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Mutlangen/Germany



**RATIOPLANT®-IMPLANTS**  
CASE STUDY



# RATIOPLANT®-IMPLANTS

## CASE STUDY

### Curriculum vitae

**Dr. med. Dr. med. dent. Martin Keweloh**

**University:**

06/1993 Registration as a dental surgeon  
(University of Ulm/Baden-Wuerttemberg/Germany)  
08/1999 Registration as a medical doctor  
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**Certified specialist for Implantology and Periodontology**  
(DGMKG, DGI, DGZI, BDO, BDIZ)

**Member of the board of the German Association for Maxillo-Facial Surgery** (Implantology Section)

Editor of the German journal "Implantologie-Zeitung"

**Member of DGMKG** (German Association for Maxillo-Facial Surgery-SPEAKER), DGI (German

Association for Implantology (Speaker), GAECD (Association for Aesthetic-Plastic Surgery Germany),  
DGPW (German Association of Plastic and Reconstructive Surgery)

**Speaker in national and international conferences:**

(EACMFS: Edinburgh/Scotland 2000, PAAOMS: Dubai/VAE 2001, Int. Camlog-Congress: Montreux/  
Switzerland 2006, EACMFS: Bologna/Italy 2008, ANZAOMS Christchurch/New Zealand 10/2008,  
Melbourne 7/2009, ANZAOMS Goldcoast/Austr. 10/09)

### Patient Data

Female, 91 Years, her initial presentation had been on 2011/11/21. Patient was dissatisfied with removable dentures in the upper and lower jaws. Risk of bleeding during dental procedures is known from history.

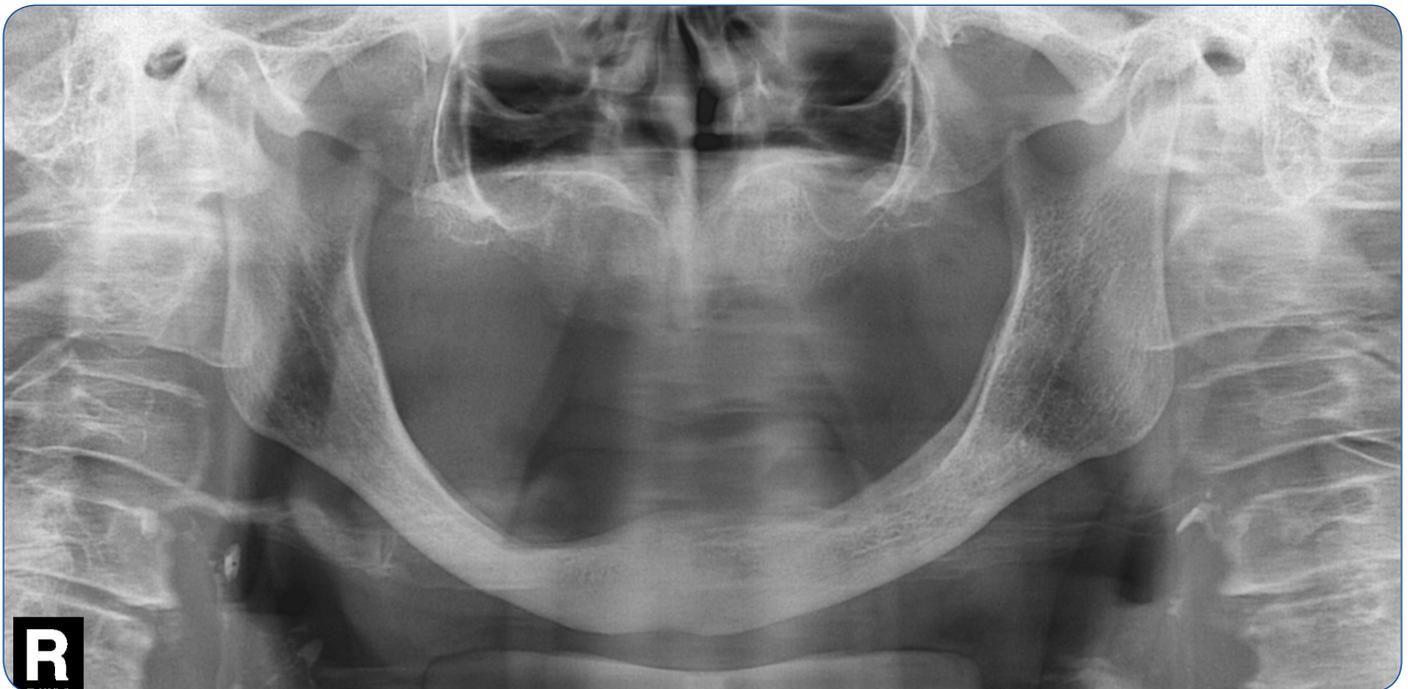
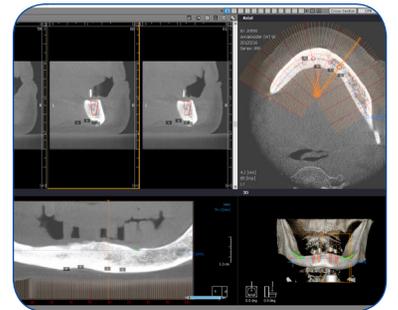
### Diagnosis

Inadequate denture retention in the upper and lower jaw with alveolar ridge atrophy and a limited, thin gingiva.

### Treatment Plan

Implant insertions in regio 11, 13, 17, 21, 23, 27, 32, 34, 42 and 44. Simultaneous osteoplasty and Soft Tissue Augmentation during implantation. Final care with telescopical prosthesis (alternatively locator supported prosthesis) in the maxilla and mandible.

Due to advanced age the patient wishes for the time being only the restoration of the mandible.



## Procedure / Method

**02/2012**

In the first session we made an appointment prepared the upper and lower jaw. Impressions for study and planning models were taken.

After DVT evaluation a measuring template was taken in order to plan the correct position of the designated implants.

**03/2012**

The patient's wish was a surgery under local anaesthesia and sedation. Herefore we used Novalgine 1mg, Dormikum 5mg, infiltration anesthesia and for local anaesthesia in regio 35-45 Ubistesin.

In regio 35 to 45 was opened by a split-flap.

Four RatioPlant® Avantgarde implants were placed in regio 32, 34, 42 and 44. We decided a closed healing with cover screws, because of the limited soft tissue.

In order to improve the bone situation an osteoplasty with filter material in regio 32 to 34 and 42 to 44 was placed. Furthermore a soft tissue augmentation by using Mucograft® (Geistlich/ Baden-Baden) in regio 32 to 34 and 42 to 44 was indicated. Wound closure with Seralon 5-0 and 5-0 Novosyn in multi-layer technique regarding the size of the operation area was necessary.

RatioPlant® Avantgarde implants with following sizes were used:

In regio 32:

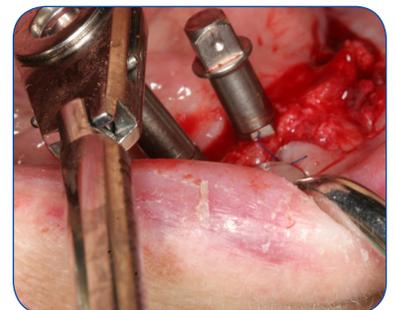
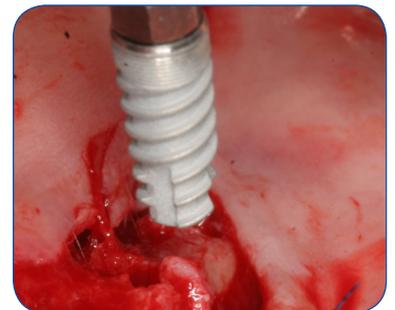
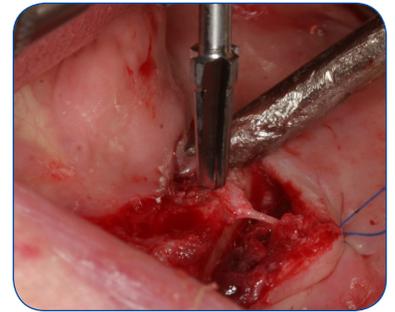
Ø 4.2 / Length 10.0 mm (Ref. 50021.42100)

In regio 34, 42 and 44:

Ø 4,2 / Length 8,0 mm (Ref. 50021.42080)

### Note

A transplantation of connective tissue grafts from the palate was waived because of the known risk of bleeding. Alternatively the Mucograft® was used.



## Procedure / Method

05/2012

After eight weeks closed healing phase, an opening surgery under local anaesthesia with Ubistesin was conducted in region 34 to 44. After the surgical exposure of the implants 32, 34, 42 and 44 the cover screws were removed. According to an X-ray and manually check all implants were fully osteointegrated and rotationally stable.

Healing abutments with CHX gel were smoothly incorporated. Afterwards the wound was closed with Seralon 5-0.

RatioPlant® healing caps with following sizes were used:

In region 32 and 34:

Healing cap conical 4.0mm S (Ref. 5011106012)

In region 42 and 44:

Healing cap conical 6.0mm S (Ref. 5011106014)

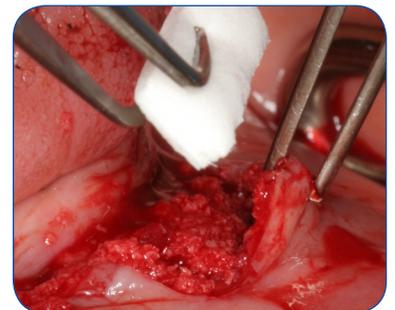
After postoperatively creation of dental films the approval for prosthetic care is granted.

## Follow-Up

Existing lower denture is the base for the intermediate period until the final care is done and temporary adjusted to the healing abutment. The patient still complains about the poor maintenance of the prosthesis.

After two weeks time for adaption of the soft tissue the healing caps have been removed and an impression has been taken. For the open tray technique an individual open impression tray and the RatioPlant® impression posts (Ref. 5011105001) were used.

Subsequently to a checkbite a plaster model was made in the laboratory and set with the model of the upper prosthesis in the articulator.



## Procedure / Method

The technician created the primary telescopical abutments by using gold-plastic abutments with hexagon (Ref. 5011510002). After trial in the mouth and reassembly to the model the secondary telescopical crowns were produced and a metal base was fixed to a new prosthesis. The telescopical implant-supported prosthesis was incorporated in the mandible by the referring dentist.

## Results

The patient was well provided with a full denture and four telescopical abutments on four osteointegrated RatioPlant® Avantgarde implants in the mandible. A perfect fit and a functional adaption to the existing restoration in the upper jaw allows the patient a safe and functional mastication.

The supply of the upper jaw is not planned yet.



## Conclusion

By its simple instrumentarium and product portfolio the Ratio®Plant system permits an uncomplicated and time saving implementation of the planned prosthetic restoration. All components are dimensionally and functionally matched to each other, so that the clinical and laboratory procedures can be realized accurately and easily. The blasted and etched surface of the RatioPlant® implants show, even in difficult cases with bone and soft tissue augmentation, after a short time a very good osteointegration and a good primary stability. The prosthetic concept is greatly simplified by the limitation to three platform sizes. The 3.2 mm implants, the 3.8 mm and 4.2 mm implants and 5.0 mm and 6.0 mm implants have one prosthetic platform respectively, which reduce the selection of prosthetic components and tools in an effective way. The transfers worked well with a good fit of the abutments. Four telescopic abutments were used to anchor a new lower denture. The prosthesis is easy to handle even for the older patient. It has a secure fit, allowing good mastication, phonetic function and is easy to clean. This also applies finally to the implants themselves.



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