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BIOMATERIALS

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Clinical Cases



- Alveolar Crest Expansion – Dr. Hiram Fischer
- Bone Regeneration after Exodontia and Immediate Implant Placement – Dr. Hiram Fischer
- Combination of adbone TCP with PRP + Sinus Lift – Dr. Hiram Fischer
- Odontogenic Inflammatory Cyst – Dr. Luis Loureiro
- Tooth Root Extraction – Dr. Hiram Fischer
- Alveolar Regeneration – Dr. Hiram Fischer
- Atraumatic Sinus Lift – Dr. Hiram Fischer
- Atraumatic Sinus Lift – Dr. Hiram Fischer
- Bone Augmentation and Implant Placement – Dr. Hiram Fischer
- Bone Regeneration after Tooth Extraction and Implant Placement – Dr^a Margarida Gabriel

Alveolar Crest Expansion

Bone Graft: adbone®TCP (0.1 – 0.5mm) 1g

Patient: Female, 63 years

Company Profile

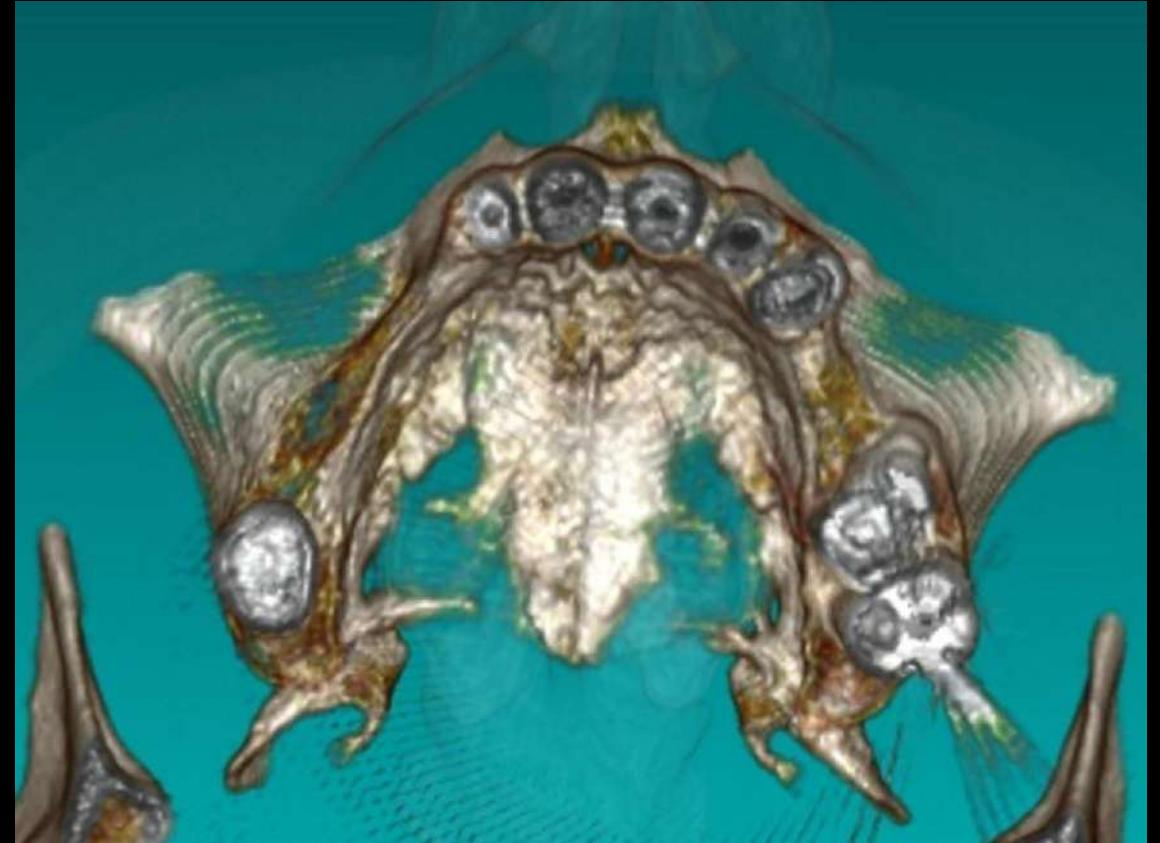
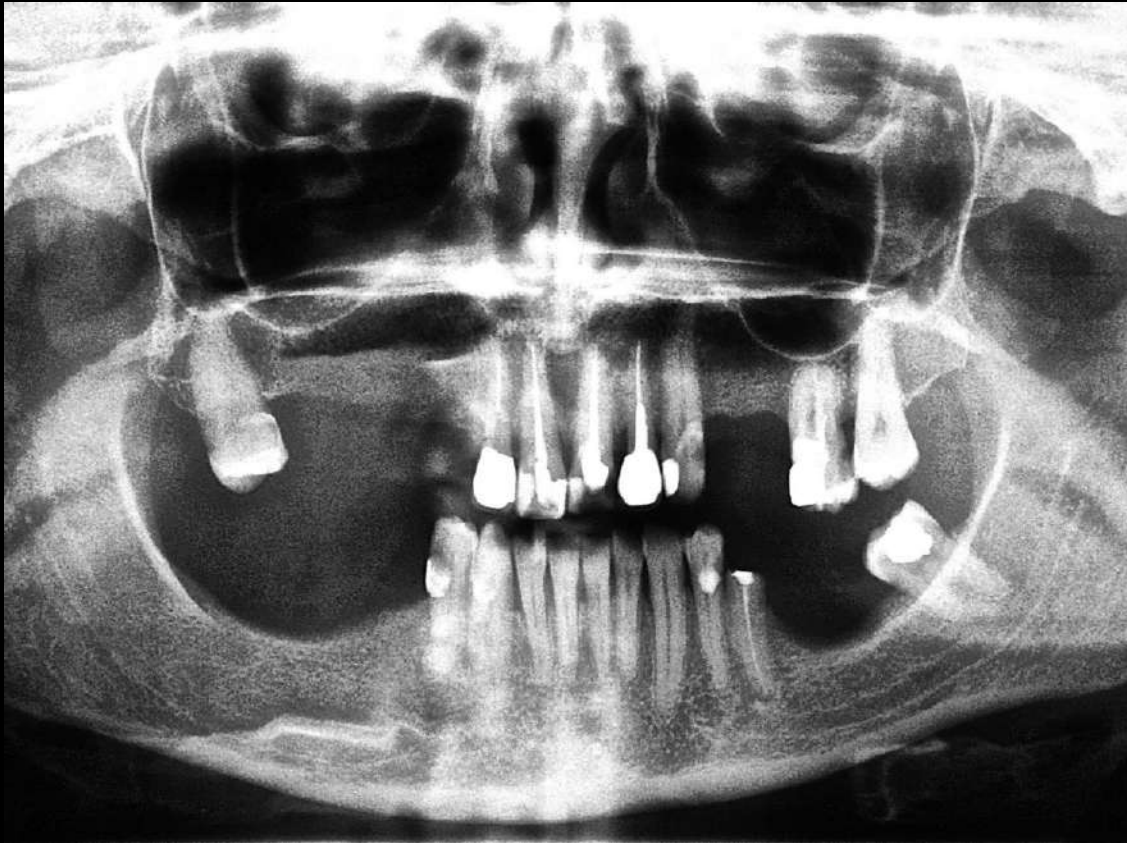


Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal

Outcome

- A alveolar crest expansion was performed on a 63 years old female patient using [adboneTCP, 0.1 – 0.5 mm granules](#) and PRP, due to a severe bone loss.
- The bone graft and implants were placed at the time of surgery with a PFT membrane. The membrane was removed after 3 weeks.
- A 5 month follow-up X-Ray is available.
- Complete restoration of the final case was performed after 11 months.

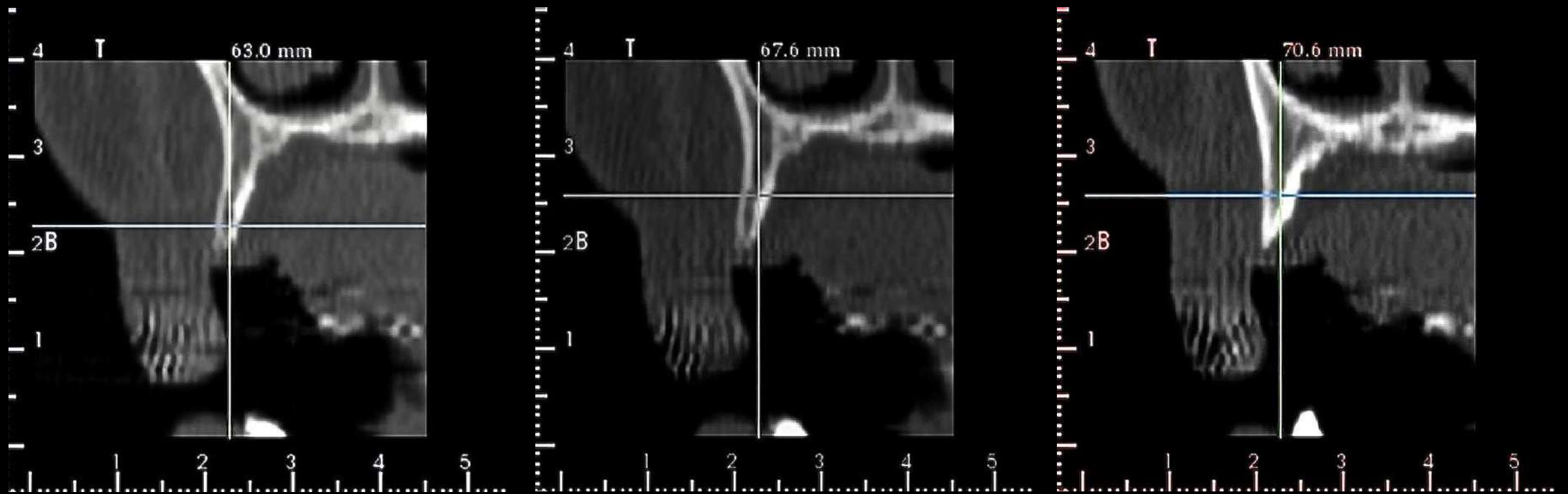
Before Surgical Treatment X-Ray



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



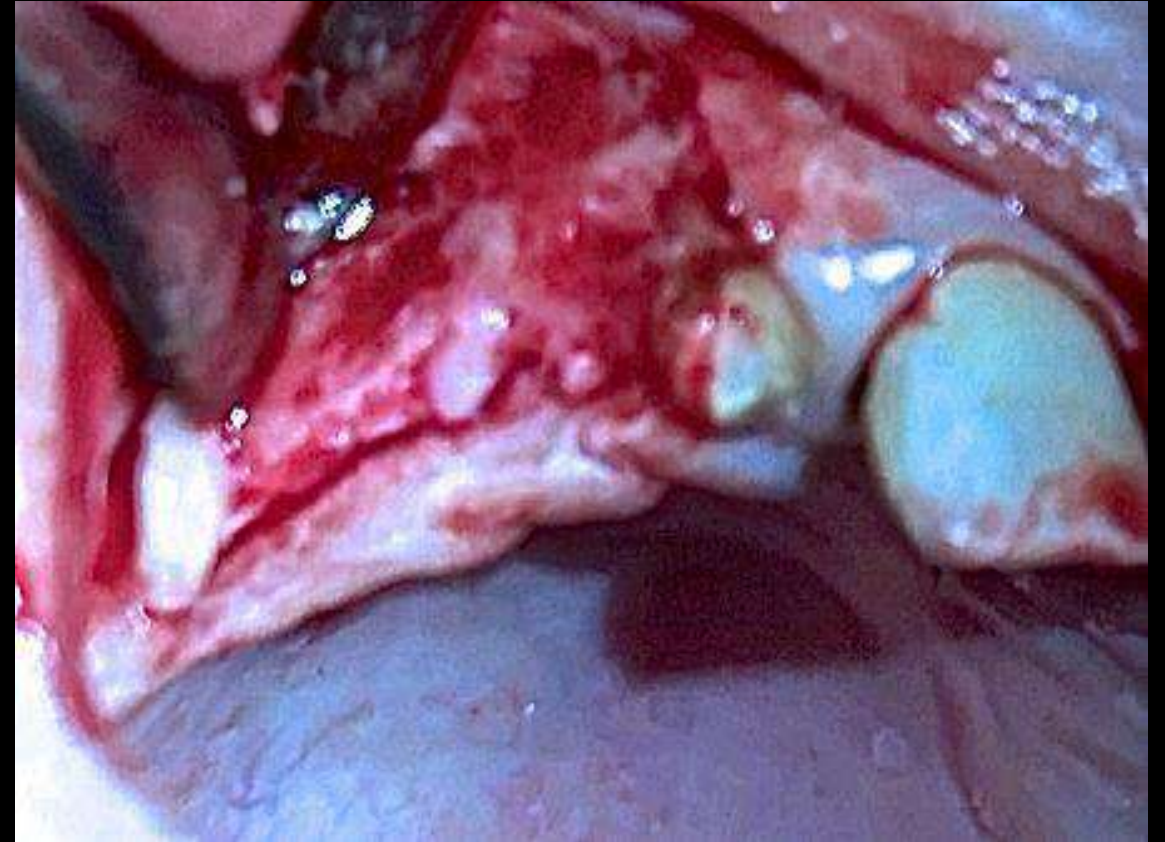
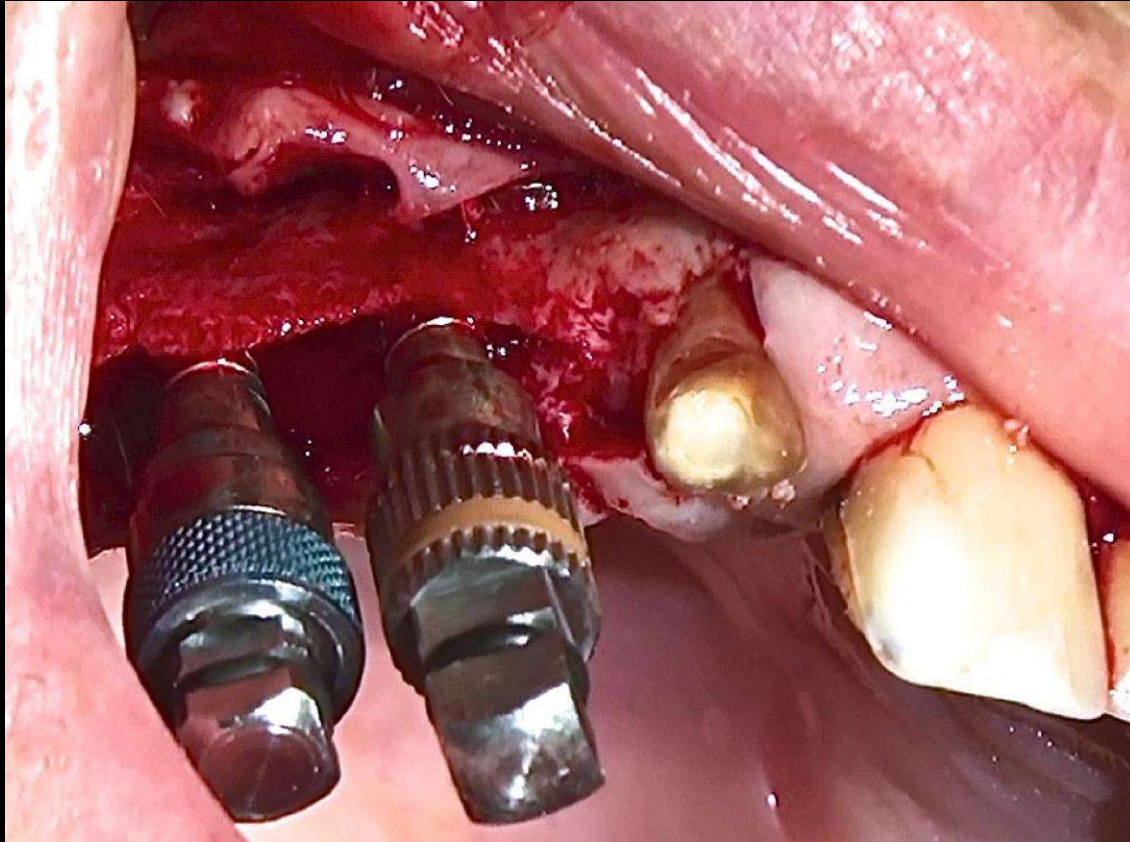
Before Surgical Treatment X-Ray



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



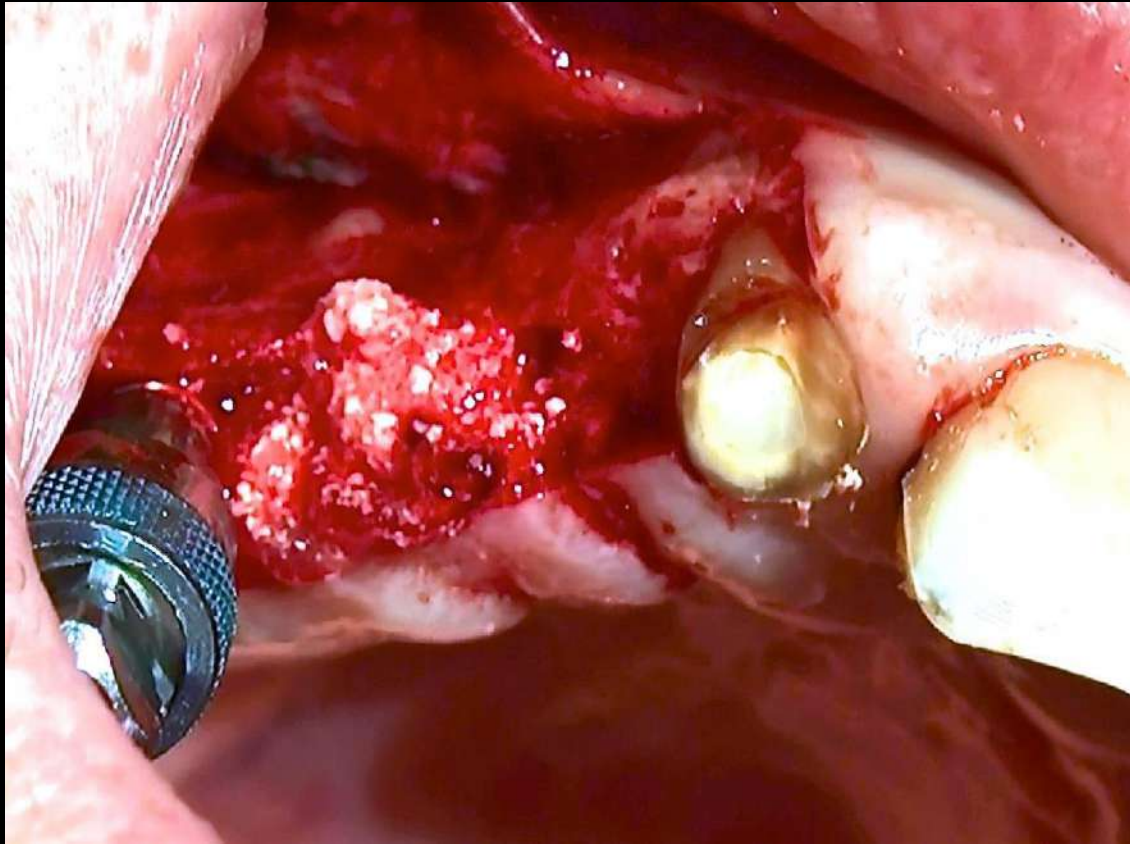
Surgery - Intraoperative Image After Implant



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



Site grafted with adbone TCP



adbone TCP + PRP



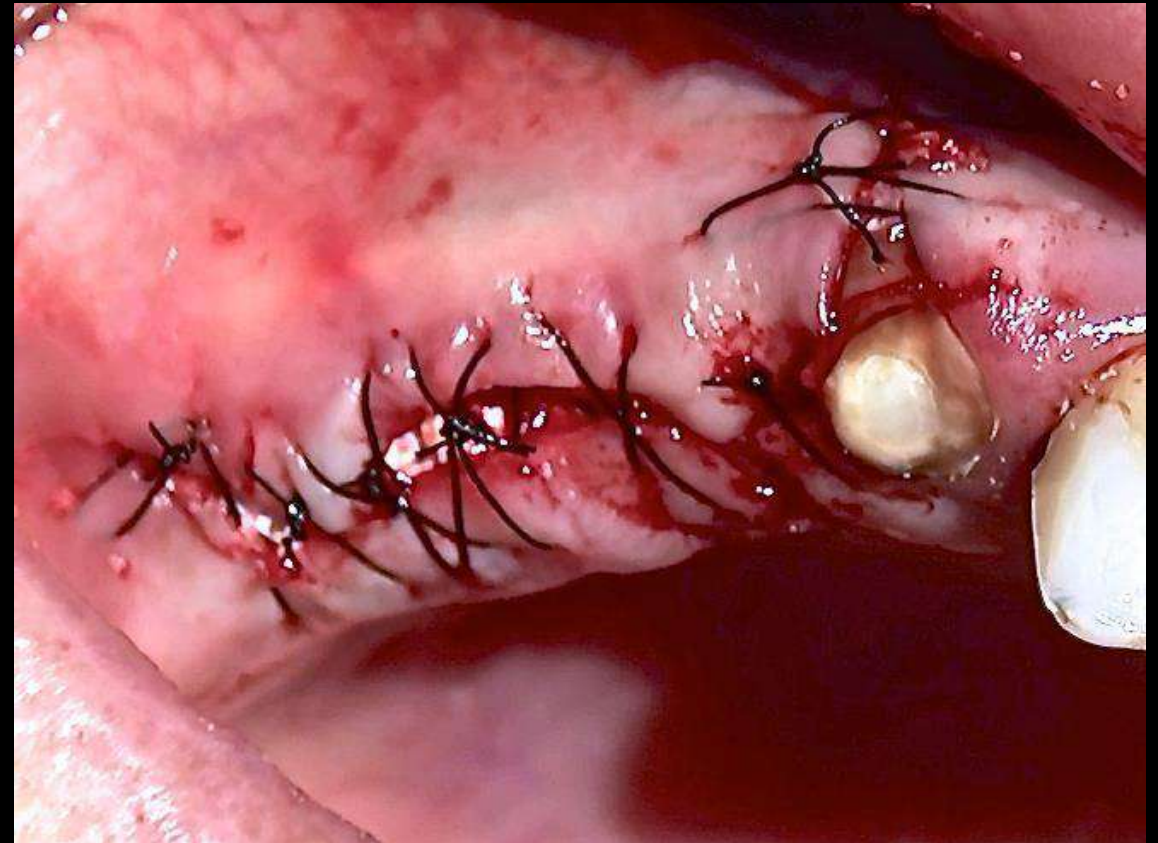
Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



Site grafted with adbone TCP



Suture



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



Follow-up: 1 week (PTF membrane is visible)

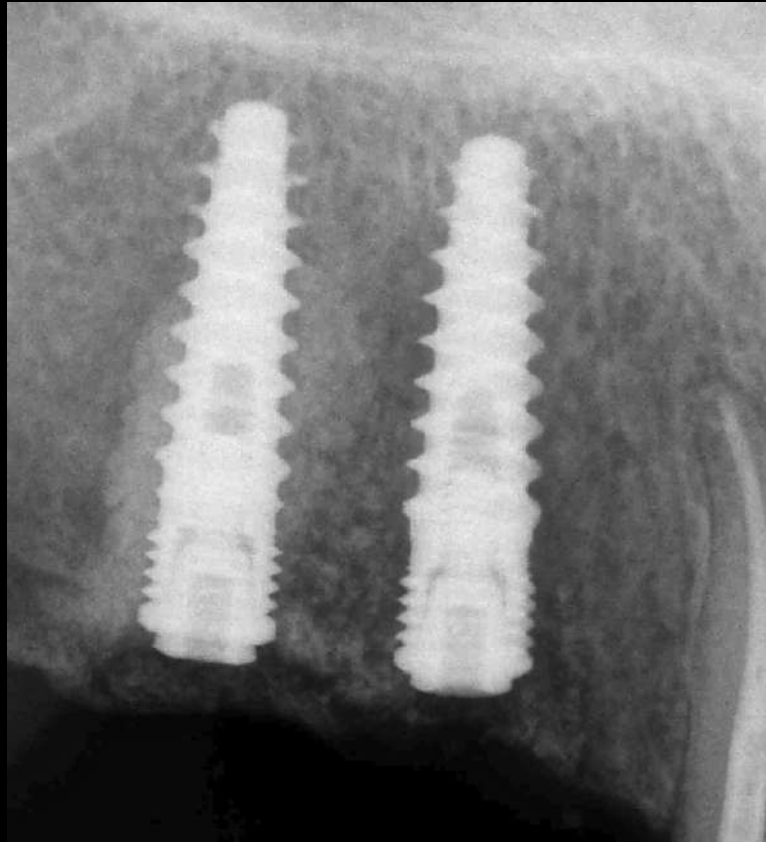


Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal

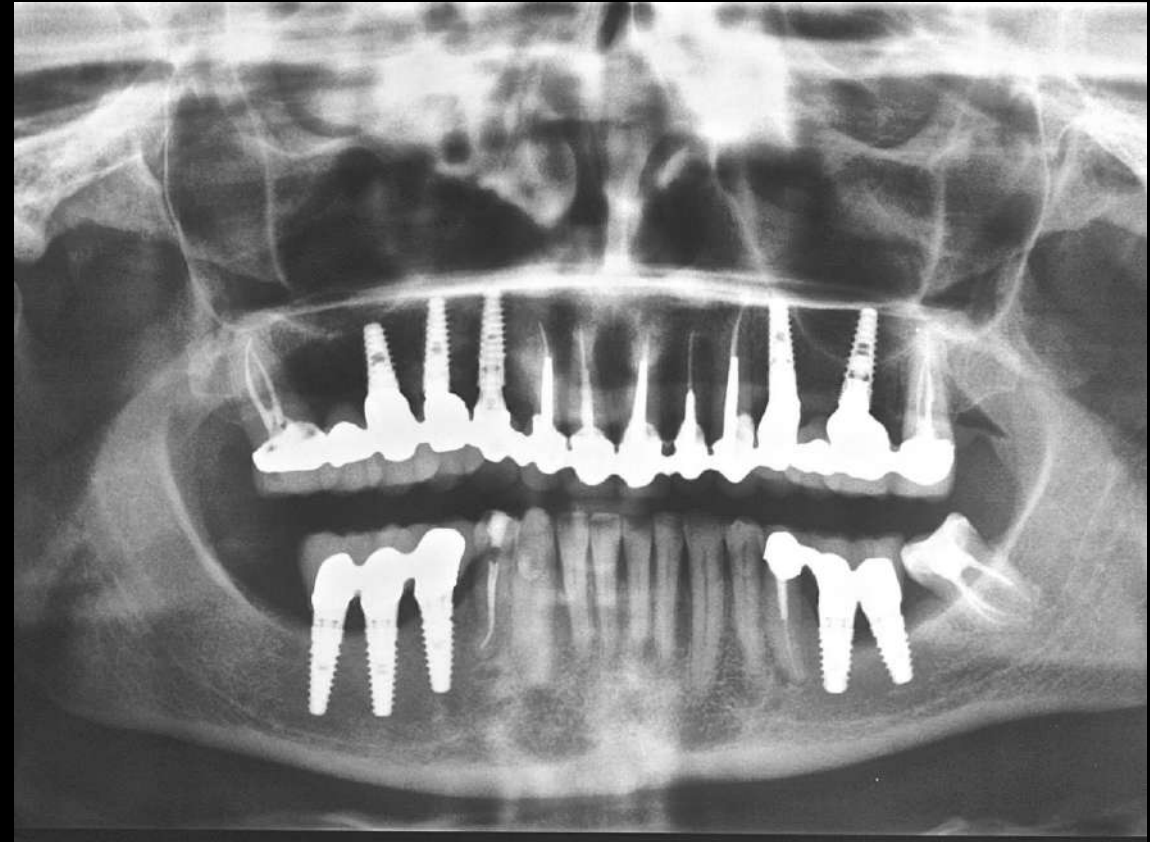


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Follow-up: 5 months X-Ray



Follow-up: 11 months X-Ray



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



Follow-up: Before and After

Before



After



Alveolar Crest Expansion
Dr. Hiram Fischer Trindade- Portugal



Bone Regeneration after Exodontia and Immediate Implant Placement

Bone Graft: adbone ® TCP (0.1-0.5 mm) 0,5g

Patient: Male, 35 years old



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**Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal**

Outcome

- A 35 year-old male patient presented a severe root
- resorption.
- Severe root resorption is very difficult to treat and
- often requires the extraction of teeth.
- The surgical phase was initiated with the removal of UR1. It was used 0,5g of [adboneTCP, 0.1 – 0.5 mm granules](#) , due to a severe bone loss.
- The implant was placed at the time of grafting.
- Radiographically, the bone density appeared to have improved in the UR1 place.

Before Surgery

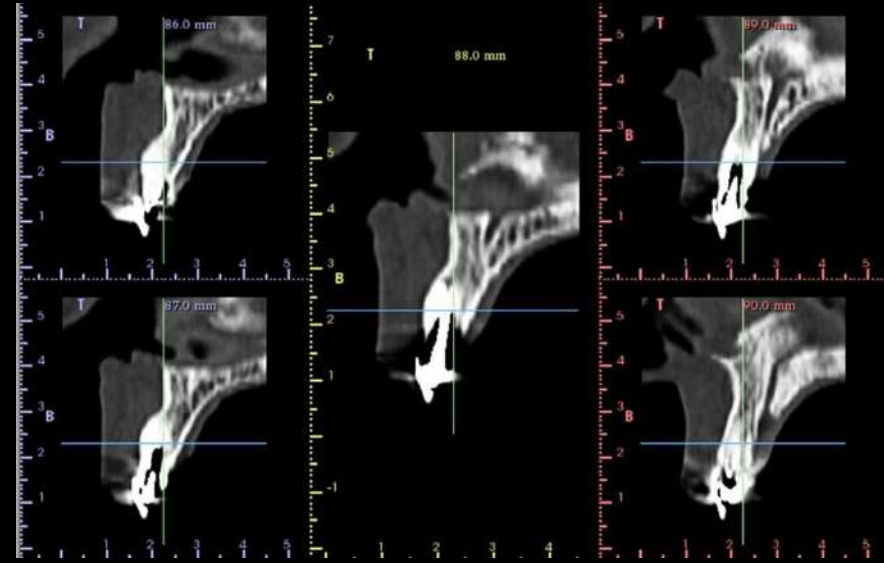
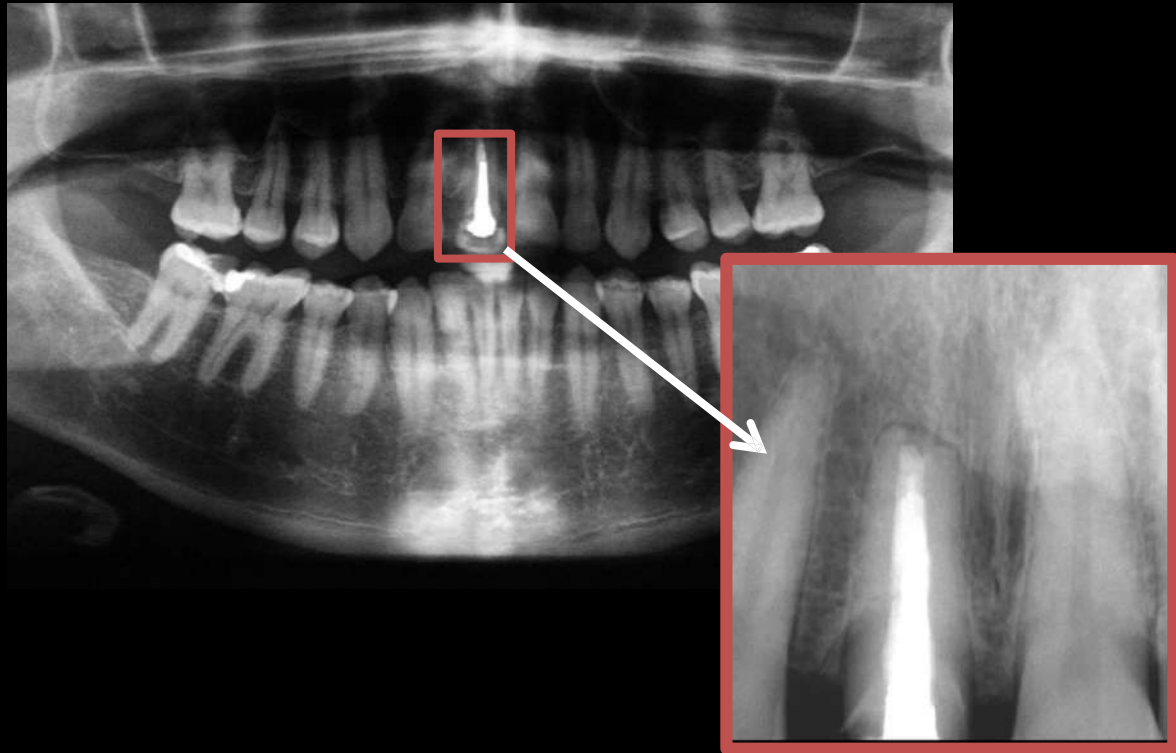
35 year-old male patient with a severe root resorption



Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



Radiographs illustrating the root resorption



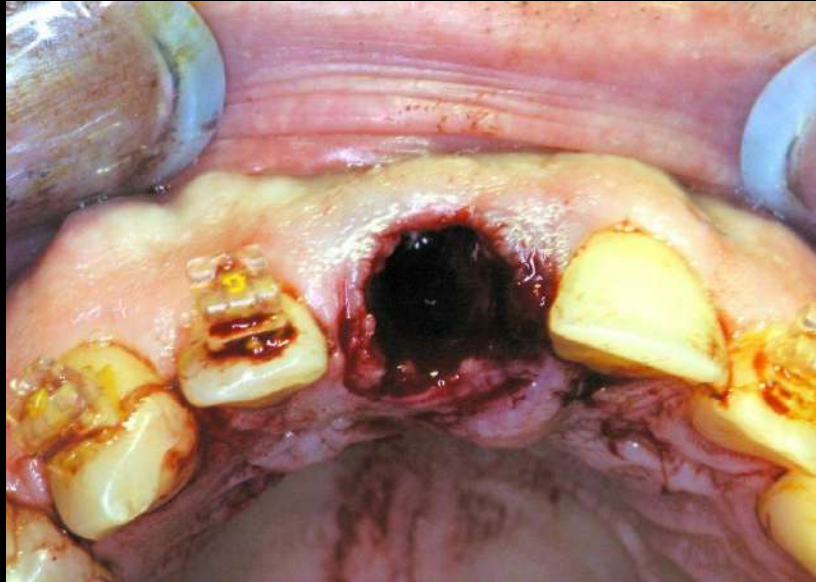
Initial CT - Prior to Treatment

Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



Exodontia

Root Extraction and Curettage

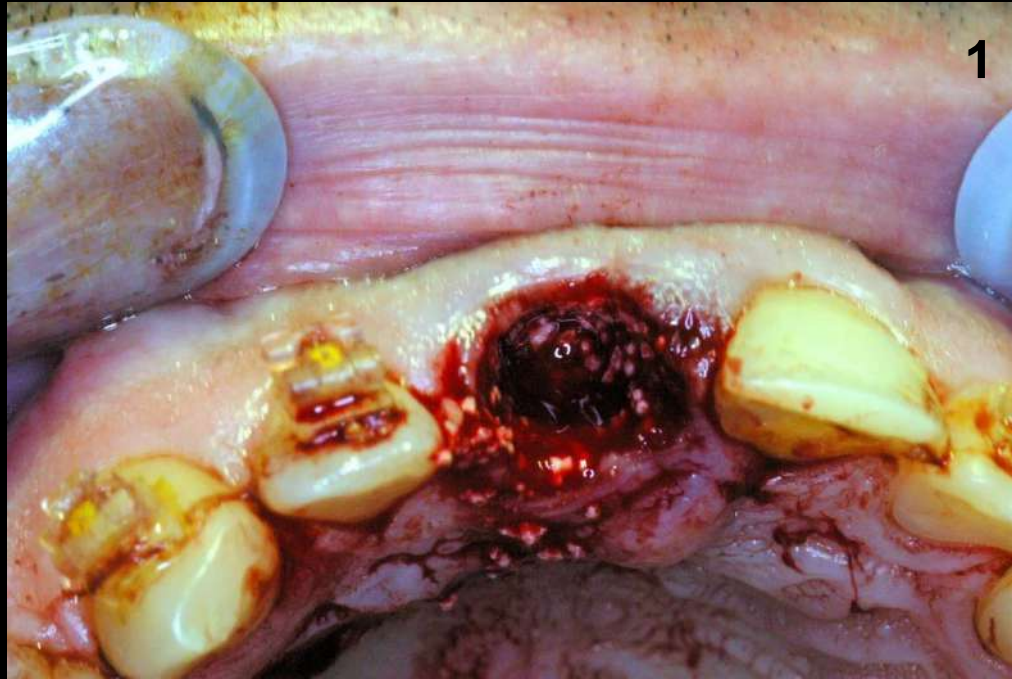


X-ray after the extraction



Bone Regeneration after Exodontia and immediate Implant Placement
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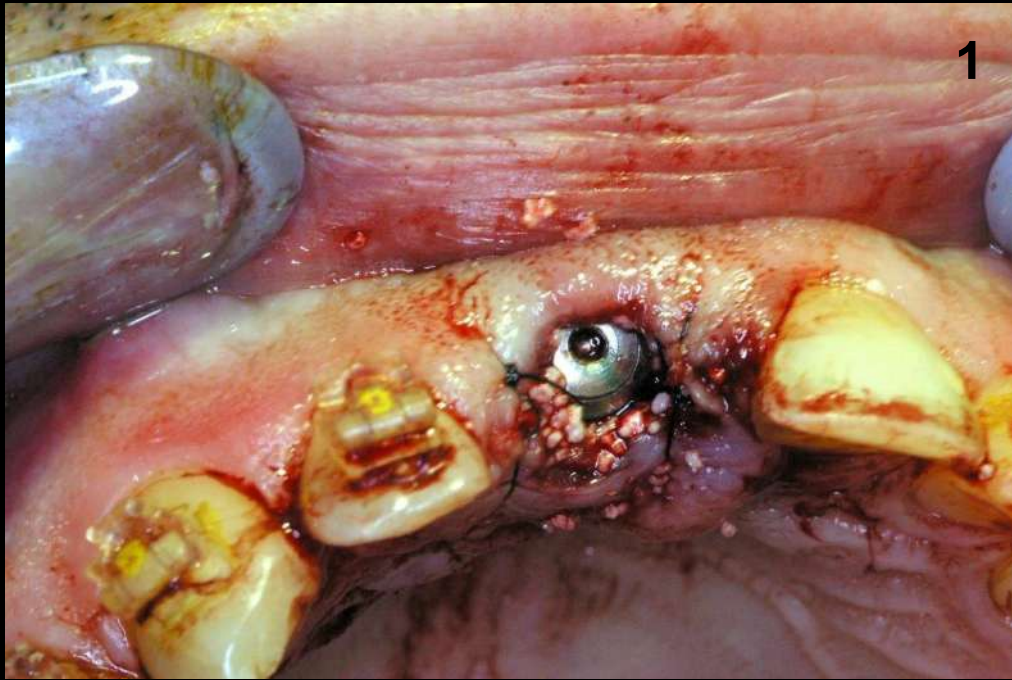




1. Insertion of adbone TCP
2. Post-operative radiograph showing the alveoli filled with bone graft.

Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal

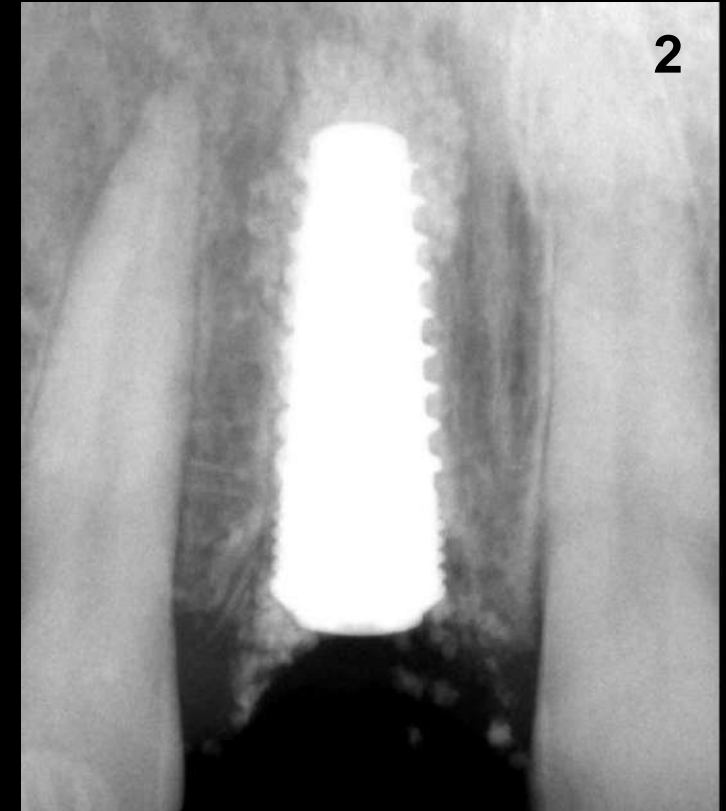




Implant placed simultaneous with grafting

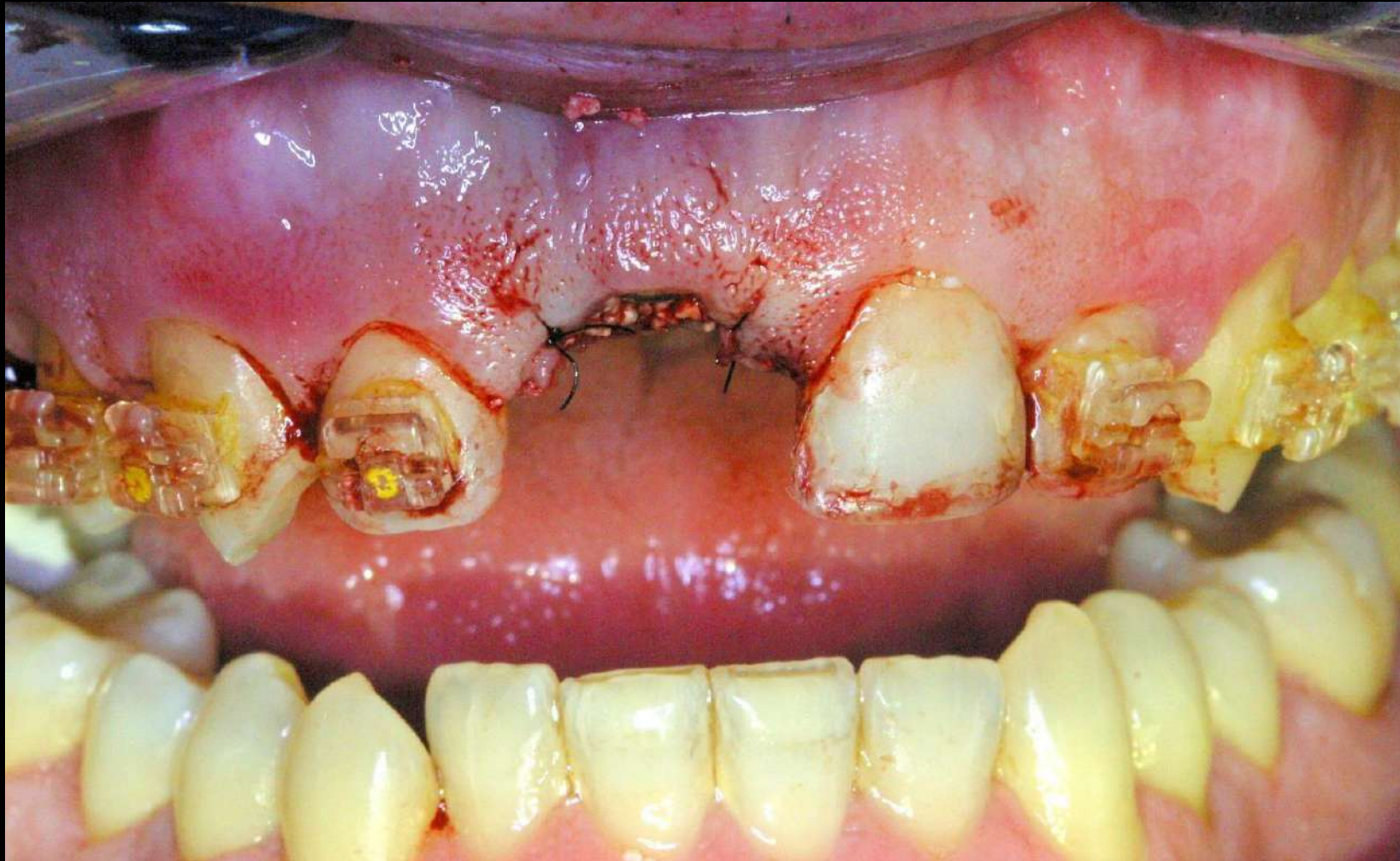
1. Implant Placement
2. Post-operative radiograph showing the immediate implant placement after bone grafting.

Radiograph from the day of the surgical procedure



Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal





Bone Regeneration after Exodontia and immediate Implant Placement
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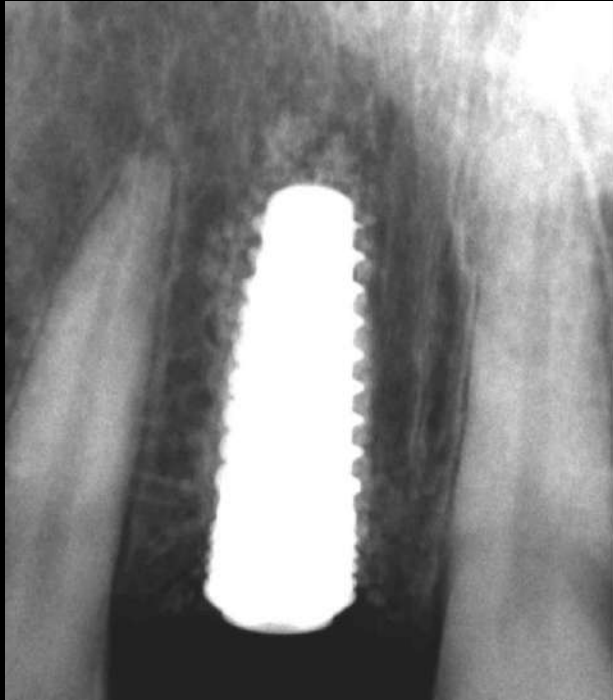
A week after the surgical procedure



Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



3 month follow-up



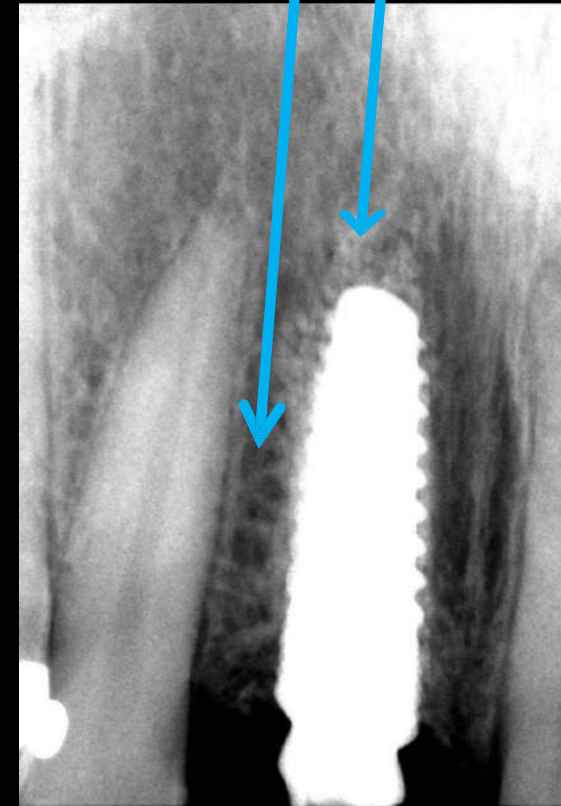
- Excellent bone formation around the implant
- No signals of infection or inflammation

Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



The shadows close to the implant reflect the excellent quality of the bone

- 6 months follow-up
- X-Ray illustrating the final prosthesis, waiting for the conclusion of the orthodontic treatment instead of the prosthetic rehabilitation



Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



- 12 months follow-up (January 2014)
- The case is not finished. Implant continues with temporary crown
- Still no signals of infection or inflammation



Bone Regeneration after Exodontia and immediate Implant Placement
Dr. Hiram Fischer Trindade - Portugal



Combination of adbone TCP with PRP + Sinus

Bone Graft: adbone®TCP (1-2 mm) 1g

Patient: Male, 45 years old



Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal

PRP for Bone Healing

- PRP – (autologous) Platelet-Rich Plasma
- Technique that acts as a source for growth factors in bone grafting.
- Its use has been predominantly in maxillofacial surgery as an autologous additive to bone grafts and soft tissue transplants
- Platelets and the growth factors they release are essential for regulating the cellular events that follow tissue damage. They adhere, aggregate, form a fibrin mesh, and subsequently release a large variety of growth factors and cytokines.
- Due to the advantages, each day more professionals choose to use this technique.

PRP for Bone Healing

- PRP has been shown to enhance the rate of bone formation and maturation, stimulating cell proliferation of osteoblasts and fibroblasts.

adbone®TCP 1-2 mm 1g



Preparation of PRP



Combination of adbone TCP with PRP + Sinus
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Mixture of adbone
with the rich fibrin clot
from PRP.



In this technique there is
no addition of
anticoagulants.

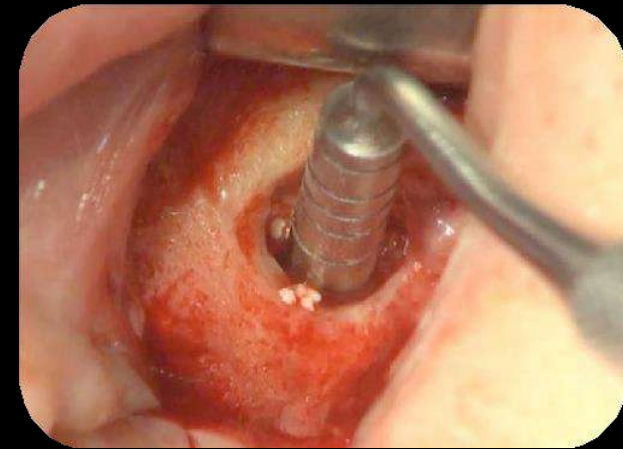
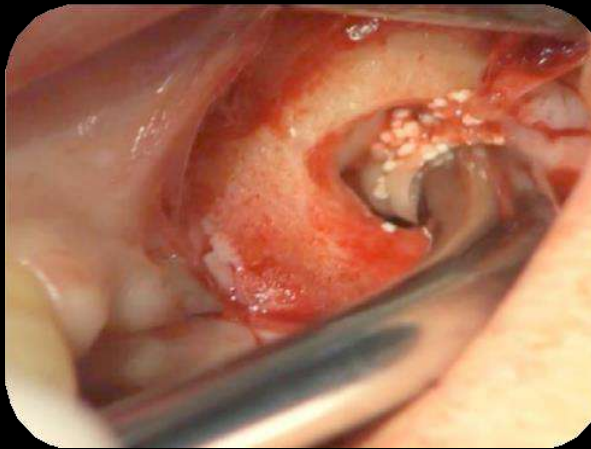
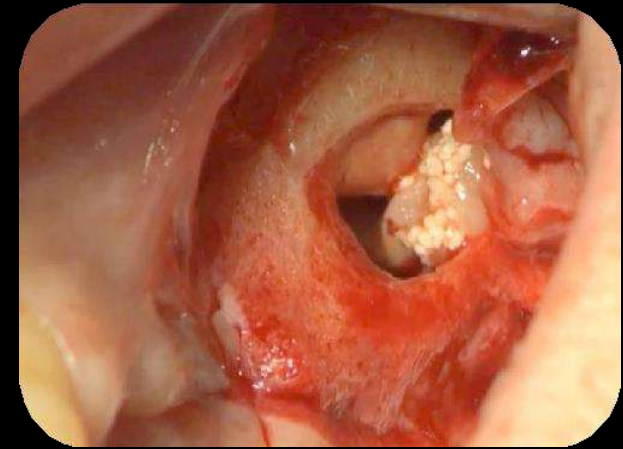
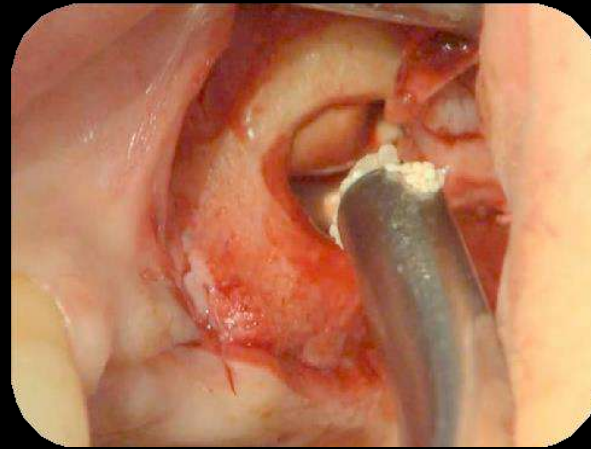


Combination of adbone TCP with PRP + Sinus
Dr. Hiram Fischer Trindade - Portugal



Maxillary Sinus Lift

- Intraoral images showing the left maxillary sinus filled with adbone TCP mixed with PRP.



Combination of adbone TCP with PRP + Sinus
Dr. Hiram Fischer Trindade - Portugal

Odontogenic Inflammatory Cyst

Bone Graft: adbone® TCP (0,5 - 1mm)

Patient: Female, 76 years old

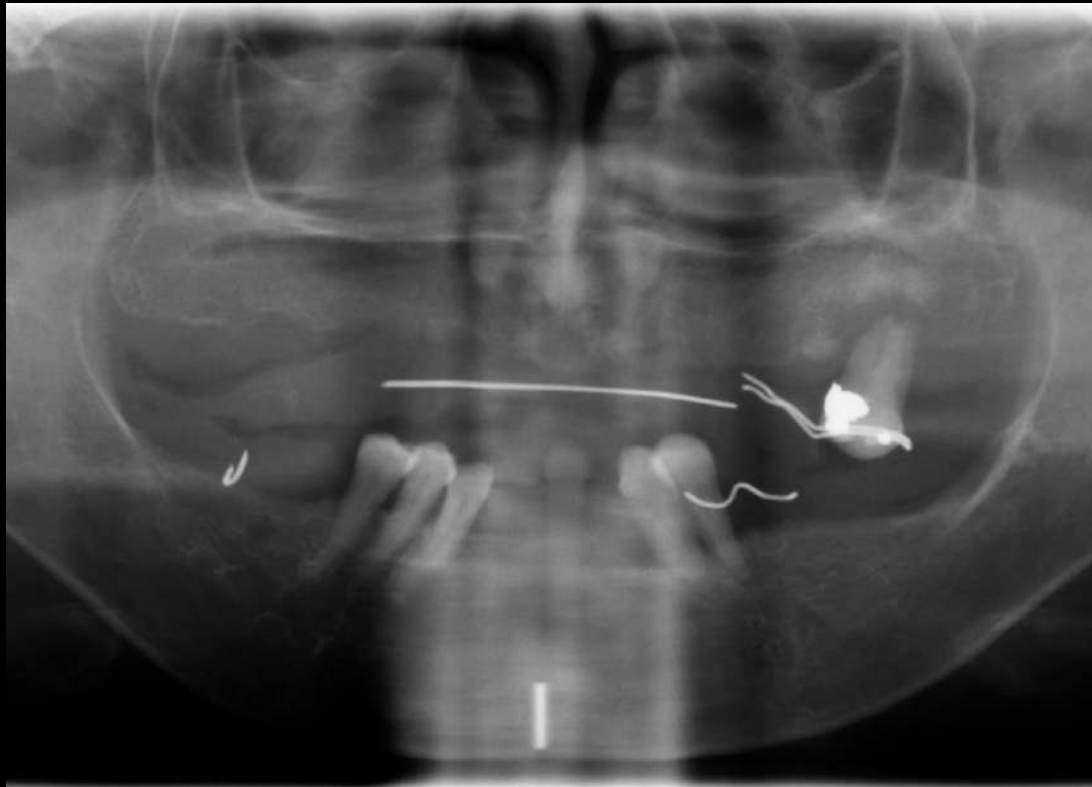


Dr. Luís Loureiro
Lisboa - Portugal

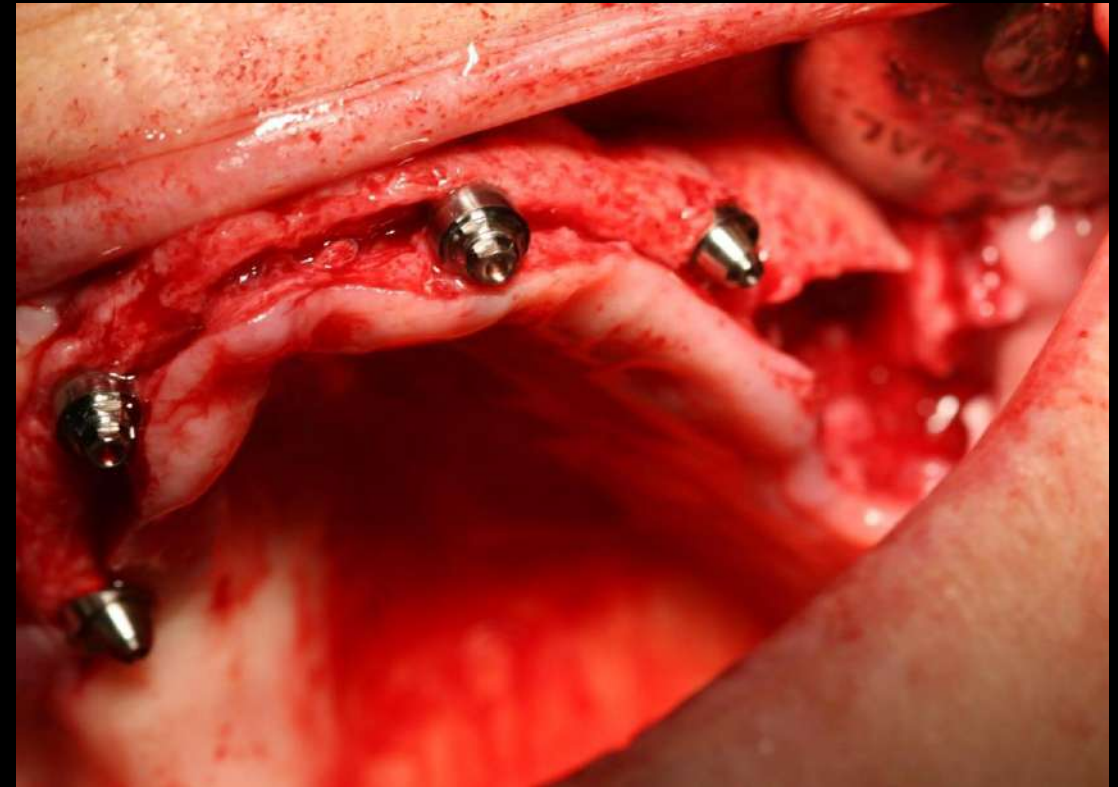
Outcome

- An odontogenic inflammatory cyst on a 76 year old female patient was extracted. The reconstruction of the area was performed with 1 g of [adbone®TCP, 0.5 – 1 mm](#) granules with the aim of leveling the osseous crest of the upper jaw for a better fitting of the immediate loading prosthesis.
- Monthly follow-ups were performed to monitor the rate of osteointegration and consequently the reduction of the cyst. Radiographic evidence is presented prior to surgery, after surgery and with a 5 and 7 month follow-up.

Prior to Surgery X-Ray

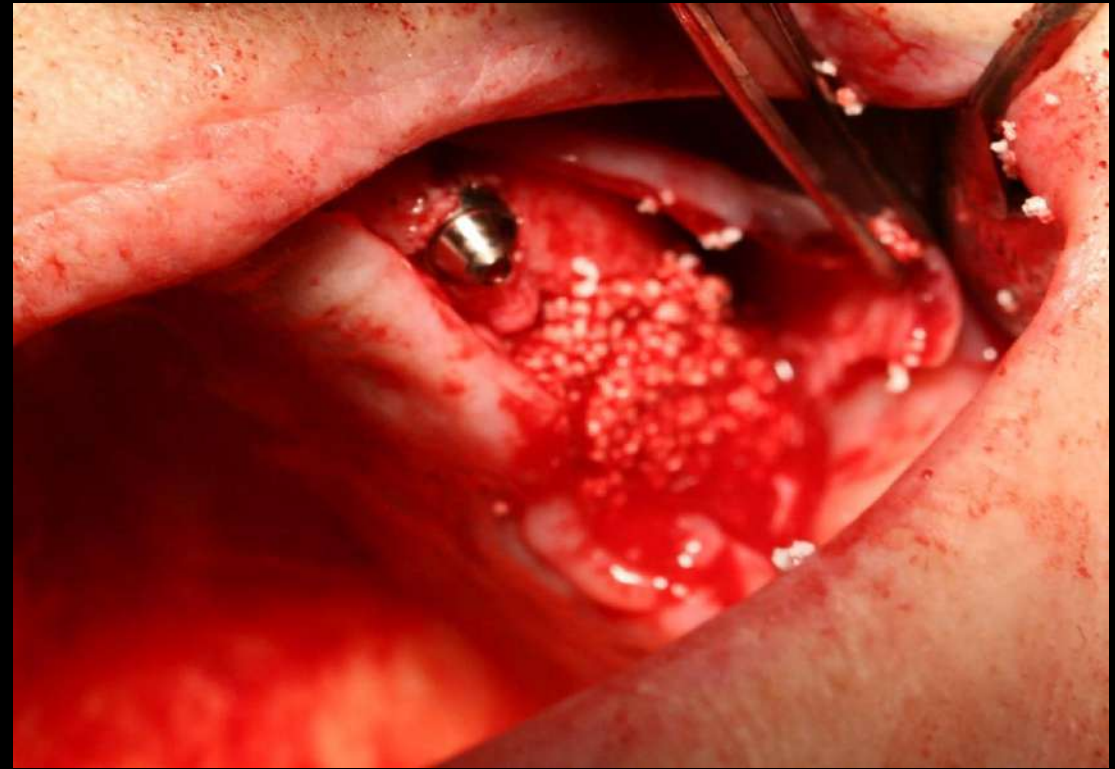


Cleaning of the Cyst



Odontogenic Inflammatory Cyst
Dr. Luís Loureiro- Portugal

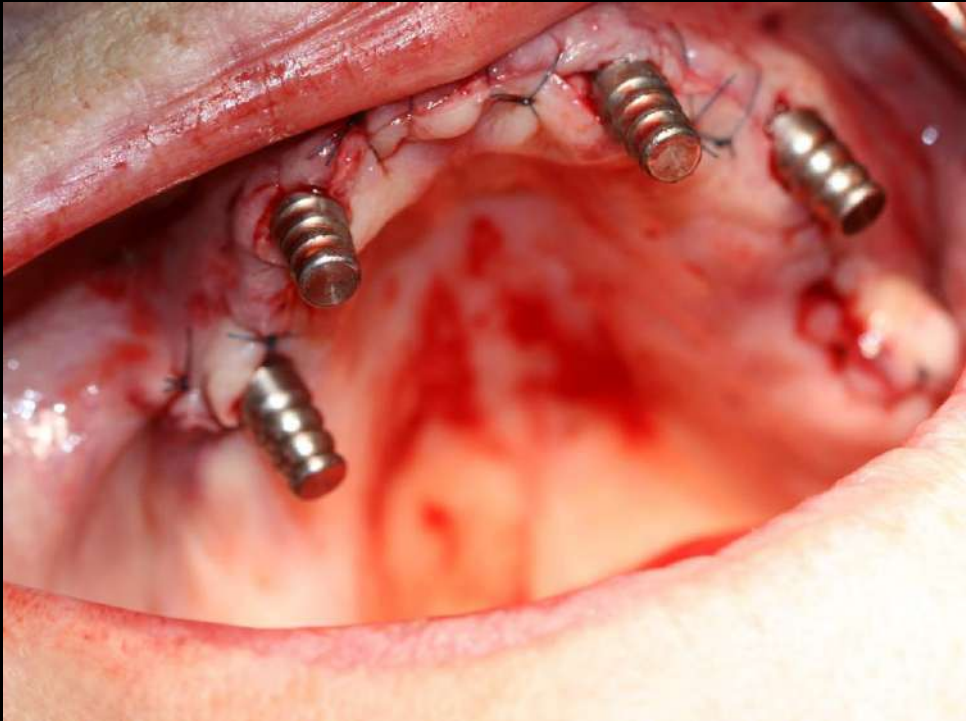
Filling of the Bone Cyst with adbone®TCP



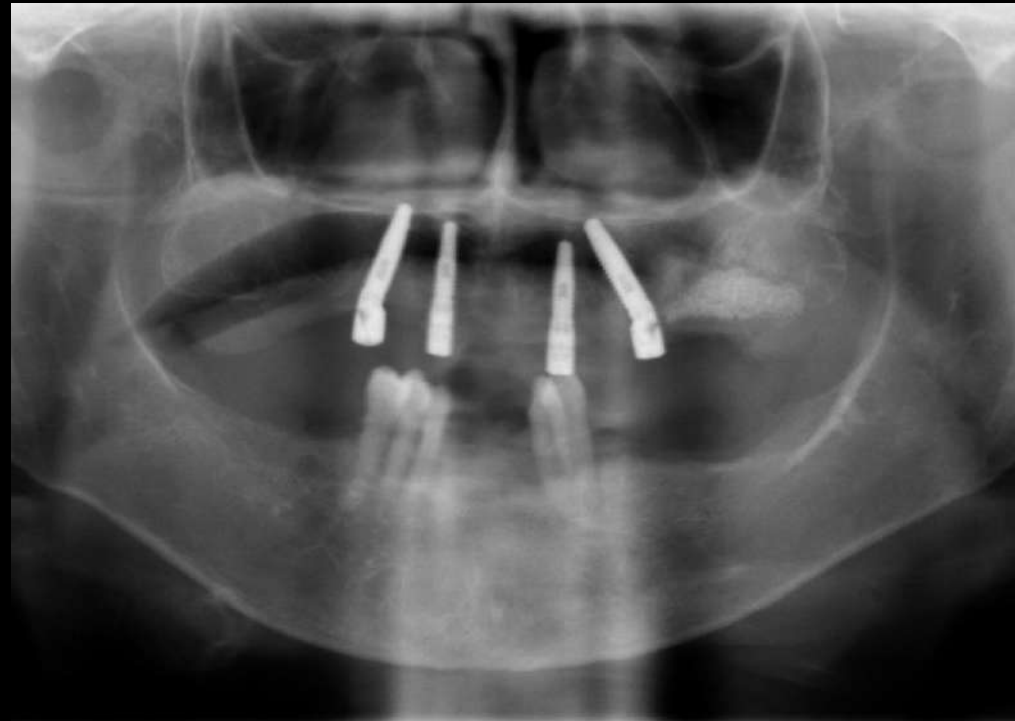
Odontogenic Inflammatory Cyst
Dr. Luís Loureiro- Portugal



Suturing



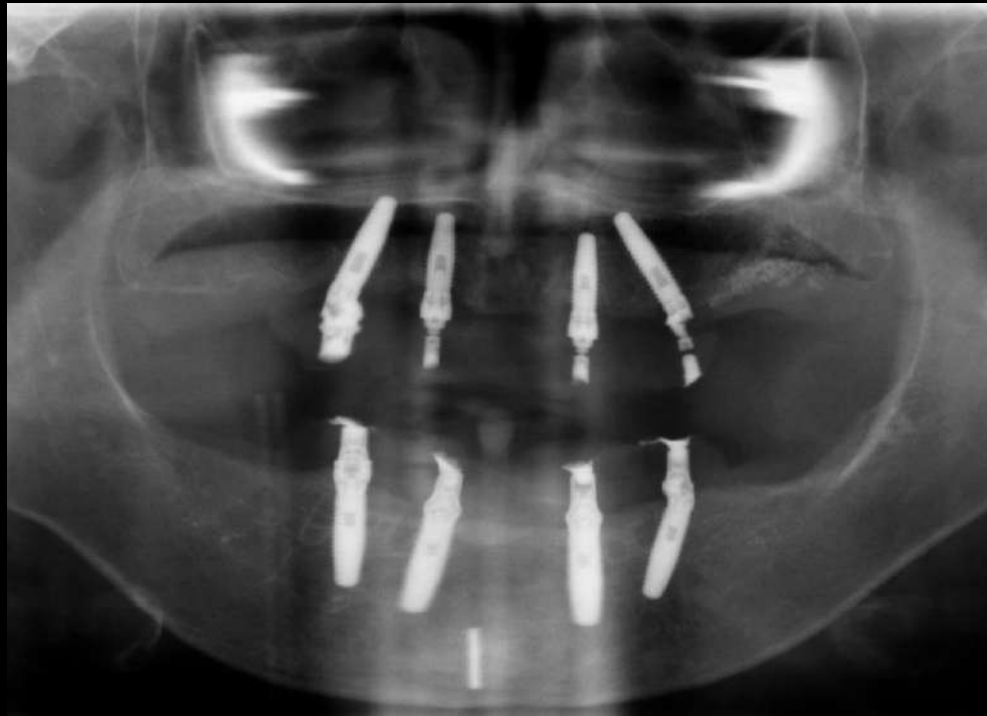
After Surgery X-Ray



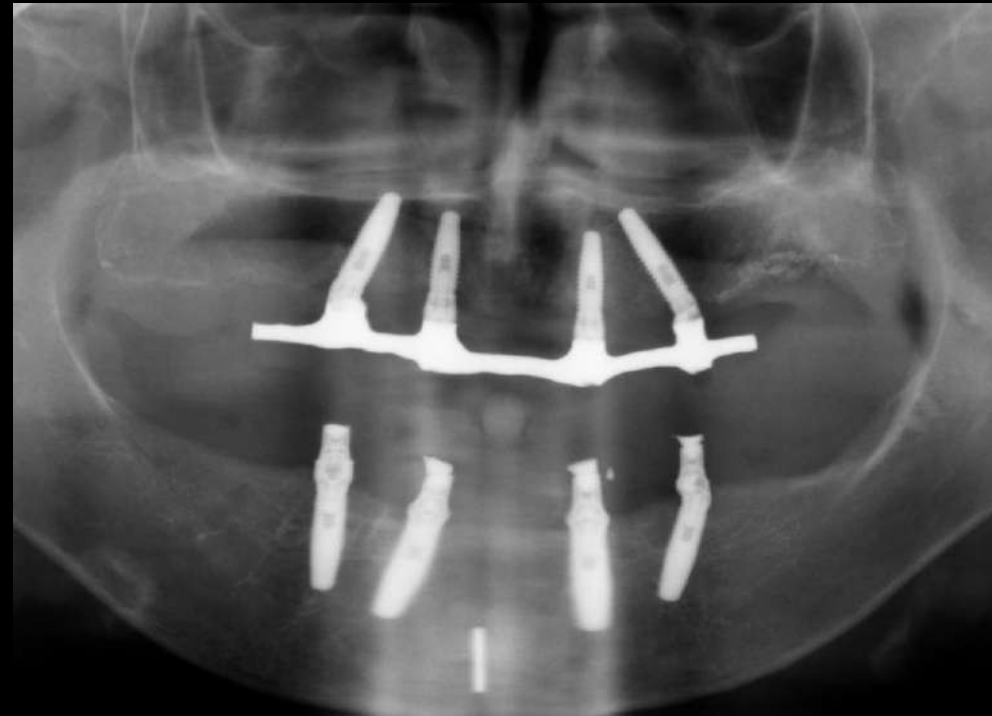
Odontogenic Inflammatory Cyst
Dr. Luís Loureiro- Portugal



5 months Follow-up X-Ray



7 months Follow-up X-Ray



Odontogenic Inflammatory Cyst Cleaning of the Cyst
Dr. Luís Loureiro- Portugal



Tooth Root Extraction

Bone Graft: adbone ® TCP 0,5 (0,1 – 0,5 mm)

Patient: Female, 67 years old



**Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal**

Outcome

- Bone grafting after tooth root 23 extraction was performed on a 67-year-old female patient. 0,5g of adbone®TCP 0,1 - 0,5 mm, was used due to a severe bone loss in the distal and buccal walls. It was not used PRP during all procedure.
- The extraction was performed in June 2012. After 6 months, the patient returned to place the implant. When opening the implantation site, regeneration of the alveolar process was visible.
- A 6 month follow-up X-ray is available.
- The implants (15 x 4.6 mm SV DUO CON) were then placed with
- immediate loading due to a very high density bone.
- The graft was done without any patches, using only the alveolar process already existent.
- 3 months later, the patient returned in order to place the ceramicdental crown.

Before Surgical
Procedure – Tooth
Root 23 visible in
the X-Ray



Tooth Root Extraction
Dr. Hiram Fischer Trindade - Portugal



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Follow-up: 6 month follow-up X-Ray – Alveolar regeneration is visible

6 months after tooth root
23 extraction



Regeneration of the
alveolar process is
already visible



Tooth Root Extraction
Dr. Hiram Fischer Trindade - Portugal



Follow-up: 6 month follow-up X-Ray (left)– Implant placement after alveolar regeneration

After bone regeneration, the implant was placed

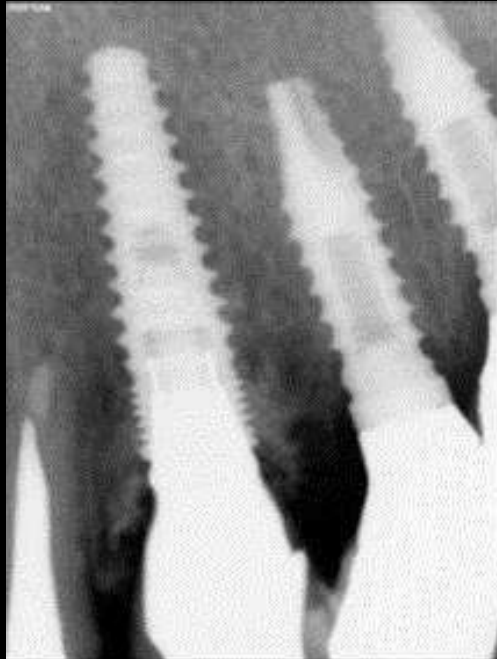


Tooth Root Extraction
Dr. Hiram Fischer Trindade - Portugal



Follow-up: 9 month follow-up X-Ray (left) – Placement of the ceramic dental crown

3 months late the patient returned to place the ceramic dental crown



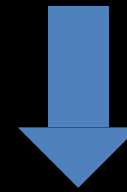
Bone Grafting to reconstruct the cortical bone is a difficult procedure, due to esthetic impairment. In this case the result was excellent.

Tooth Root Extraction
Dr. Hiram Fischer Trindade - Portugal





The patient was asked to do a CT scan - the only way to see a 3D reconstruction of the alveolar structure - to show the bone formation



Regeneration of dense bone tissue on the buccal wall, similar to dense cortical bone.

Outcome Highly Positive

Tooth Root Extraction
Dr. Hiram Fischer Trindade - Portugal



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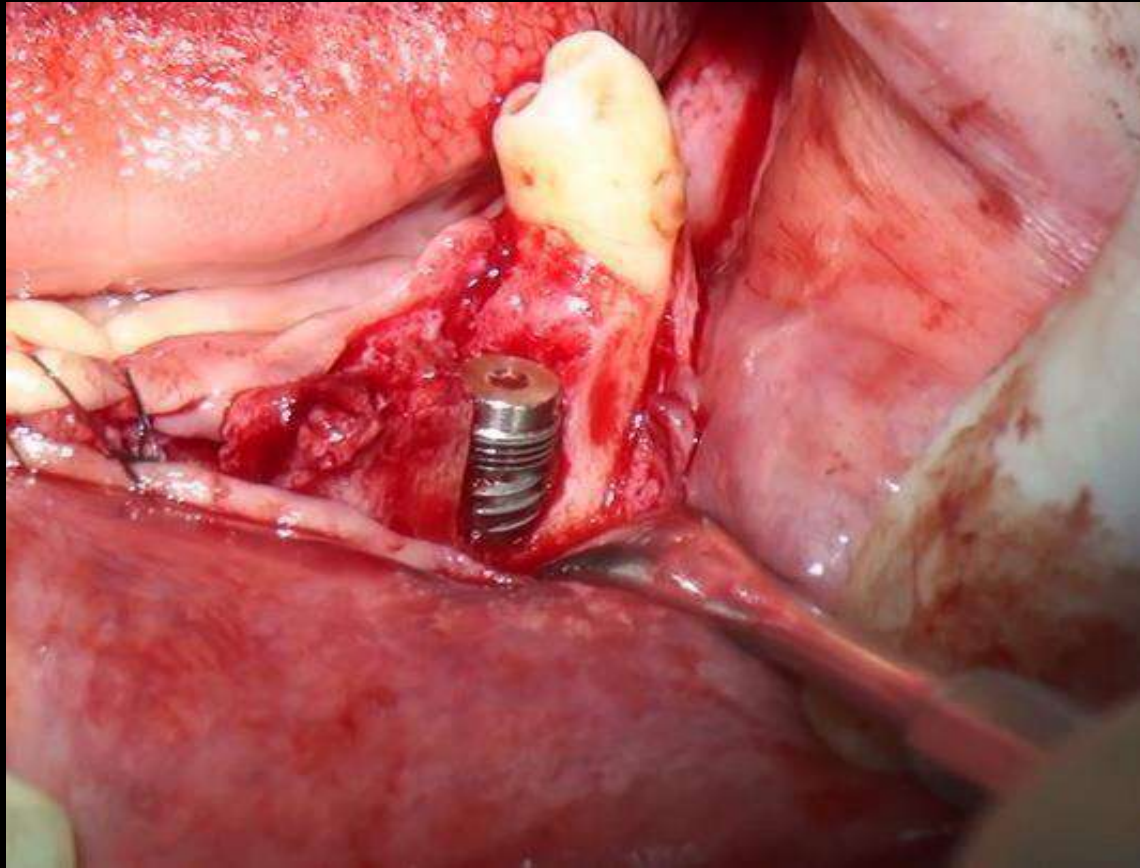
Alveolar Regeneration

Bone Graft: adbone ® TCP (0,1 – 0,5 mm) 1g

Patient: Male, 30 years old



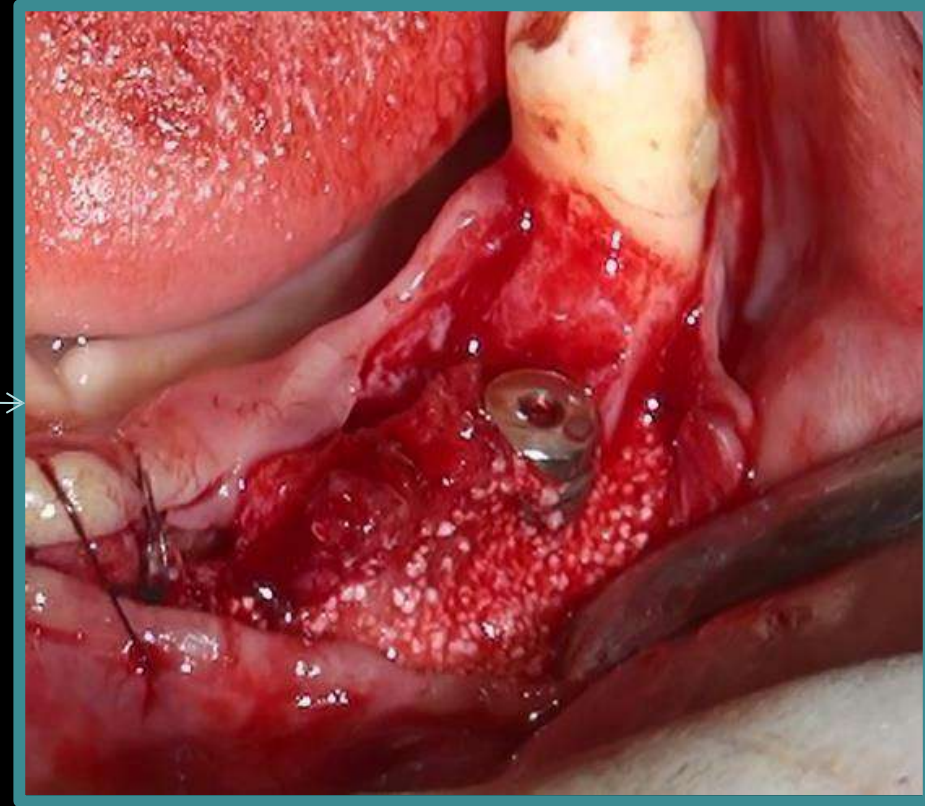
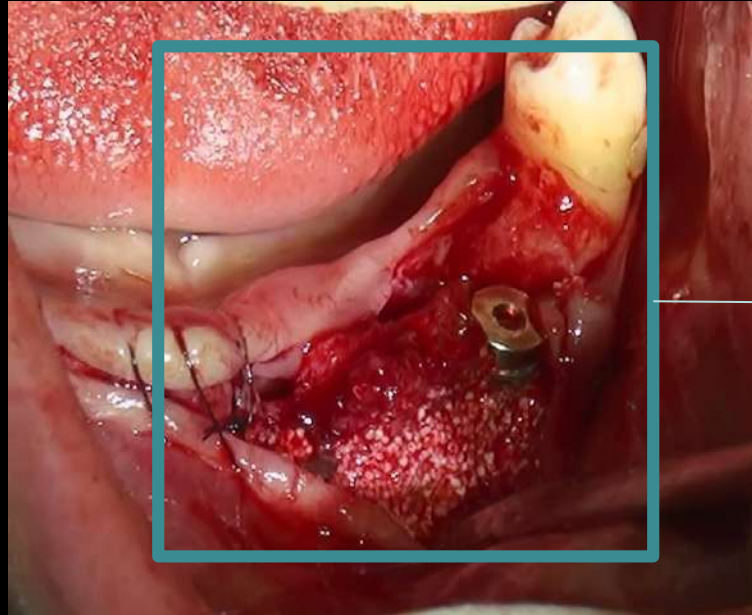
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Portugal



Alveolar Regeneration
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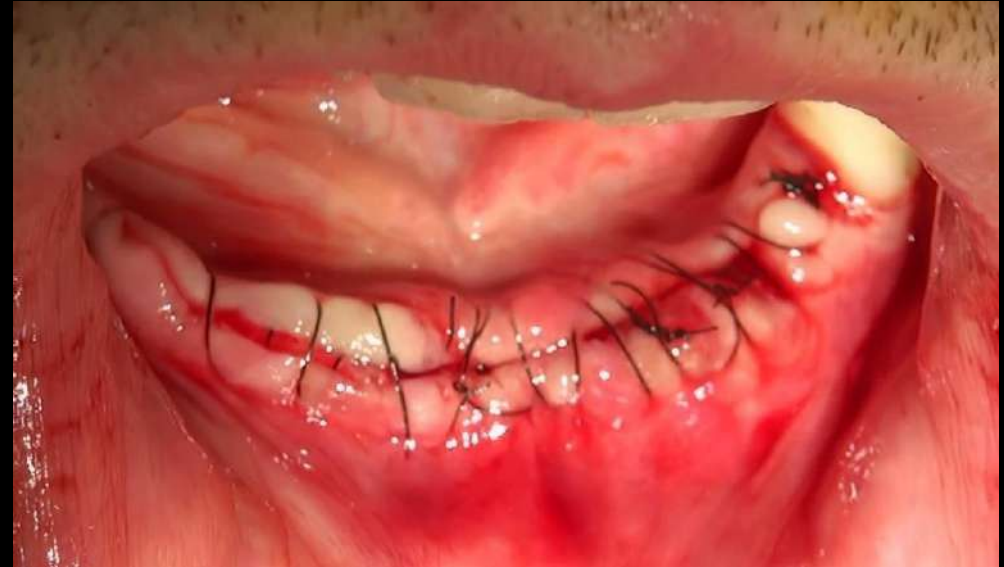
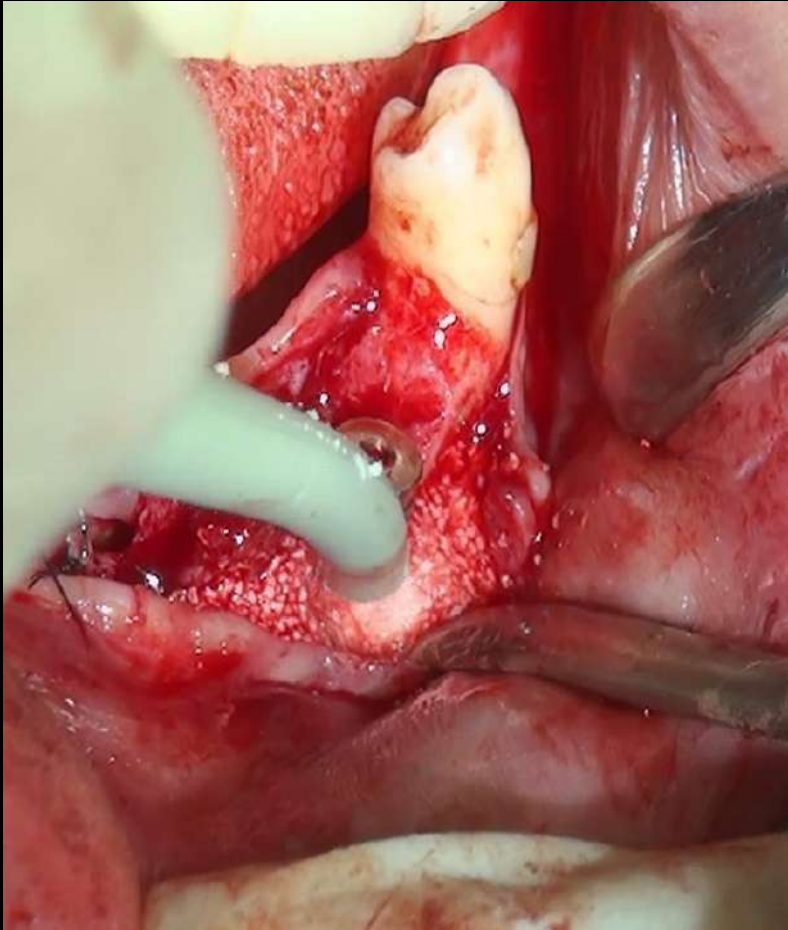
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Alveolar Regeneration
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Alveolar Regeneration
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Atraumatic Sinus Lift

Bone Graft: adbone ® TCP (0,5 – 1 mm) 1g

Pacient: Male, 43 years old

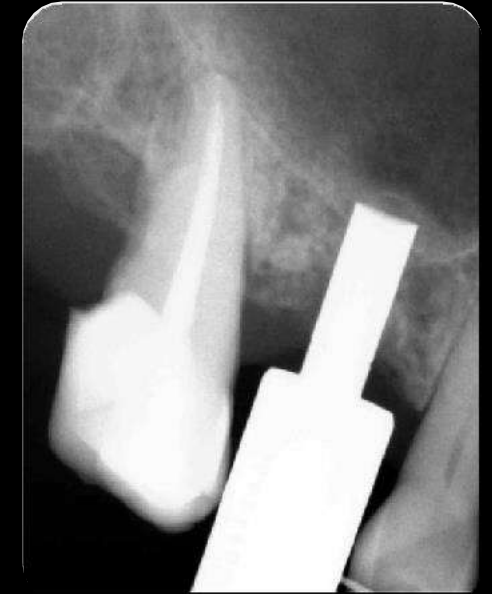


**Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal**

Pre-operative radiograph showing the bone defect



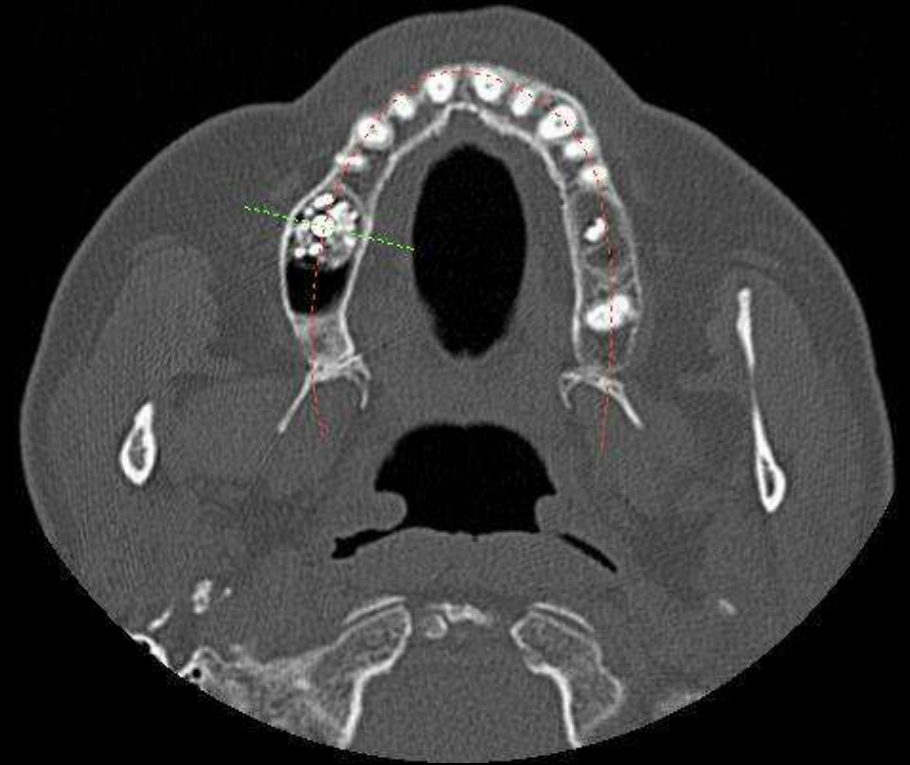
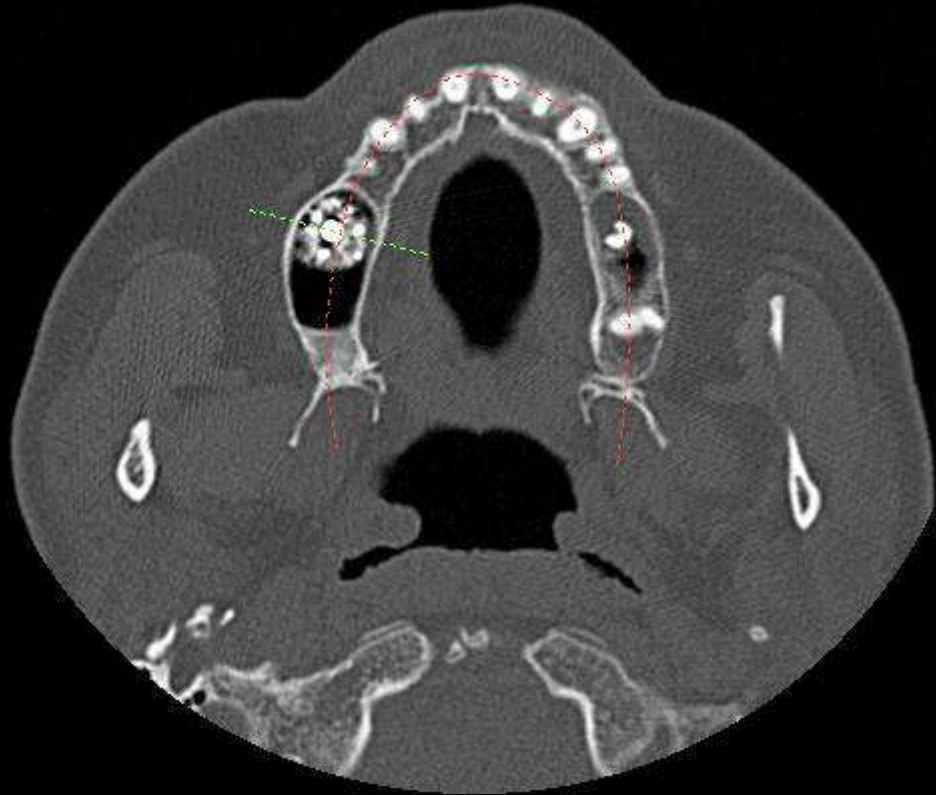
Grafting of the buccal concavity with adbone TCP in the sinus.



Atraumatic Sinus Lift
Dr. Hiram Fischer Trindade - Portugal



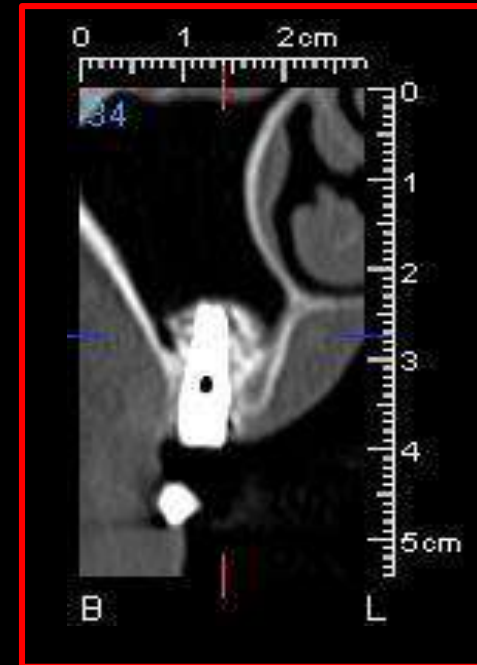
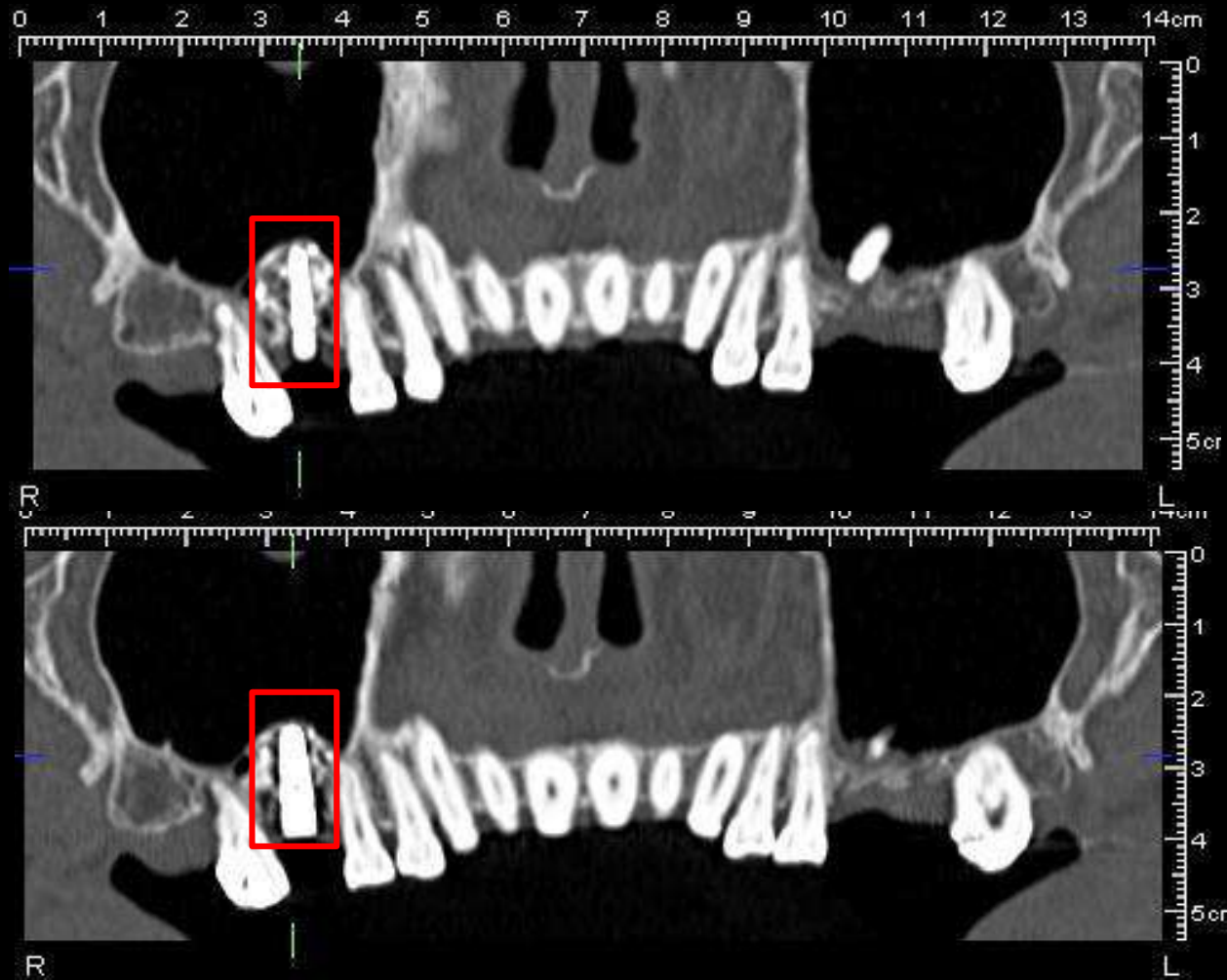
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Atraumatic Sinus Lift
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Atraumatic Sinus Lift
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Atraumatic Sinus Lift

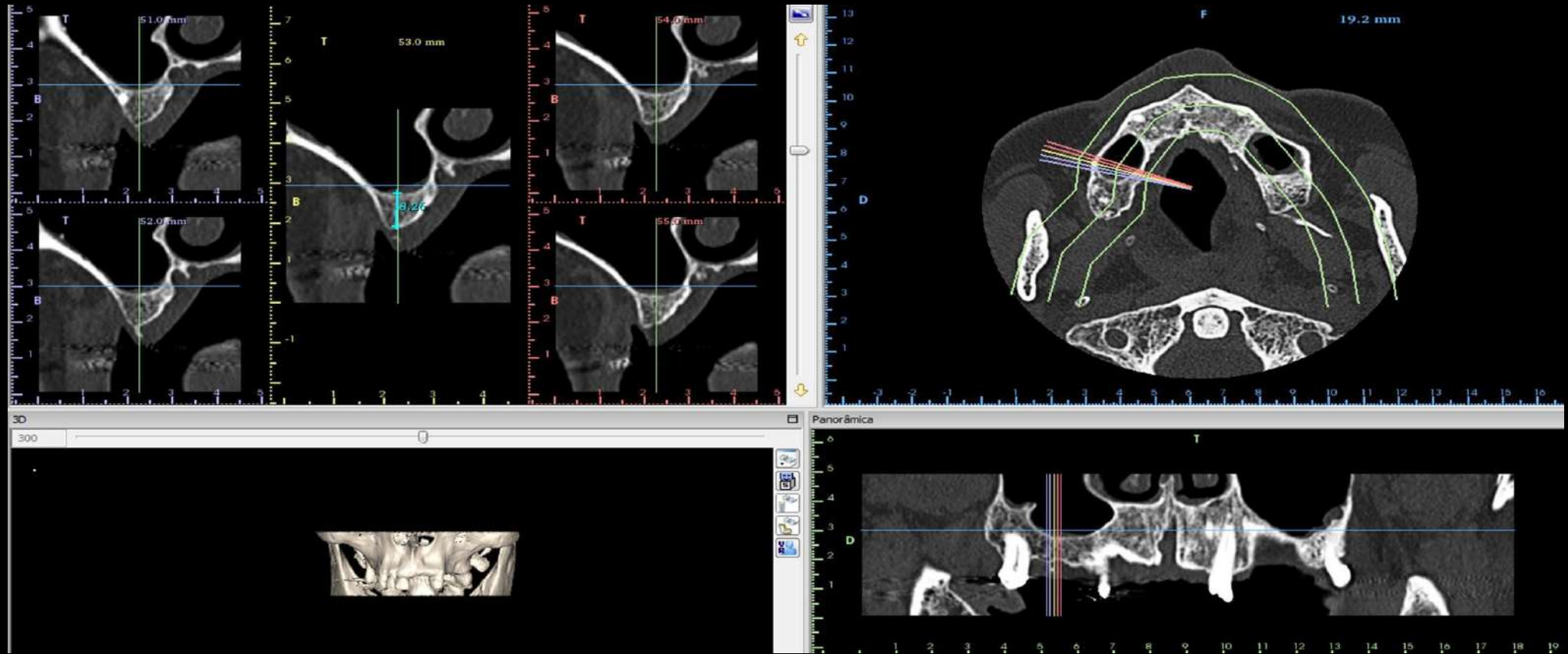
Bone Graft: adbone ® TCP (0,5 – 1 mm) 1g

Pacient: Female, 30 years old



**Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal**

CT prior to treatment

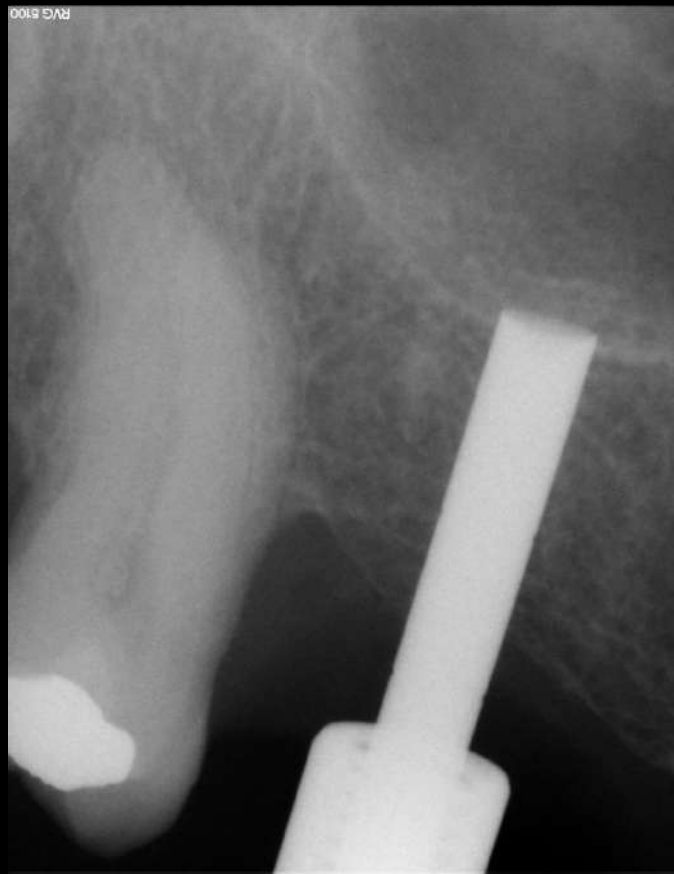


Atraumatic Sinus Lift
Dr. Hiram Fischer Trindade - Portugal





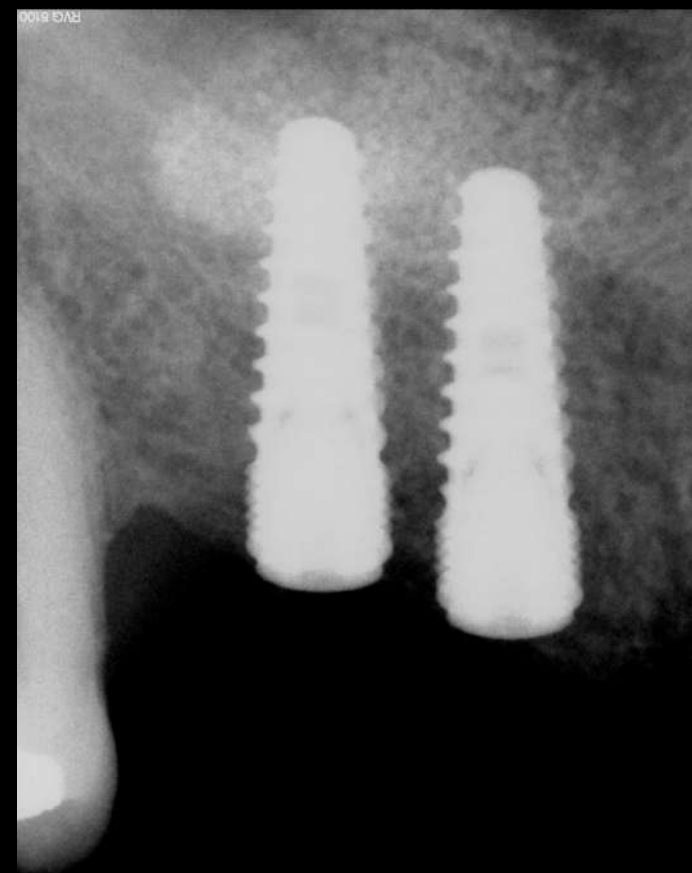
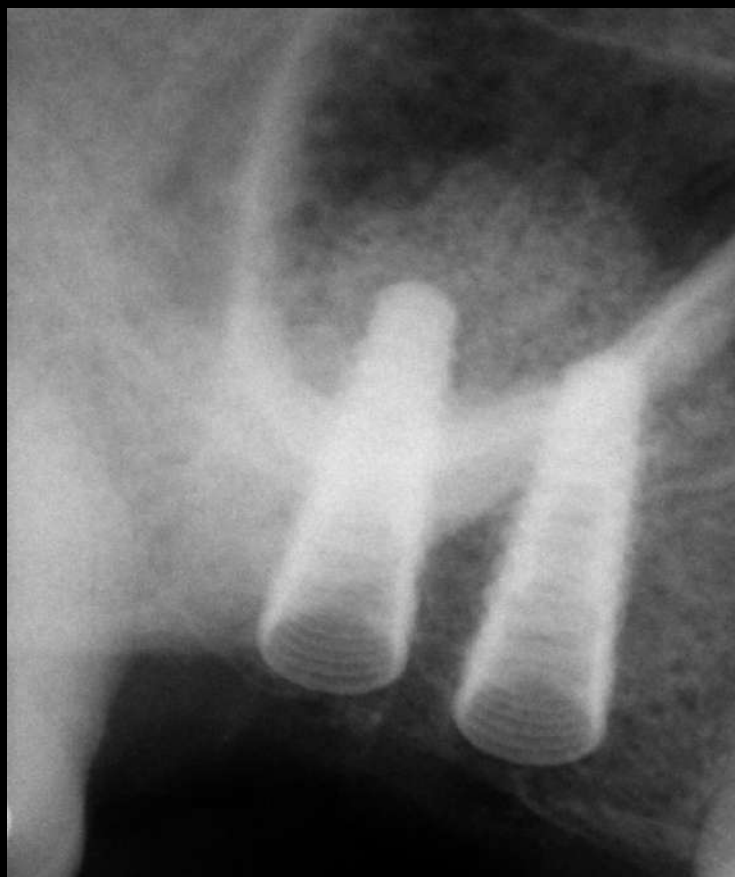
Atraumatic Sinus Lift
Dr. Hiram Fischer Trindade - Portugal



Atraumatic Sinus Lift
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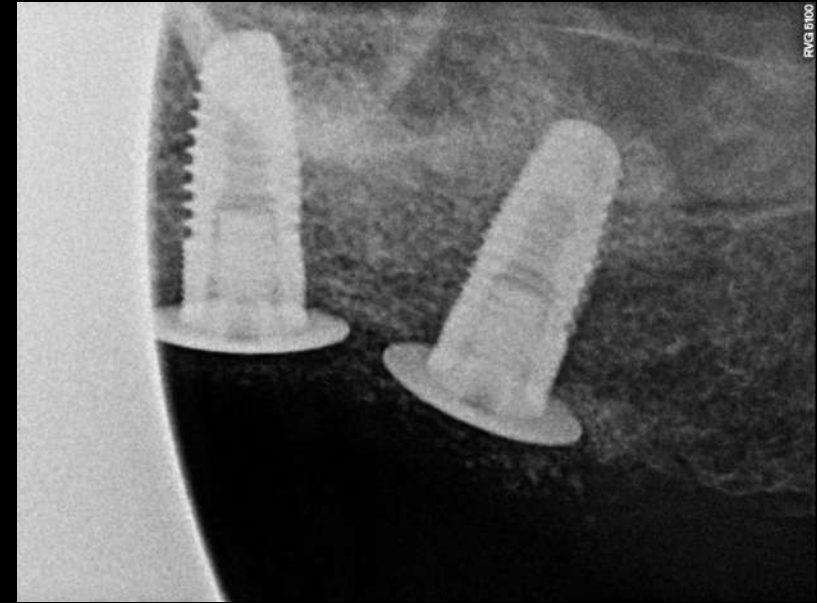
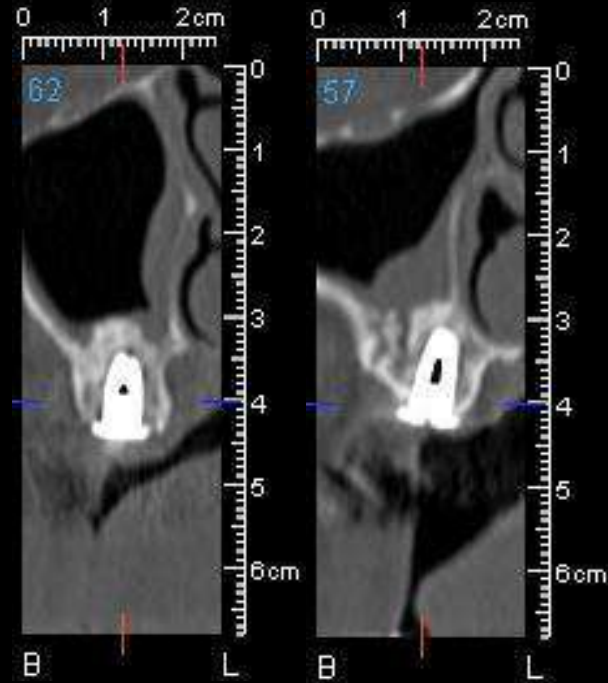
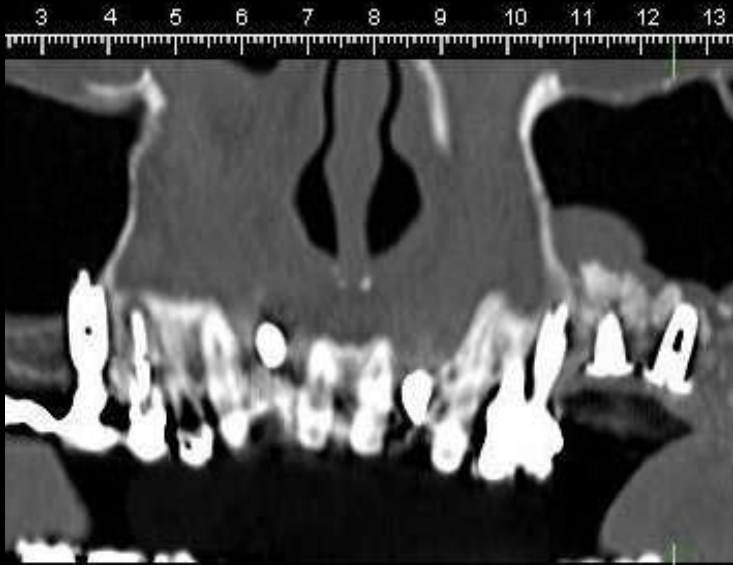
Bone Augmentation and implant Placement

Bone Graft: adbone ® TCP (0,5 – 1 mm) 0,5g

Pacient: Male



**Dr. Hiram Fischer Trindade European
Implantology Center EIC
Portugal**



- Defects were grafted with adbone TCP
- Placement of 2 dental implants

Bone Augmentation and implant Placement
Dr. Hiram Fischer Trindade - Portugal



Placement of titanium prosthesis
abutments after 3 months from
implant placement surgery.



Bone Augmentation and implant Placement
Dr. Hiram Fischer Trindade - Portugal



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Placement of 2 provisional acrylic crowns connected together.
The final restoration with definitive prosthesis was scheduled
after 3 months.



Bone Augmentation and implant Placement
Dr. Hiram Fischer Trindade - Portugal



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Bone Regeneration after Tooth Extraction and implant Placement

Bone Graft: adbone ® TCP (0,5 – 1 mm) 0,5g

Pacient: Male, 50 years old

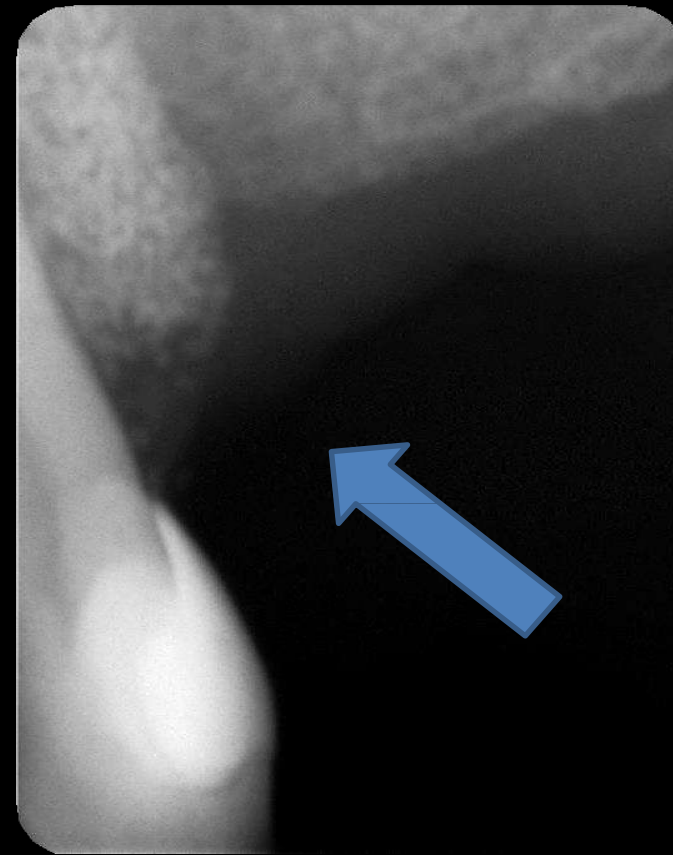
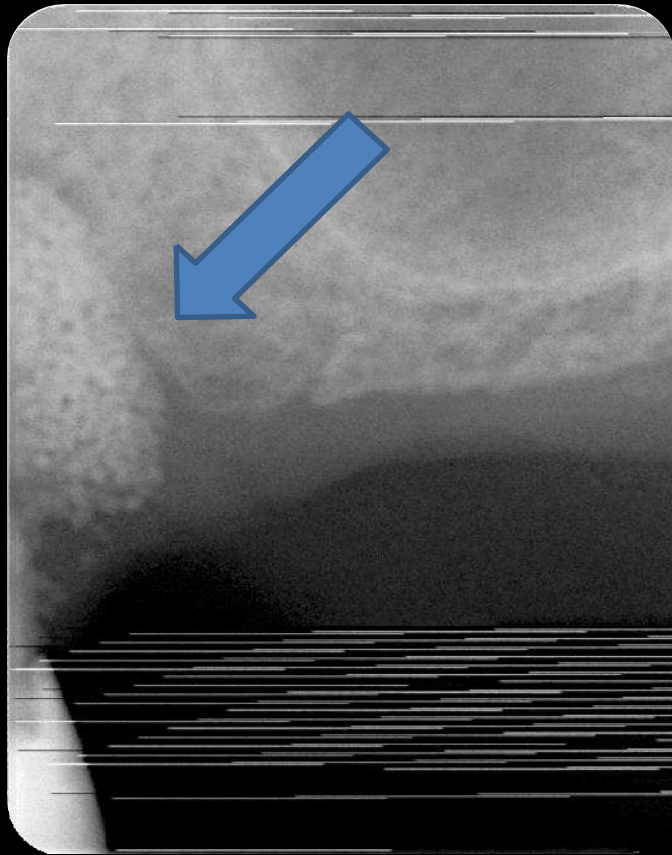


**Dr.ª Margarida Gabriel
Portugal**

Outcome

- An extraction of the tooth 24 was performed on a 50 years old male patient using granules [adbone®TCP, 0.5 – 1 mm](#).
 - The patient lost this tooth and bone grafting was needed to regenerate the bone defect.
 - A dental implant was posteriorly placed.
 - A 7 month follow-up X-Ray is available.
 - The clinical case is finished complete and it was
- successful.

X-Ray performed immediately after surgery



Bone Regeneration after Tooth Extraction and implant Placement
Dr.ª Margarida Gabriel - Portugal



X-Ray performed one week after implant surgery



Bone Regeneration after Tooth Extraction and implant Placement
Dr.ª Margarida Gabriel - Portugal



-Follow-up: 7 months X-Ray

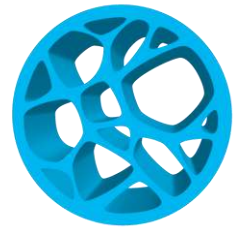
- adbone®TCP was
completely resorbed and
replaced by new vital bone



Bone Regeneration after Tooth Extraction and implant Placement
Dr.ª Margarida Gabriel - Portugal



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Medbone[®]
BIOMATERIALS

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