

# CASE STUDY

NON FIDARTI DELLE  
PAROLE, FIDATI DEI  
RISULTATI

**Scopri i casi studio che dimostrano l'efficacia di Aditus  
Dental Putty nelle rigenerazioni ossee**



01

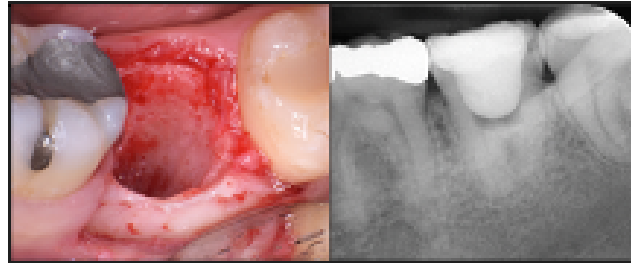
# CASE STUDY

## Alveolar ridge preservation su paziente donna

### BACKGROUND

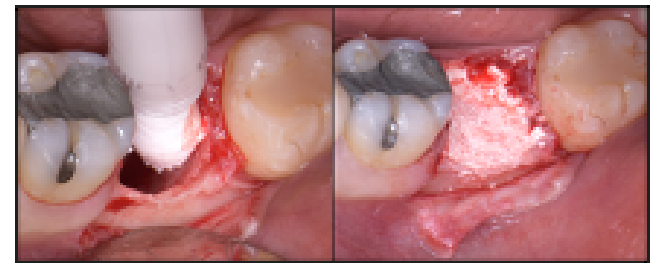
- Female patient
- 30 years old
- Failing non-restorable 37
- Case performed by Dr. Minas Leventis, DDS, MSc, PhD, UK

### CASE STUDY



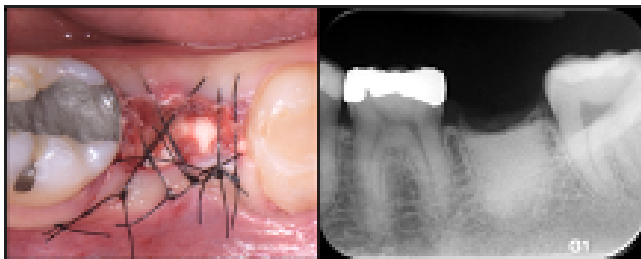
1

Initial situation. Non restorable lower left first molar. After removing the tooth there was no septal bone present, leading to a large bone defect. The buccal wall was preserved but was very thin.



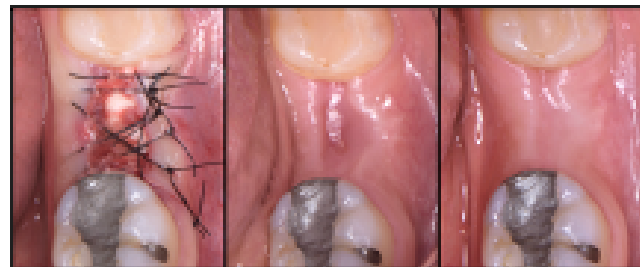
2

Aditus Dental Putty was used as a fully-resorbable, osteoinductive grafting material to graft the socket, limit the resorption, and promote the regeneration of high-quality bone.



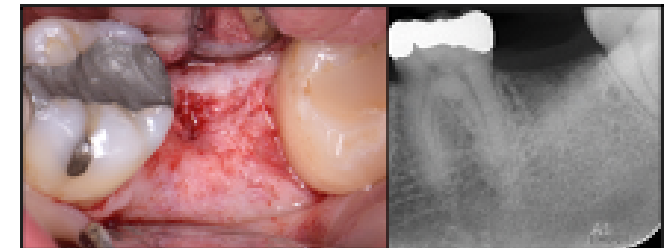
3

The graft was covered by a thin layer of haemostatic collagen, and criss-cross 5-0 monofilament sutures were placed to stabilise the soft tissues. No primary closure. Radiograph immediately post-op.



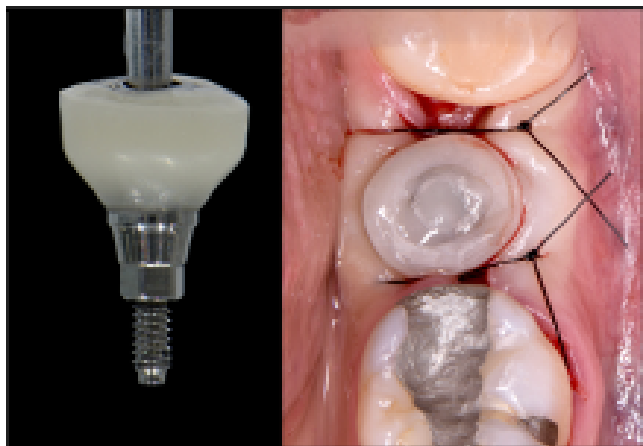
4

Secondary intention healing leading to the regeneration of keratinised soft tissues that gradually covered the grafted area. Some horizontal resorption is clinically evident as expected in this scenario. However the use of the grafting material limited the resorption of the area.



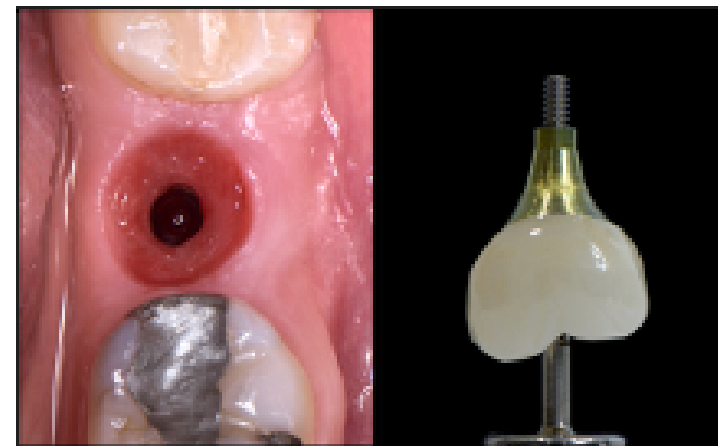
5

Surgical re-entry for implant placement after four months. The site is completely filled with regenerated high-quality bleeding hard tissues.



6

A 5x8.5 implant (Bioner Top DM) was placed in the correct 3D positioning, achieving high primary stability.



8

Clinical view four months post-op, after detaching the anatomical healing abutment. A screw-cemented design, monolithic zirconia crown, permanently cemented on a CAD/CAM customised milled titanium abutment, was fabricated.

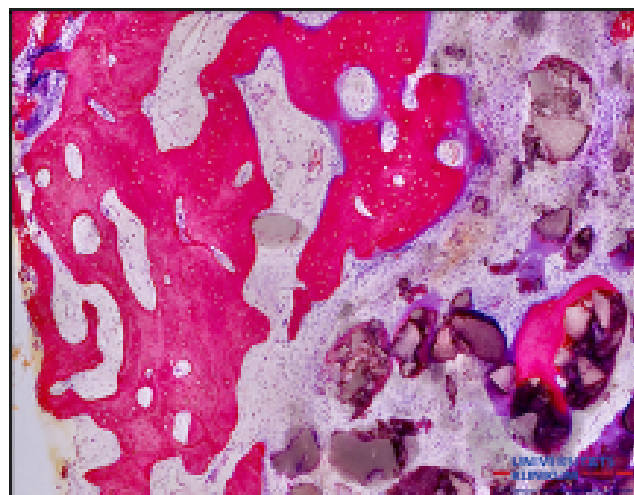


9

Clinical picture and radiograph showing the final result.

7

A customised anatomical healing abutment (VPI Cervico) was fabricated chair-side and fitted onto the placed implant.



10

Bone biopsy taken at the time of implant placement. The osteoinductive Silicate beta-TCP (Aditus Dental Putty) promoted the regeneration of high-quality vital bone. The connective tissue/provisional matrix is uninfamed. Undecalcified ground sections; azure II / pararosaniline stain. CTA Cell Tissue Analysis, University of Freiburg, Germany.

## Alveolar ridge preservation su paziente uomo

## BACKGROUND

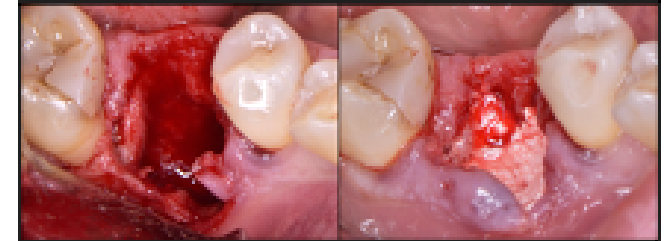
- Male patient
- 45 years old
- Failing infected 46
- Case performed by Dr. Minas Leventis, DDS, MSc, PhD, UK

## CASE STUDY



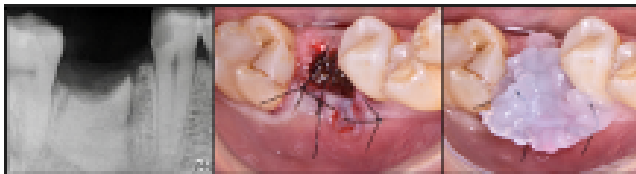
1

Initial situation. Failing lower right first molar, with acute infection, periapical pathology and severe bone loss.



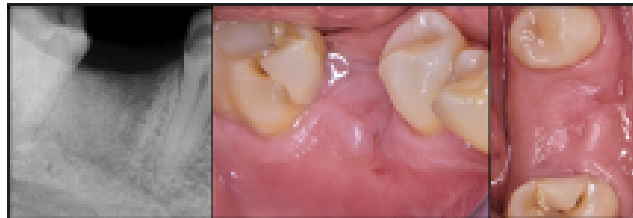
2

Difficult extraction. A small flap was raised to remove all the pieces of the roots, and clean the site thoroughly. Complete loss of the septal bone and part of the mesial buccal wall. Socket grafting with 0.5cc Powerbone Dental Putty to limit the post-extraction atrophy and assist the regeneration of high-quality bone. No membranes used.



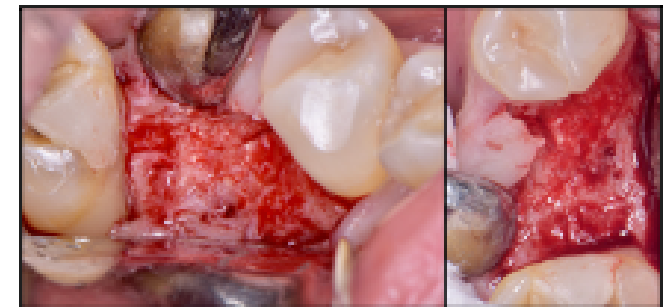
3

No-primary closure in order to preserve the keratinised soft tissues buccally and the anatomy of the vestibule. Oxygen-releasing oral gel (Bluem) to control the bacteria and enhance the secondary-intention healing of the soft tissues over the grafted site.



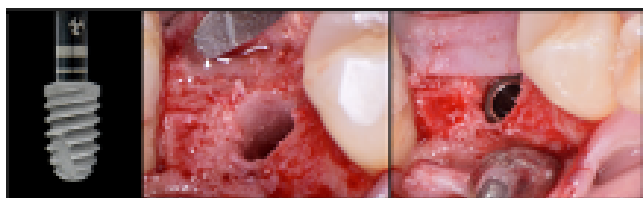
4

Four months post-op. Adequate healing considering the lack of soft and hard tissues at extraction. Note the coverage of the site with newly-formed keratinised soft-tissues.



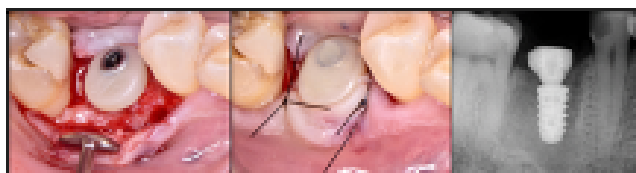
5

Re-entry for implant placement. The site is completely filled with regenerated high-quality bleeding hard tissues.



6

A 5x8.5 implant (Bioner Top DM) was placed in the correct 3D positioning, achieving high primary stability.



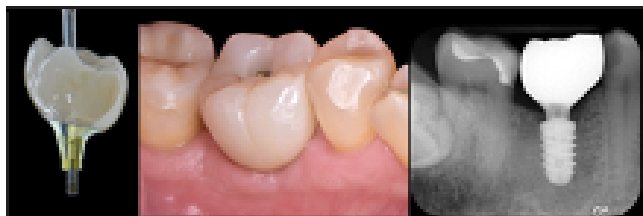
7

A customised anatomical healing abutment (VPI Cervico) was fabricated chair-side and immediately fitted into the implant. The flap was sutured around the anatomical healing abutment. Radiograph immediately post-op



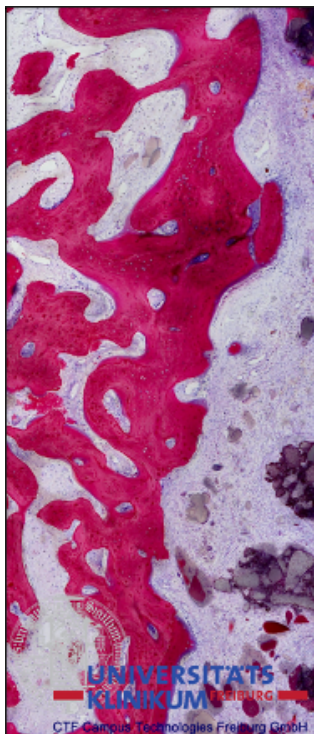
8

Clinical views four months post-op, after detaching the anatomical healing abutment.



9

A screw-cemented design, monolithic zirconia crown, permanently cemented on a CAD/CAM customised milled titanium abutment, was fabricated and fitted. Clinical picture and radiograph showing the final result.



10

Bone biopsy taken at the time of implant placement. The osteoinductive Silicate beta-TCP (Powerbone Dental Putty) promoted the regeneration of high-quality vital bone. Undecalcified ground sections; azure II / pararosaniline stain. CTA Cell Tissue Analysis, University of Freiburg, Germany.

03

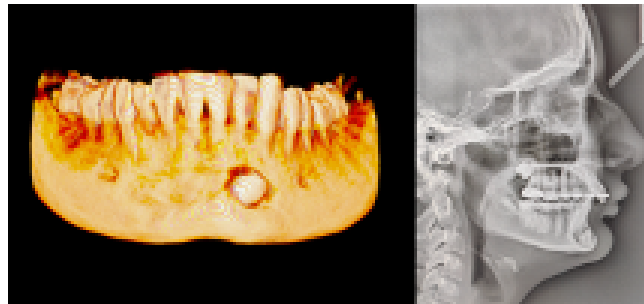
## CASE STUDY

### Bone defect Grafting su paziente minorenne

#### BACKGROUND

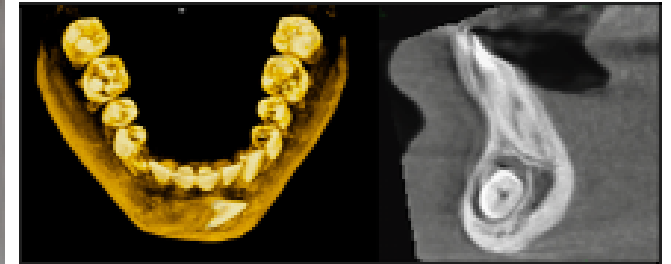
- Female patient
- 13 years old
- Impacted 33
- Case performed by Dr. Minas Leventis, DDS, MSc, PhD, UK

#### CASE STUDY



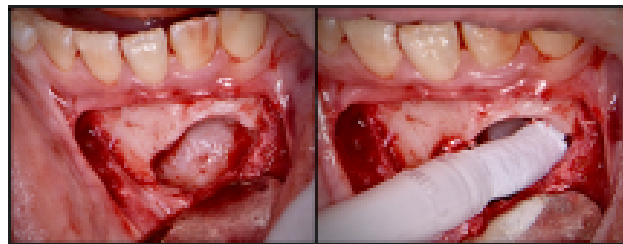
1

Horizontally impacted 43. Due to its unfavourable position, the tooth cannot be moved orthodontically.



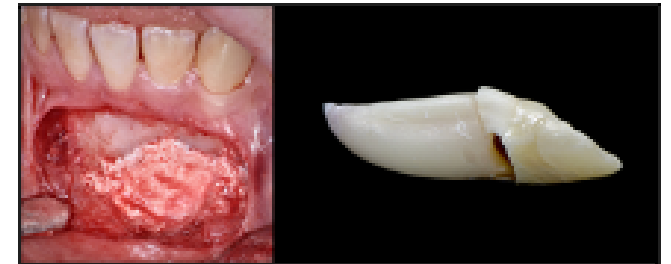
2

Surgical extraction of the impacted 43.



3

The bone defect was thoroughly debrided of all soft tissues and curretted with sharp Lucas hand currettes. Aditus Dental Putty was used to graft the site, in order to assist and accelerate bone healing prior to initiating orthodontic treatment.



4

The Bone defect filled with Aditus Dental Putty. No barrier membranes were used (left picture). The sectioned impacted tooth after removal (right picture).



5

Two months post-op, clinical view showing excellent healing of the area. The patient is now ready to start the orthodontic treatment on the lower arch.



## 04

## CASE STUDY

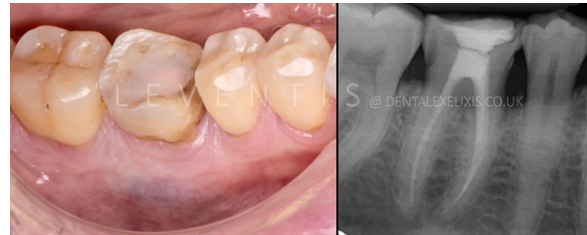
## Socket Grafting

## BACKGROUND

- This case illustrates a straightforward standardised socket grafting procedure and the implant placement 5 months later.
- Case performed by Dr. Minas Leventis, DDS, MSc, PhD, UK



## CASE STUDY



1

Non-restorable lower right first molar due to root fracture and infection.



2

Non-restorable lower right first molar due to root fracture and infection. Difficult extraction as the roots were ankylosed. As a result the septal bone was almost completely missing. Care was taken not to damage the surrounding hard and soft tissues.



3

After cleaning the socket with sharp Lucas curettes and disinfecting the bone with application for 5 mins of oxygen-releasing blue gel, the area was grafted with osteoinductive fully-resorbable Silicate b-TCP (Aditus Dental Putty). As we need secondary intention healing, an Elemental surgical polymer dressing was prepared chair-side and covered the grafted socket. A couple of criss-cross sutures (SKD 5-0) were placed to stabilise the protective dressing. This is very important as this customised dressing will lower the risk of the graft being washed out in the oral cavity during the crucial first days of secondary intention healing.



- 4 After 6 days the Elemental dressing was removed. No graft was lost, and we can see the biomaterial in place, being embedded in a healthy fibrin matrix.
- The epithelium has already started proliferation from the periphery to cover the area. Note the absence of any inflammation, as the zinc element of the polymer dressing, in synergy with the daily topical use of blue m gel controlled perfectly the bacteria.
- Now that the graft is secure and stable in place, the patient can continue applying the blue m gel to keep controlling the bacteria and to promote the subsequent stages of the secondary intention healing.
- As topical oxygen therapy is safe with no side effects, the patient can use the blue m gel 3 times/day for as long as needed, till the area heals perfectly. This is something we cannot do with chlorhexidine, due to the numerous side effects and the possible cytotoxicity, if chlorhexidine is applied for a long period of time.



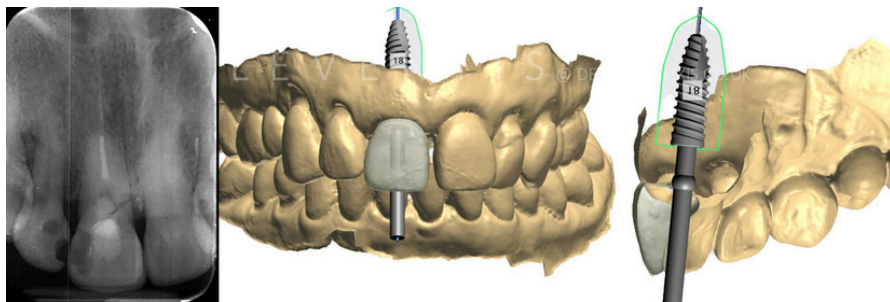
- 4 Five months post-op. The area is covered by newly-formed keratinised healthy soft tissues. At re-entry we can see that the bone defect is now filled with regenerated hard tissues

# 05 CASE STUDY

## BACKGROUND

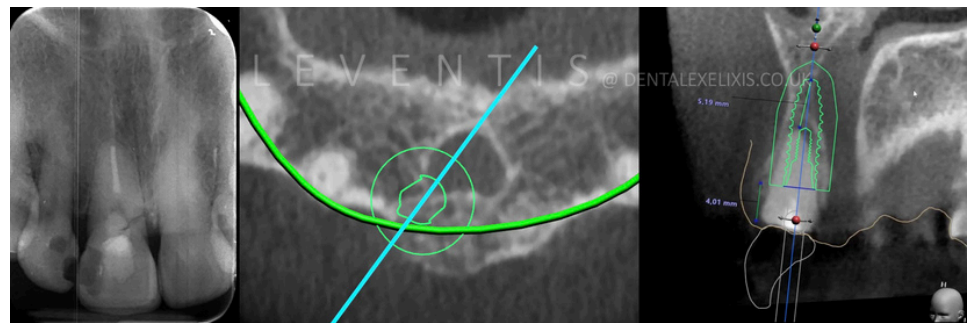
- Digital workflow and guided implant placement are also crucial for safety. Placing an implant in the nasopalatine duct is a serious complication that can lead to post-op persistent pain, development of nasopalatine duct cyst and implant failure. Simple 2D periapical X-rays cannot determine the exact position and anatomy of the nasopalatine duct, and intra-operatively, it might be impossible to realise that the implant's apex can intrude on the duct. This is one of the topics I emphasise and analyse in my bone grafting and Implantology teaching. Grafting the nasopalatine duct is an effective technique to allow for correct implant placement in such cases. In the following case, I illustrate all the steps from A to Z I followed, from planning to the implant prosthesis, using state-of-the-art materials and protocols.
- Case performed by Dr. Minas Leventis, DDS, MSc, PhD, UK

## CASE STUDY



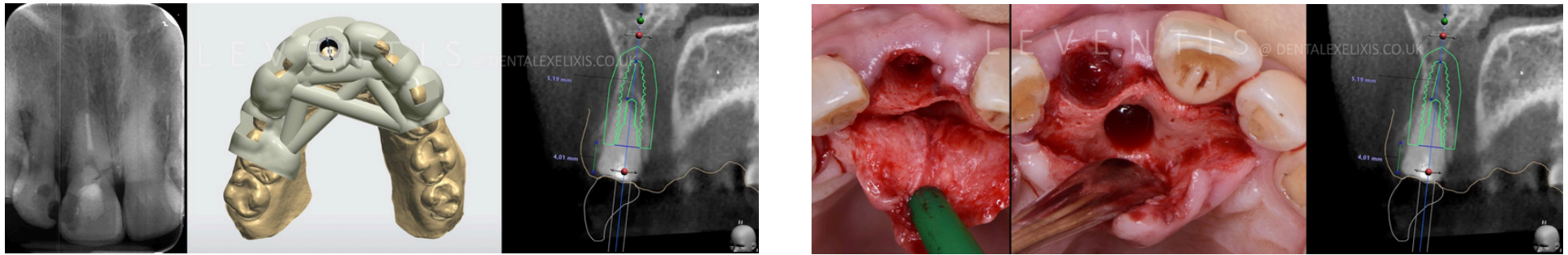
1

Initial periapical initial x-ray of the case. Non-restorable upper right central incisor. The digital workflow was conducted by Dr George Kefalidis at Ariston Dental.

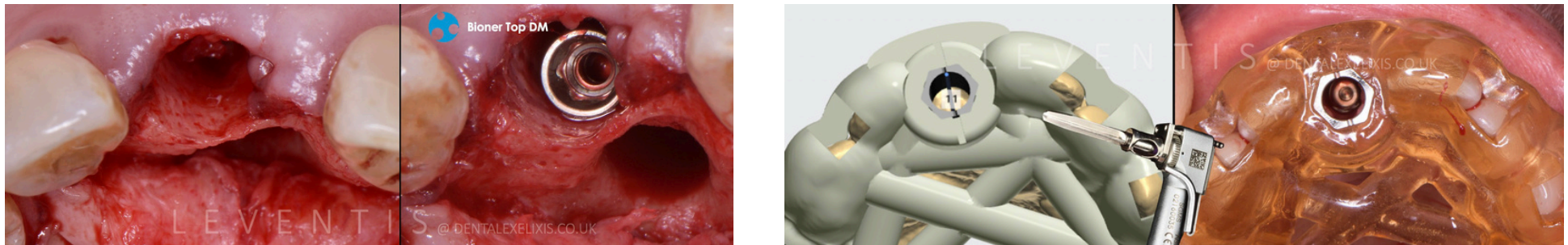


2

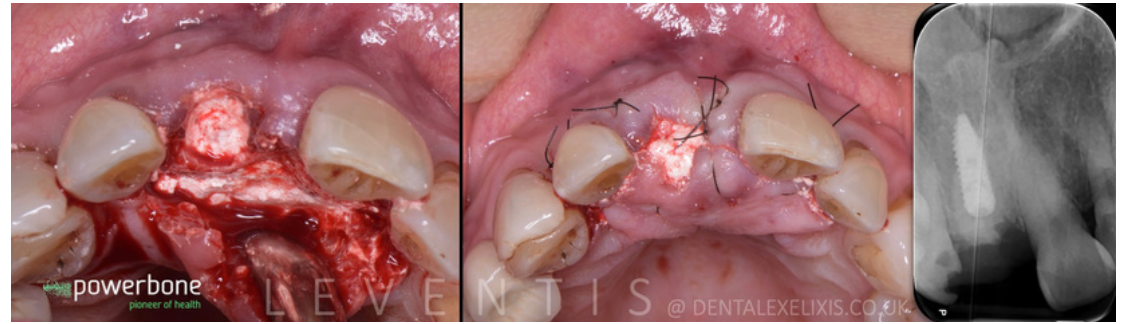
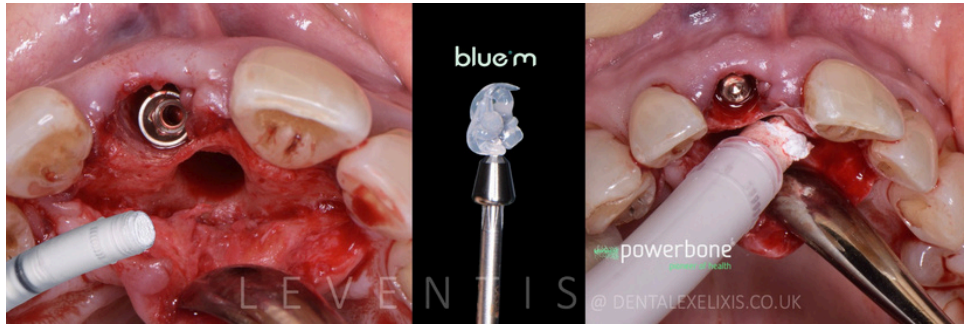
Correct implant placement is impossible in this case due to the location of the large nasopalatine duct. This cannot be predicted and evaluated by relying only on the 2D periapical x-ray. As shown here, with the digital workflow, we digitally place the implant in a prosthetically driven position and at an adequate depth to allow for a screw-retained restoration and an aesthetically and biologically sound peri-implant soft tissue profile.



**3** Correct implant placement is impossible in this case due to the location of the large nasopalatine duct. This cannot be predicted and evaluated by relying only on the 2D periapical x-ray. As shown here, with the digital workflow, we digitally place the implant in a prosthetically driven position and at an adequate depth to allow for a screw-retained restoration and an aesthetically and biologically sound peri-implant soft tissue profile. The middle picture illustrates the design of the surgical guide.



**4** The right picture shows that the guided implant bed preparation and placement resulted in the accurate placement of the implant in the planned position.



5

The nasopalatine duct and the jumping distance buccally were grafted with state-of-the-art osteoinductive fully-resorbable synthetic Silicate b-TCP. To control the bacteria in the implant platform, blue m gel is applied on the cover screw.

6

The nasopalatine duct and the jumping distance buccally were grafted with state-of-the-art osteoinductive fully-resorbable synthetic Silicate b-TCP. Sutured with 5-0 monofilament SKD sutures.



7

Oxygen and lactoferrin releasing blue m gel is placed on the provisional partial denture 3 times/day during the healing period to control the pathogenic bacteria and to promote the healing of the soft-tissues.

8

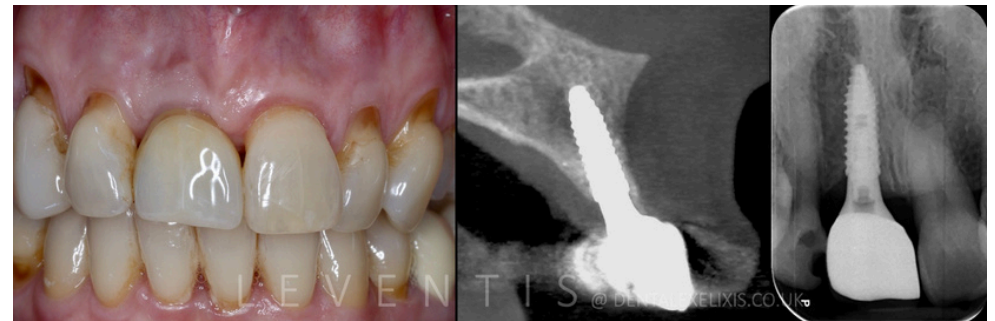
After 3 months, the implant was uncovered and a customised anatomical Cervico healing abutment was installed to condition the soft tissue profile. The access holes of the prosthetic canals of all prosthetic components (anatomical healing abutments, provisional or final restorations) are always sealed with antibacterial silver-containing SilverPlug instead of PTFE tape.



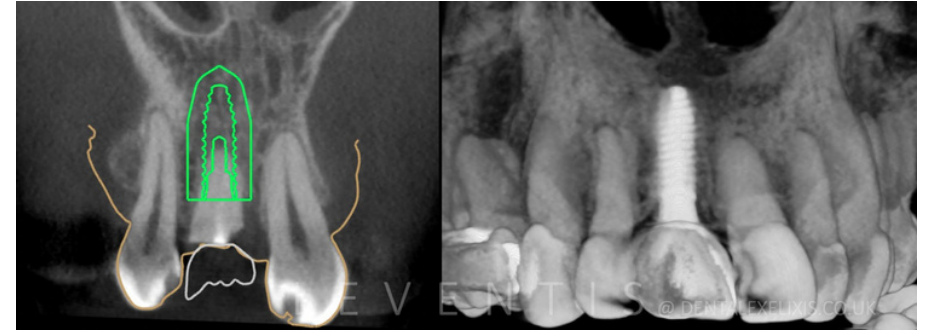
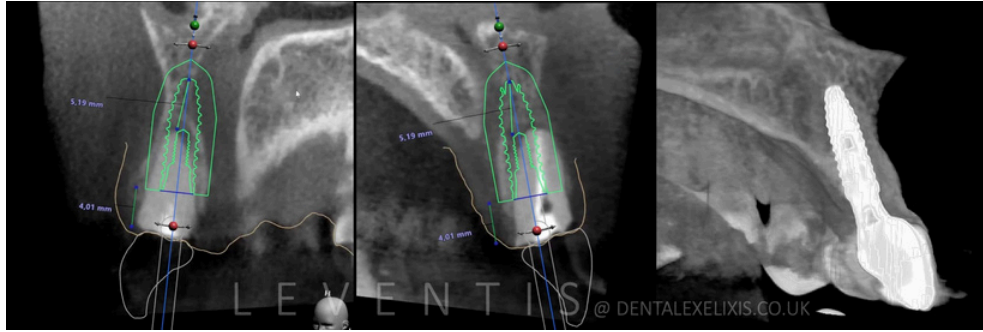
9 The final restoration. Phil Reddington and his team did excellent work at Beaver Dental Lab, Leeds, UK. Bluem gel was applied prior to fitting the restoration.



10 The access holes of the prosthetic canals of all prosthetic components (anatomical healing abutments, provisional or final restorations) are always sealed with antibacterial silver-containing SilverPlug instead of PTFE tape.



11 Clinical view and radiological views 6 months after implant placement and grafting.



12 Digital plan of the case and final result.  
Digital planning and fully guided placement can ensure predictable and safe outcomes, while the osteoinductive fully-resorbable Powerbone bone substitute resulted in the regeneration of high-quality bone in the grafted nasopalatine duct.

06

## CASE STUDY

### BACKGROUND

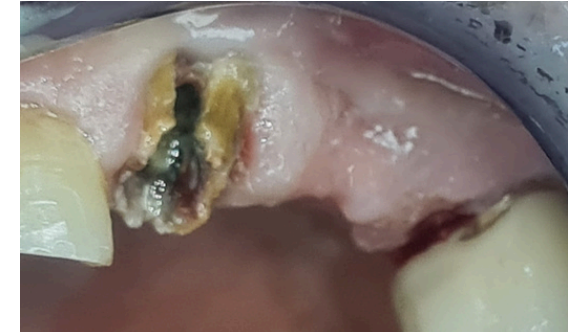
- Caso studio di una frattura radicolare verticale portata a termine dal Dr. Maurizio Antonini utilizzando Aditus Dental Putty in combinazione Aditus Dental Barrier Membrane

### CASE STUDY



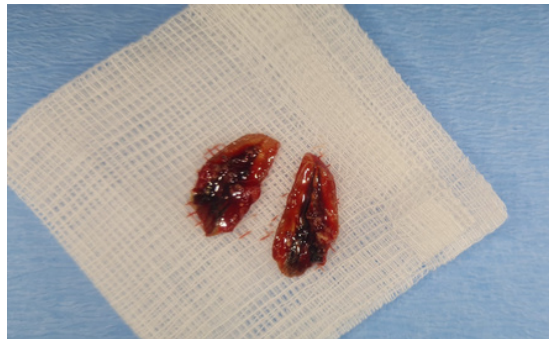
Situazione iniziale del paziente.

1



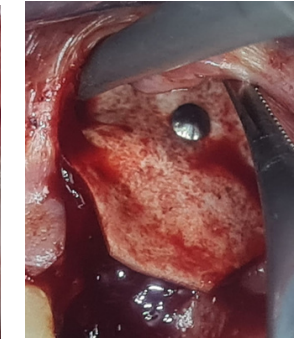
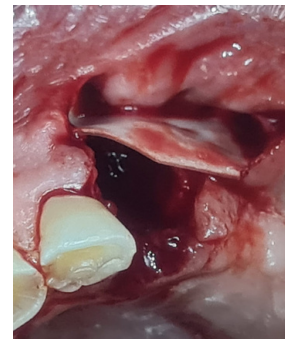
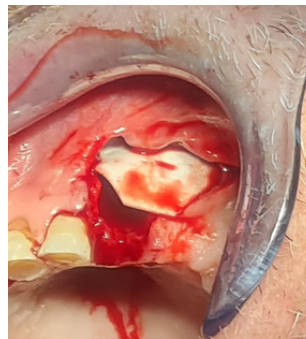
Frattura radicolare verticale.

2



3

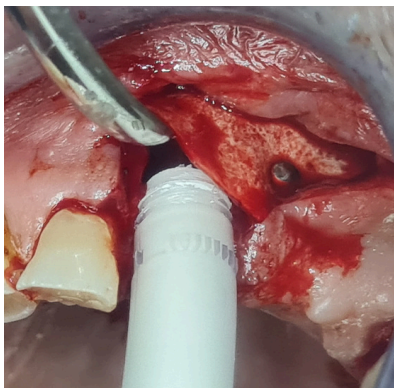
Estrazione della radice, esposizione del lembo, asportazione di tutto il tessuto di granulazione.



4

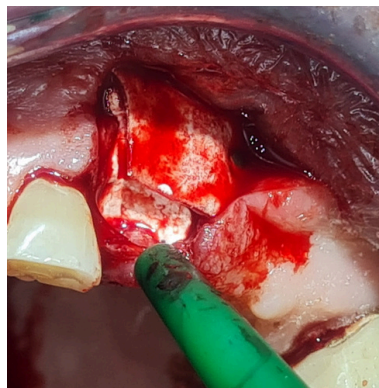
Mancanza completa del bundle bone vestibolare, ho adattato la membrana aditus tagliandola in modo tale da poter ancorare con due chiodini la parte più ampia apicalmente mentre la parte più stretta è stata ripiegata.





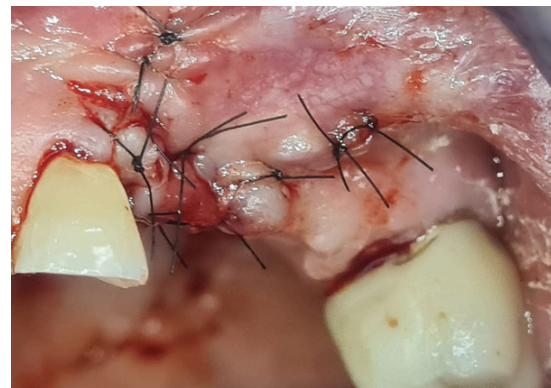
5

Riempimento dell'alveolo con 0,5 CC di biomateriale Aditus Dental Putty.



6

Rilascio del lembo.



7

Sutura.



8

Radiografia di controllo tra 4 mesi.

## BACKGROUND

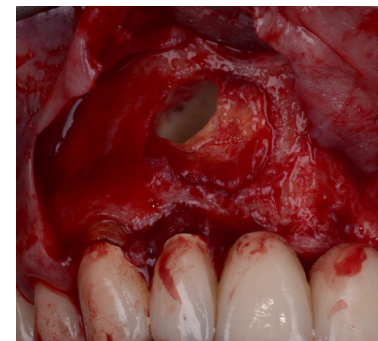
- Caso studio di una cisti infiammatoria estesa svolto dal Dr. Andrea De Maria utilizzando Aditus Dental Putty in combinazione Aditus Dental Barrier Membrane

## CASE STUDY



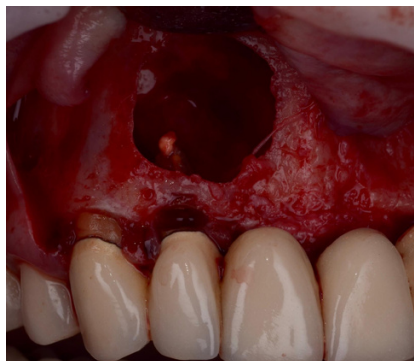
1

Situazione iniziale: la paziente lamenta gonfiore palatino in sede 12. L'analisi radiografica conferma la presenza di una cisti infiammatoria estesa dalla superficie mesiale dell'elemento 13 fino al canale nasopalatino.



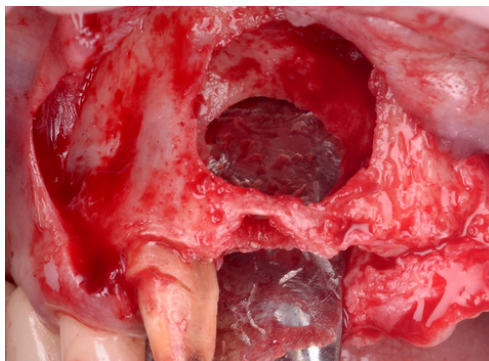
2

Un lembo a spessore totale permette l'esposizione dei margini della lesione e la sua enucleazione.



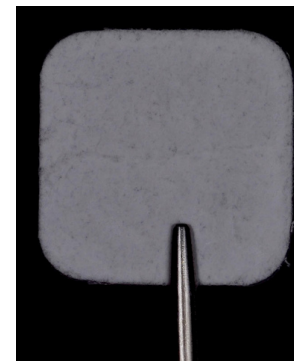
3

La radice dell'elemento 1.2 risulta troppo compromessa per un recupero endodontico.



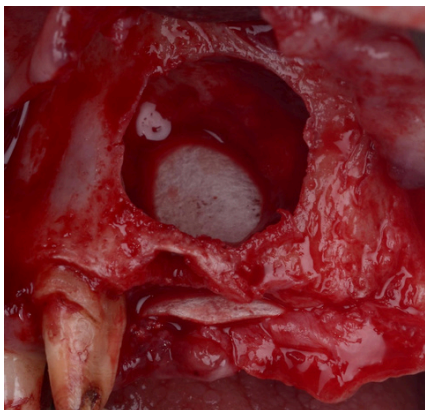
4

Scollamento del versante palatino.



5

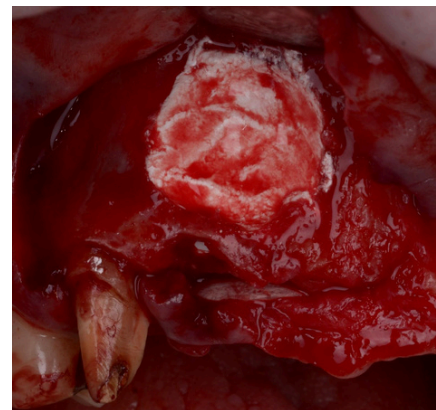
Aditus Dental Barrer Membrane.



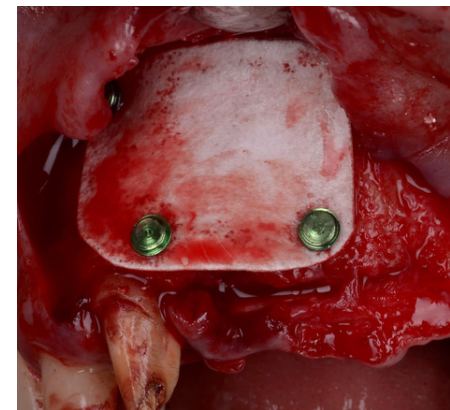
6 Ricostruzione della corticale palatina.



7 Aditus Dental Putty.



8 Riempimento del difetto osseo.



9 Ricostruzione parete vestibolare: la lamina è stata fissata con pin ossei.



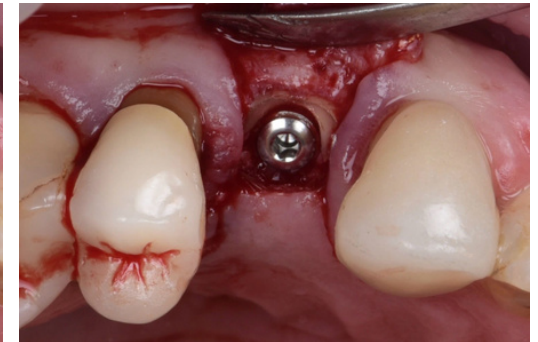
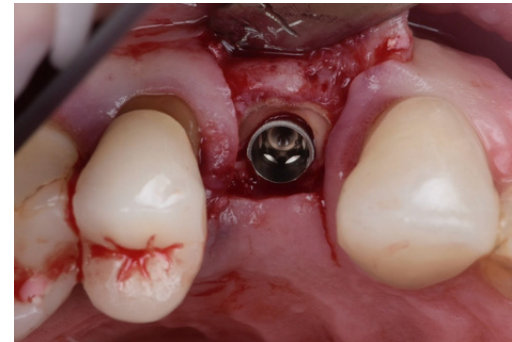
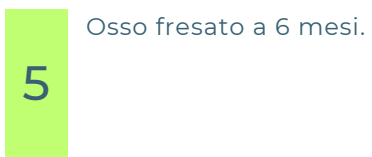
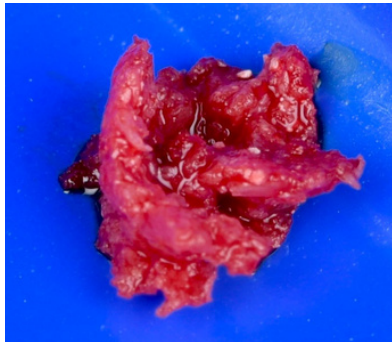
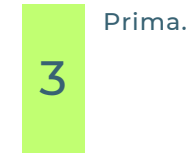
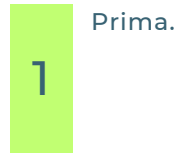
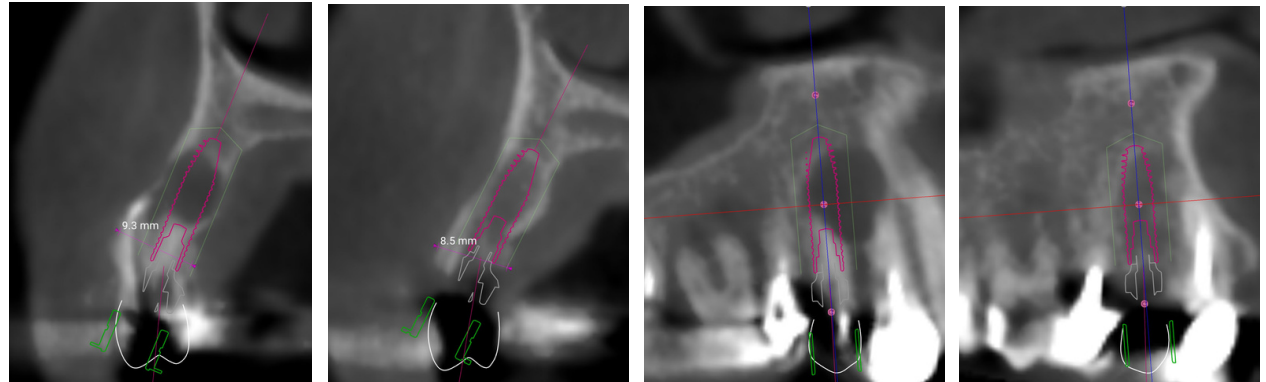
10 Chiusura dei lembi.

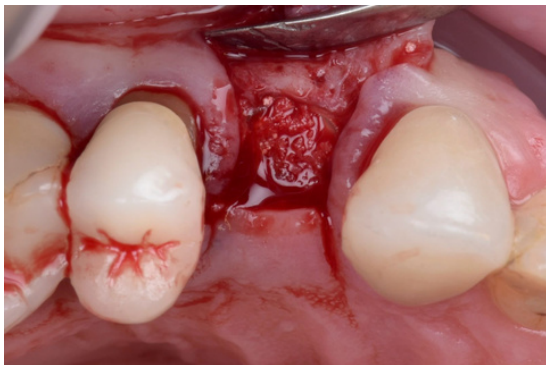
# 08 CASE STUDY

## BACKGROUND

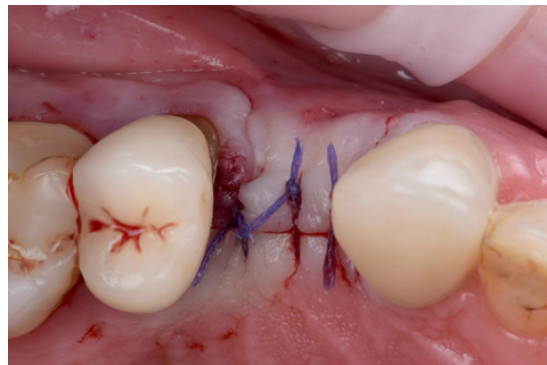
- Caso studio tecnica Glocker con lesione gestista con il biomateriale Aditus Dental Putty. Riapertura effettuata a 6 mesi. Il risultato è di una totale neoformazione ossea di buona densità (D3), posizionamento impianto con ottima stabilità primaria.
- Case Study svolto da Dr. Fabio Manuel Filannino

## CASE STUDY





9



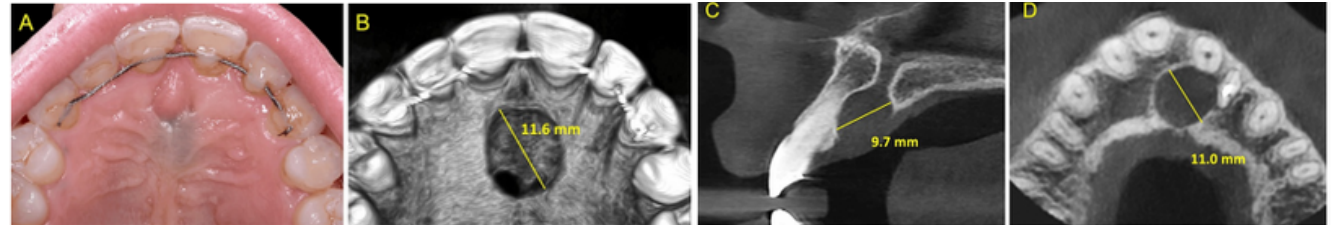
10

# 09 CASE STUDY

## BACKGROUND

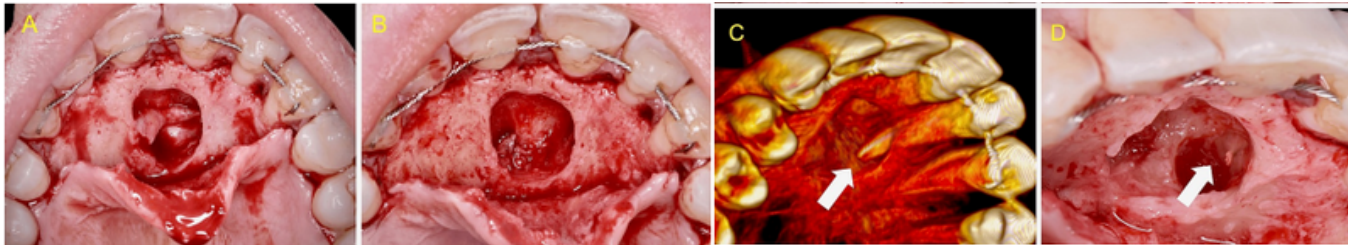
- A Novel Zinc-Containing Palatal Stent and Topical Oxygen Therapy for Wound Protection and Healing Following Mucoperiosteal Flap Surgery in the Hard Palate.
- Case performed by Dr. Minas Leventis and Dr. Kenneth Van Stralen.

## CASE STUDY



Initial clinical (A) and radiological (B-D) views.

1



Surgical debridement of the cystic lesion.

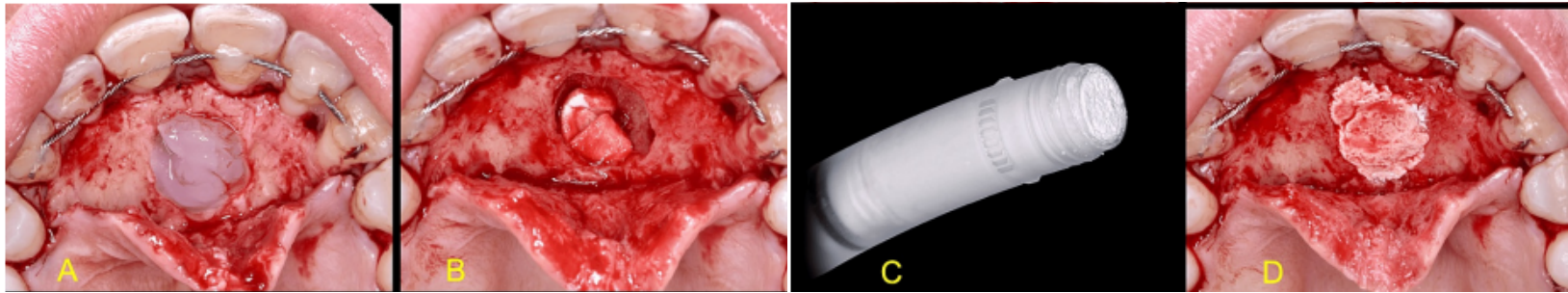
2

**A:** A full-thickness palatal flap was raised.

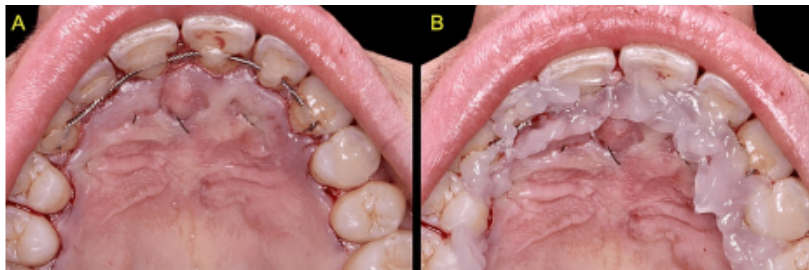
**B:** The cystic lesion was enucleated.

**C:** Radiological view of the associated periapical lesion (arrow).

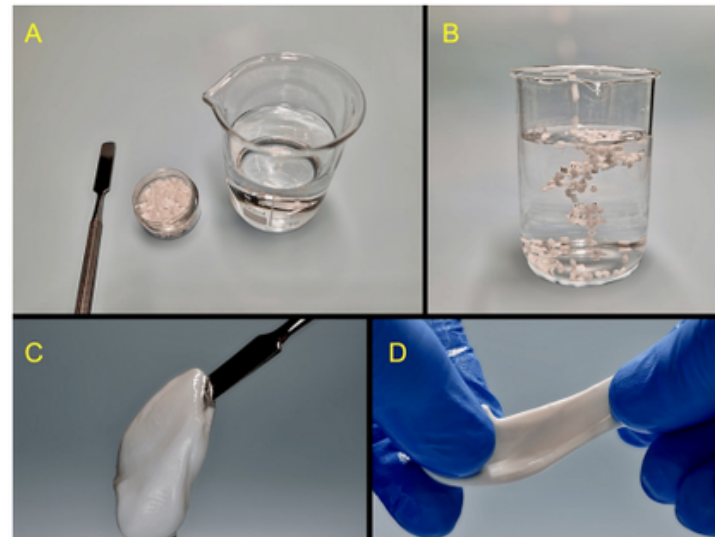
**D:** The apex of #22 was resected, followed by periradicular curettage (arrow).



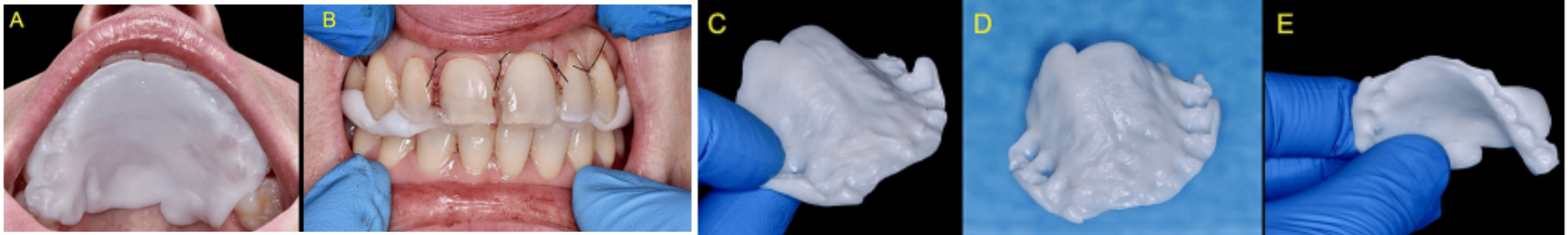
- 3** Decontamination and grafting of the bone defect.
- A:** Oxygen and lactoferrin-releasing blue@m gel.
  - B:** Hemostatic collagen placed at the entrance of the incisive canal.
  - C:** The silicate-substituted  $\beta$ -TCP bone graft (Powerbone Dental Putty). The bone graft is preloaded in a sterile syringe and ready to use. No mixing with sterile saline is required.
  - D:** The surgical site immediately after bone grafting.



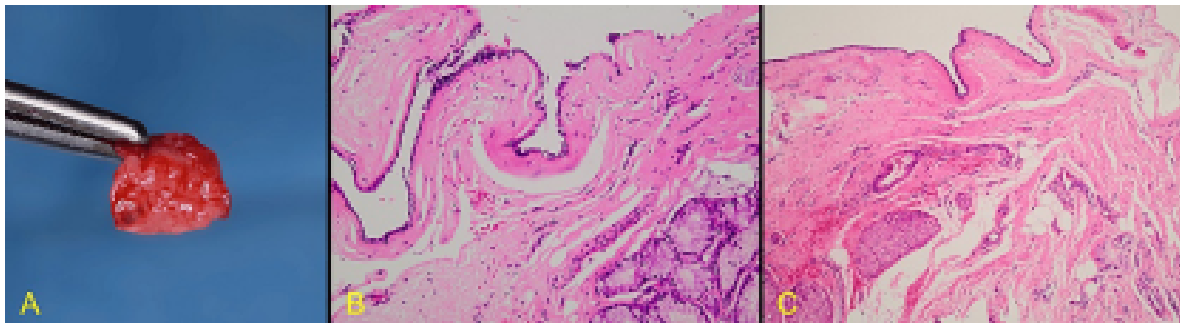
- 4** Clinical views immediately post-surgery.
- A:** Tension-free primary closure.
  - B:** Topical application of oxygen and lactoferrin-releasing blue@m oral gel.



- 5** Chairside preparation of the Elemental palatal stent, composed of the zinc-containing thermoplastic surgical polymer.
- A, B:** The Elemental granules were placed in hot sterile saline.
  - C, D:** A soft pliable polymer was formed.



**6** Intra-oral adaptation (**A,B**) and final shape (**C-E**) of the zincontaining Elemental palatal stent. If needed, the stent can be furthercontoured using surgical scissors.



**7** The histopathological evaluation of the lesion established the diagnosis of a nasopalatine duct cyst.  
**A:** The surgical specimen.  
**B, C:** Histological pictures.

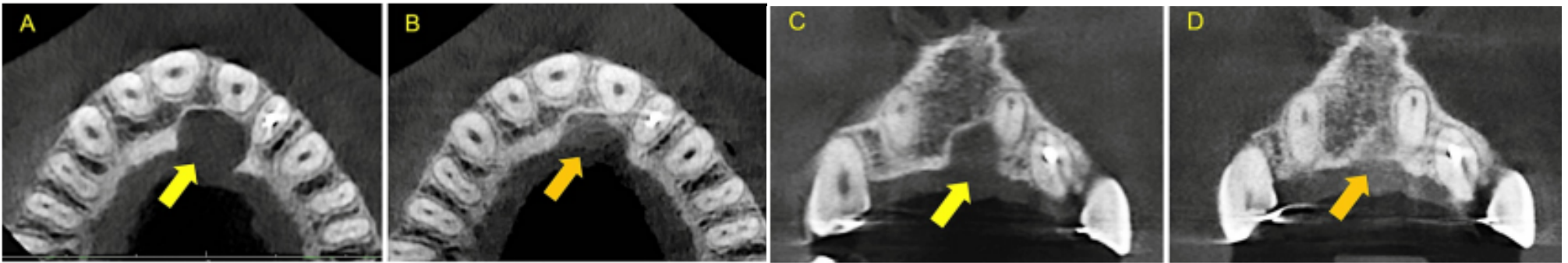




Clinical views at the follow-up appointments.

8

- A, B:** One week post-surgery.
- C:** Four weeks post-surgery.
- D:** Six months post-surgery.



Corresponding radiological views before and six months post-surgery revealing the shrinkage of the cyst.

9

- A:** Axial view pre-operative.
- B:** Axial view six months post-surgery.
- C:** Coronal view pre-operative.
- D:** Coronal view six months post-surgery.

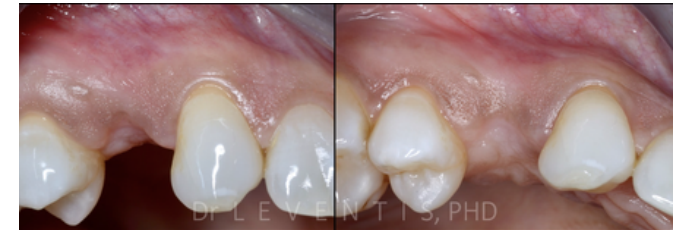
# 10 CASE STUDY

## BACKGROUND



- Standardised protocol for implant rehabilitation of a missing upper premolar.
- Case performed by Dr. Minas Leventis

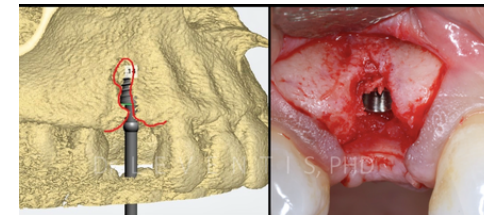
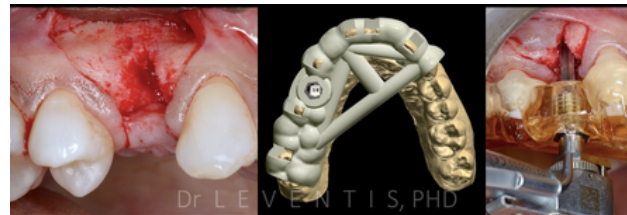
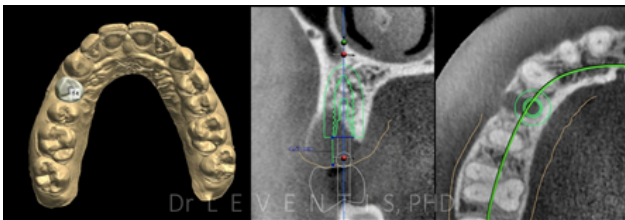
## CASE STUDY



1

2

Initial situation.



3

The digital workflow was conducted by Dr George Kefalidis at Ariston Dental.

4

5



6

A customised anatomical Cervico healing abutment was fabricated chair-side and installed onto the implant to condition the soft tissue profile.



7

Grafted with osteoinductive Silicate b-TCP (Aditus Dental Putty). No barrier membranes were used.



8

The access holes of the prosthetic canals of all prosthetic components (anatomical healing abutments, provisional or final restorations) are sealed with antibacterial silver-containing SilverPlug, instead of PTFE tape..



9

Oxygen and lactoferrin-releasing BlueM gel to control the bacteria and promote soft-tissue healing.  
Clinical result 3 months post-op.



10

The final restoration. Phil Reddington and his team did excellent work at Beaver Dental Lab, Leeds, UK. BlueM gel was applied before fitting the restoration.



11

The access hole of the screw-retained implant crown was sealed with antibacterial silver-containing SilverPlug.

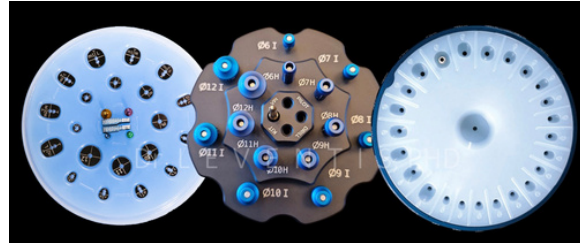
# 11

## CASE STUDY

### BACKGROUND

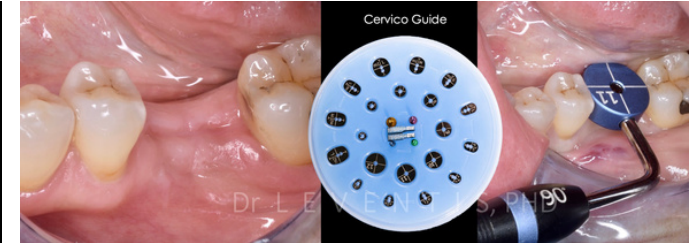
- Soft tissue emergence profile reconstruction: A case report highlighting a novel method using customised anatomical healing abutments in a single surgical step.
- Case performed by Dr. Minas Leventis.

### CASE STUDY



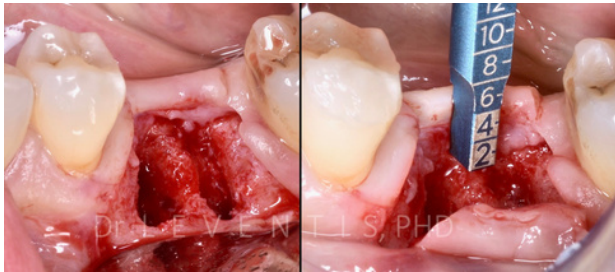
1

Cervico Guide, Pilot Drill Kit and Essential Mould.



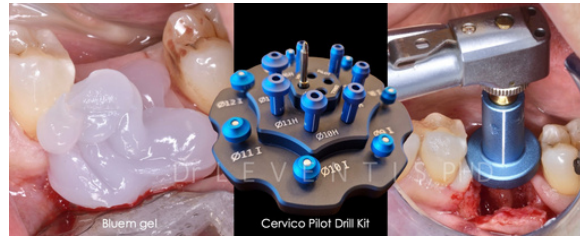
2

Initial situation.  
Eleven mm edentulous space.

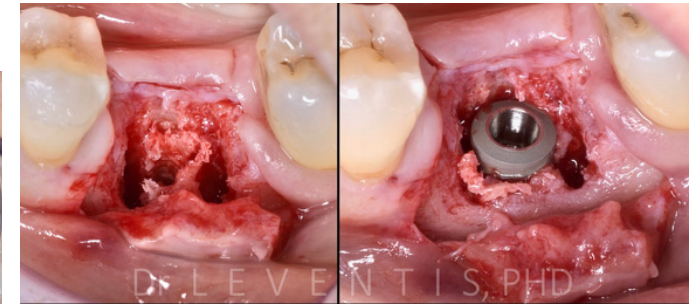


3

Measuring the thickness of the soft tissues.



4



5

A Bioner 5x8.5 implant was placed,  
achieving high primary stability.



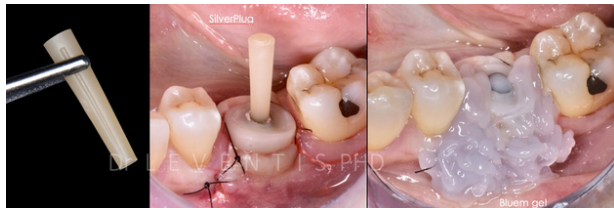
6

A customised anatomical Cervico healing abutment was fabricated chair-side and installed onto the implant to condition the soft tissue profile. A small amount of Bluem gel is always used when fitting any provisional prosthetic component.



7

Grafted with osteoinductive Silicate b-TCP (Powerbone Dental Putty). No barrier membranes were used



8

The prosthetic canal of the Cervico healing abutment was sealed with antibacterial silver-containing **SilverPlug**, instead of PTFE tape. **BlueM** gel is applied immediately post-op and twice a day during the healing period so that the lactoferrin and the oxygen will enhance the soft tissue healing and control locally the pathogenic bacteria.



9

Pre-op and immediately post-op. Implant placement, ridge reconstruction and peri-implant soft tissue conditioning in one surgical step.

**MedicalSafe**<sup>®</sup>  
The best surgery and implantology products