

Case study 3

Fixed Prosthetic Rehabilitation of Edentulous Patients by Immediately Loaded Implants

Frank Peter Strietzel, PD. Dr. Med, Berlin

Benny Karmon, DMD, Israel

Adi Lorean, DMD, Israel

Peter Paul Fischer, DMD, Berlin

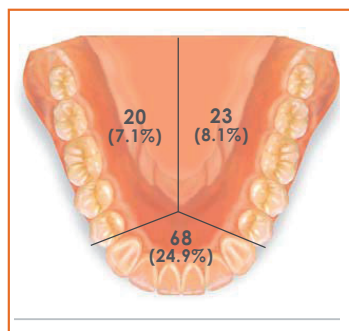
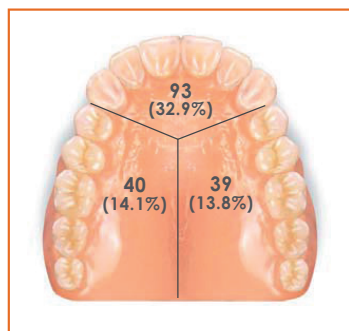
Introduction

The disadvantages of removable temporary mucosal-borne prosthesis during the healing phase of implants can be avoided by immediate prosthetic loading of implants, especially in the treatment of edentulous jaws with fixed dentures. The objective of this study was the critical evaluation of the treatment course in the case of immediate prosthetic restoration and loading of the edentulous maxilla and mandible with fixed implant-borne prostheses, with special consideration being given to the modes of implantation.

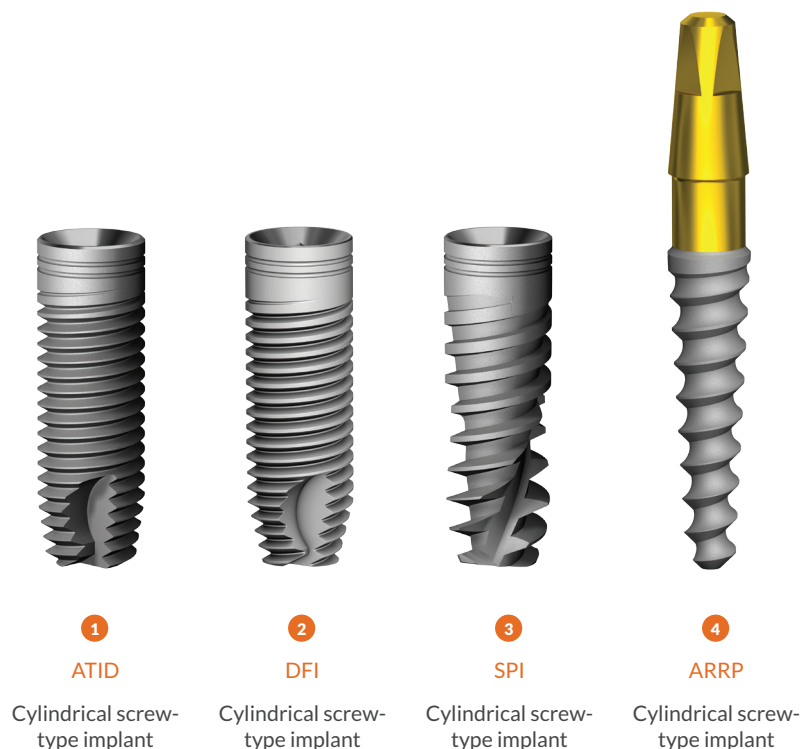
Material and Methods

Retrospective study of the treatment course of 25 patients with 283 implants* (13 female patients with 131 implants) (median age 55 years [45-76 years]). Fixed temporary prostheses were provided immediately after implantation and final dentures 4-6 months after implantation (median of the number of implants in the maxilla 9 [6-12], in the mandible 8 [6-10]).

Success criteria: Absence of pain or discomfort, absence of implant mobility, peri-implant mucositis / peri-implantitis, peri-implant radiolucency, vertical bone loss > 3/10 of the implant length, need for repair or replacement of the prosthesis, negative subjective evaluation by the patient.



Number and distribution of the implants over the sextants



Results

Implant survival rate 99.6%

(1 implant loss after 20 months, maxilla, female smoker)

Implant success rate 98.2% implant-related / 88% patient-related 5 implants in 3 patients did not fulfill at least one success criterion (1 implant loss, 2 times vertical bone loss > 3/10, 2 times peri-implantitis).

A significant association was found between an implant failure (at least one success criterion not fulfilled) and the implant length (8-10 mm) (P = 0.018)**.

A tendency of an association was found between implant failure and (horizontal) alveolar ridge atrophy (p = 0.063). Associations between an implant failure and the implantation mode (P = 0.151), the implantation site (0.342 < P < 0.879) and the smoking status of the patient (P = 0.160) were not found.

Summary

Within the scope of the present study, good results were shown independently of the implantation mode for the fixed prosthetic rehabilitation of the edentulous maxilla and mandible with immediately restored and loaded implants, subject to sufficient bone being available and at least 6 implants with microstructured surface and adequate length being used.

**Cross tables analysis and Chi-square test; SPSS 16.0 (SPSS Inc. Chicago / IL, USA).

Table 1: Number of implant types used

Cylindrical screw-type implant (Fig. 1)	172
Conical Dual Fit screw-type implant (Fig. 2)	88
Spiral implant (Fig. 3)	11
One-piece conical screw-type implant (Fig. 4)	12

Table 3: Frequencies of the implantation modes

Implantation mode	no. of omplant	%
Immediate implantations	75	26.5%
Delayed immediate implantations	14	14.9%
Late implantations	194	68.6%

Table 2: Distribution of the observation period (median 29 months)

Obs. period (months)	no. of patients	S%
120	1	4
60	2	8
>50	3	12
>40	3	12
≥30	9	36
>20	19	76
>12	25	100

Disclosure

The authors do not have any financial interests, either directly or indirectly, in the products listed in the study.



MEDES LIMITED

5 Beaumont Gate, Shenley Hill
Radlett, Herts WD7 7AR, England
T./F. +44.192.3859810

www.alpha-bio.net