International Poster Journal IPJ of Dentistry and Oral Medicine

Int Poster J Dent Oral Med 2004, Vol 6 No 01, Poster 210

Immediately loaded implants in edentulous mandibles: three-year experience

Language: English

Authors:
Argiris Samiotis, Mona Batniji, Dr. Helmut G. Steveling
Department of Oral and Maxillofacial Surgery Heidelberg University

Date/Event/Venue:
September 12-14th, 2002
11th EAO Annual Scientific Congress
Brussels/Belgium

Introduction

Immediate loading of dental implants in the mandible has not been an unknown method since the introduction of the Ledermann-screw (1977).

Objectives

Whereas Ledermann performed immediate prothetic supply over a fixed framework with a removable overdenture, in the present study a fixed construction has been installed.

Material and Methods

17 patients (average age 69,8 years) with edentulous mandibles were provided with 4- 6 ASTRA-Universalimplants. Implant diameters and lengths are shown in table 1.

	8mm	9mm	11mm	13mm	15mm	17mm	
Ø3,5mm	6	6	8	38	7		65
Ø4,0mm		2	9		7	1	19
							84

Operative access was made after infiltration anaesthesia with Ultracain DS by an incision in the middle of the fixed gingiva. On both sides the upper margin of the foramen mentale was represented. The distal implants were placed before the nerve's exit point keeping a security distance of 3 mm. The remaining implants were distributed between the distal implants excluding the symphysis area. The prosthetic construction was placed and screwed in on 20 degrees Universal abutments 3 days postoperatively at the latest. The denture was placed in a distance of 2-3 mm to the gingiva. This distance was adapted to the changed gingival level. In the course of the wearing period. 10 patients were provided with a framework of casted titanium, 7 patients received one of gold alloy. The metal framework of the first 3 patients was made out of metal on the basal side, all other patients were provided with a framework completely covered by plastic material in order to create a uniform distance between the mucosa and the denture after the final healing of the soft tissue (fig. 1).

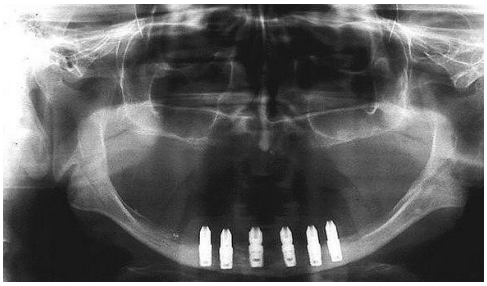
Polymer teeth from 35-45 or 36-46 were fixed on the metal framework with Palapress Vario after cephalic articulation of the models. All patients received new prosthetic dentures in the maxilla. Clinical controls for the removal of sutures followed 10 days postoperatively, after 6 and 12 weeks and after every 6 months. X-ray controls by panoramic radiography (Orthophos, Siemens, Standard Maximization Program 1/1,25) were made after placement of the fixed restorations after 6, 12, 24 und 36 months. Evaluation of the radiographs was made after digitalization by the FRIACOM OPG-planning module. Hygienic controls made by a dental hygienist took place every three months.

Figure 1

Results

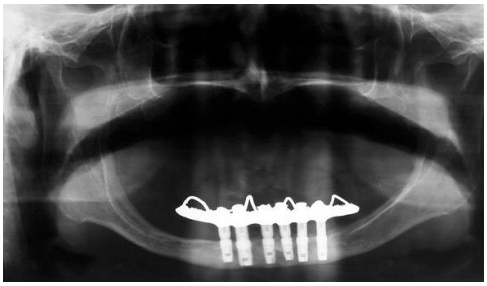
After 6 months one implant (area 35) showed no osseointegration and was removed without replacement. All other implants showed clinically non-irritated soft-tissues and were still in function. After 3 years the average bone loss was 0,6 mm (min. 0,0 mm, max. 1,3 mm). All patients were satisfied with the results.

Clinical examples: Case 1, female (56y)



Radiograph after implantation

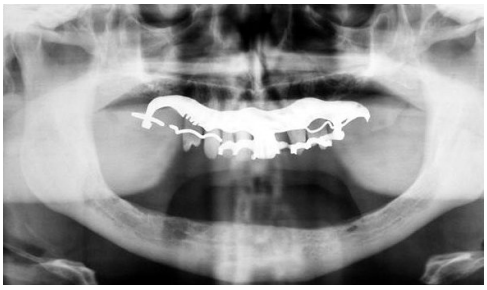
Clinical situation after healing



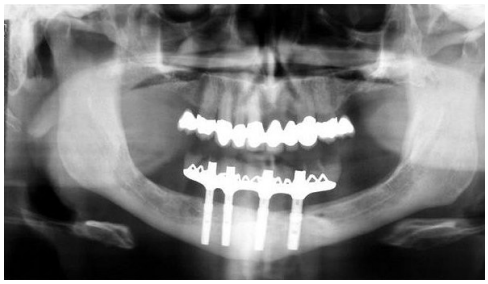
Radiograph after 3 years

Clinical situation after 3 years

Clinical examples: Case 2, female (66y)



Radiograph before implantation



Radiograph after 1 year

Radiograph after 3 years

Clinical situation after 3 years

Discussion and Conclusions

The single-stage use of ASTRA-Universalimplants with immediately loaded fixed restorations has proved to be a successful procedure in edentulous mandibles. With low production costs and easy oral hygiene this method may be recommended especially to older patients.

This Poster was submitted by Argiris Samiotis.

Correspondence address:
Argiris Samiotis
Klinik und Poliklinik für Mund-, Kiefer- und Gesichtschirurgie
Department of Oral and Maxillofacial Surgery, Heidelberg University
Im Neuenheimer Feld 400
69120 Heidelberg
Germany

Poster Faksimile:

11th EAO Annual Scientific Congress
September 12-14th, 2002
Brussels / Belgium

IMMEDIATELY LOADED IMPLANTS IN EDENTULOUS MANDIBLES: THREE-YEAR EXPERIENCE

Samiotis A., Batniji M., Gallardo Lopez I., Steveling H.G.
Department of Oral and Maxillofacial Surgery Heidelberg University,
Chairman Prof. Dr. Dr. J. Mühling

Introduction

Immediate loading of dental implants in the mandible has not been an unknown method since the introduction of the Ledermann-screw (1977). Whereas Ledermann performed immediate prosthetic supply over a fixed framework with a removable overdenture, in the present study a fixed construction has been installed.

Material and Method

17 patients (average age 69,8 years) with edentulous mandibles were provided with 4- 6 ASTRA-Universalimplants. Implant diameters and lengths are shown in table 1.

Table 1

	8mm	9mm	11mm	13mm	15mm	17mm	
ø 3,5mm	6	6	9	39	7		65
ø 4,0mm		2	9		7	1	19
							84

Operative access was made after infiltration anaesthesia with Ultracain DS by an incision in the middle of the fixed gingiva. On both sides the upper margin of the foramen mentale was represented. The distal implants were placed before the nerve's exit point keeping a security distance of 3 mm. The remaining implants were distributed between the distal implants excluding the symphysis area. The prosthetic construction was placed and screwed in on 20 degrees Universal abutments 3 days postoperatively at the latest. The denture was placed in a distance of 2-3 mm to the gingiva. This distance was adapted to the changed gingival level. In the course of the wearing period. 10 patients were provided with a framework of casted titanium, 7 patients received one of gold alloy. The metal framework of the first 3 patients was made out of metal on the basal side, all other patients were provided with a framework completely covered by acrylic material in order to create a uniform distance between the mucosa and the denture after the final healing of the soft tissue (fig. 1).

Figure 1.

Polymer teeth from 35-45 or 36-46 were fixed on the metal framework with Palapress Vario after cephalic articulation of the models. All patients received new prosthetic dentures in the maxilla. Clinical controls for the removal of sutures followed 10 days postoperatively, after 6 and 12 weeks and after every 6 months. X-ray controls by panoramic radiography (Orthophos, Siemens, Standard Maximization Program 1/1,25) were made after placement of the fixed restorations after 6, 12, 24 und 36 months. Evaluation of the radiographs was made after digitalization by the FRIACOM OPG-planning module. Hygienic controls made by a dental hygienist took place every three months.

Results

After 6 months one implant (area 35) showed no osseointegration and was removed without replacement. All other implants showed clinically non-irritated soft-tissues and were still in function. After 3 years the average bone loss was 0,6 mm (min. 0,0 mm, max. 1,3 mm). All patients were satisfied with the results.

Clinical examples

Case 1, female (56y)

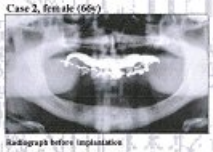
Radiograph after implantation

Clinical situation after healing

Radiograph after 3 years

Clinical situation after 3 years

Case 2, female (66y)



Radiograph before implantation

Radiograph after 3 years

Radiograph after 3 years

Clinical situation after 3 years

Conclusion

The single-stage use of ASTRA-Universalimplants with immediately loaded fixed restorations has proved to be a successful procedure in edentulous mandibles. With low production costs and easy oral hygiene this method may be recommended especially to older patients.

Correspondence to
Samiotis Argiris, MZK / Department of Oral and Maxillofacial Surgery, INF 400 Kopfklinik, 69120 Heidelberg, E-mail: argiris_samiotis@med.uni-heidelberg.de