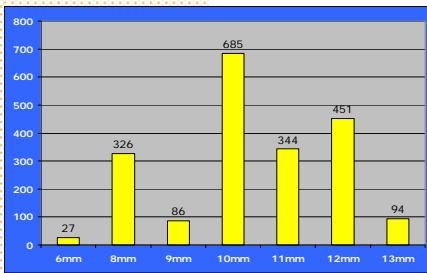

Fig 1: Implant length distribution. Long implants (≥ 12mm) were only 27 %.
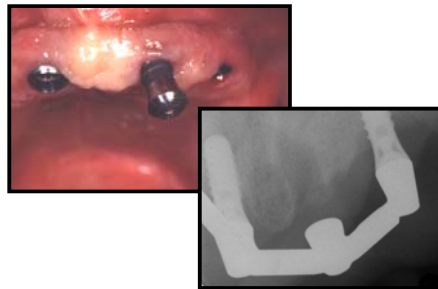

Fig 2: One late failure under an overdenture supported by 4 implants in the anterior segment of the edentulous maxilla.
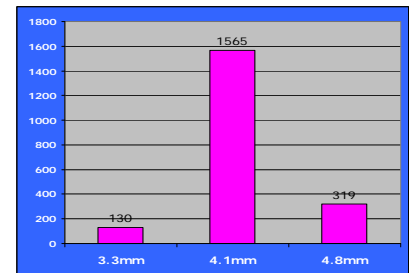

Fig 3: Implant diameter distribution. The majority of implants were Ø 4.1mm.

RESULTS

Early failures were detected in 18/2021 implants (0.9%), average patient age was 62.4 years, average time in situ was 1.9 months, 45.4% of failed implants were <11mm and 44.4% were placed in type IV bone.

Of these failures, 33.3% were placed in smokers, 72.2% in bruxing patients, 33.3% in medically compromised patients and 55.5% were in relation with transitory removable prosthesis. Only one failed implant was immediately loaded and 3 implants were removed because of sensitive disorders.
Late failures represented 9 implants (0.45%), average time *in situ* was 31.9 months.
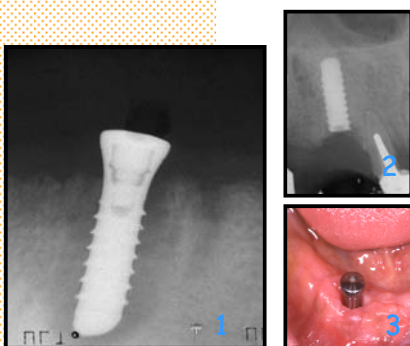

Fig 4: Three failure examples: Early failure position 33 Ø 4.1 (1), late failure implant Ø 3.3 fracture position 13 (2); early failure position 43 (3).
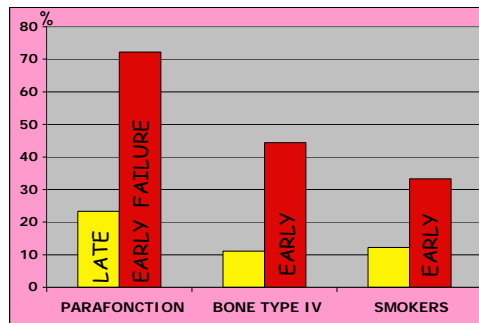

Fig 5: Risks factor distribution. An important difference between early and late failure was detected.
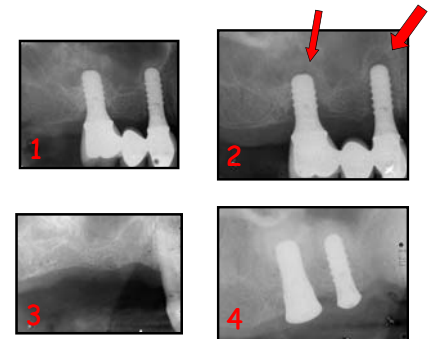

Fig 6: Late failure, initial situation (1), peri-implant osteolysis in 14 and implant loss in 16 by overload (2), explantation (3), implantation with OSFE after 6 months (4).

DISCUSSION & CONCLUSION

A low rate of failure was recorded 27/2021 (1.39%). The occurence of early failures for ITI implants was low (0.9%) as previously reported. However , several risk factors could be identified. They were : bruxism, medically compromised patients, provisional removable prosthesis, type IV bone (8/18) and smoking. These factors, associated with more complex surgical procedures (*Osteotome Sinus Floor Elevation, localized Guided Bone Regeneration...*) resulted in less than optimal implant primary stability (10/18). As for late failures no specific risk factor could be identified.