Survival Rate of Short and Ultrashort dental implants: Retrospective Study

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Abstract

Dental implantology in the atrophic jaws requires additional bone regeneration surgery. Block bone grafts, guided bone regeneration, interposition grafts, repositioning of the inferior alveolar nerve, alveolar distraction osteogenesis, sinus lift and zygomatic implants are some of the additional surgical procedures that, in addition to potential surgical complications, add more morbidity and costs.

With the technological development, especially in the surface and in the implant design it was possible to develop short and ultrashort implants.

This way we can rehabilitate patients with less morbidity, faster and cheaper (Fig. 1)

The aim of this study is to determine cumulative survival rate of short and ultrashort dental implants (**BTI® Biotechnology Institute – Spain**), in a dental unit center (UMD/CCL - SSCGD), in Lisbon, Portugal.

Results

In this study the survival rate is 97,5%. 114 implants (45,97%) were placed in 60 female patients (41,7%) and 134 implants (54,03%) were placed in 84 male patients (58,3%). The mean age was 61,2 (Graphic 2). 6 implants failed (2,5%). 3 of these 6 implants were not placed because of lack of primary stability. The other three, one failed for late infection in the osseointegration phase and the other two failed because fibrointegrated (one in a total maxillary provisional bridge immediate loading and other one a single crown in maxilla with a implant-crown ratio of 3:1 and after 11 months of rehabilitation) (Graphic 3).

Fig. 1 – Clinical case with ultrashort implants in posterior inferior jaw

Results

Graphic 1 – Implants distribution according to length

Graphic 2 – Number of patients by age

Graphic 3 – Failed implants distribution according to their cause

Background and Aim

Oral rehabilitation with dental implants is conditioned by the bone available and by the presence of anatomical structures which conditionate the size of dental implants. The use of short and ultrashort implants avoids extra surgical procedures and eventual complications. The definition of short implants has been changed successively. The last European BDIZ EDI consensus in 2016 defined short implants for those smaller than 8 mm in size and ultrashort implants smaller than 6 mm in size. The aim of this study is to determine cumulative survival rate of short and ultrashort dental implants (**BTI® Biotechnology Institute – Spain**), in a dental unit center.

Conclusion

Recent studies seem to conclude that short implants are predictable and prevent complications associated with surgeries of vertical bone augmentation.

Within the limitation of the study the use of short and ultrashort implants seems to be a good alternative treatment to regenerated surgery.

Methods and Materials

A retrospective study design was adapted. From a total of 388 patients with a 675 short and ultrashort dental implants over a 3 years period (2016 to 2018), we selected 144 patients (60 women, 84 men) with 248 short and ultrashort dental implants placed by the same oral surgeon and rehabilitated by the same restorative dentist. 67,7% of implants are 8.5 mm length, 23% are 7.5 mm length, 8.1% are 6.5 mm length and 1.2% are 5.5 mm length. The follow-up varies from 3 months to 3 years.

References

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