

CeraSeal & CeraPutty

C L I N I C A L C A S E S

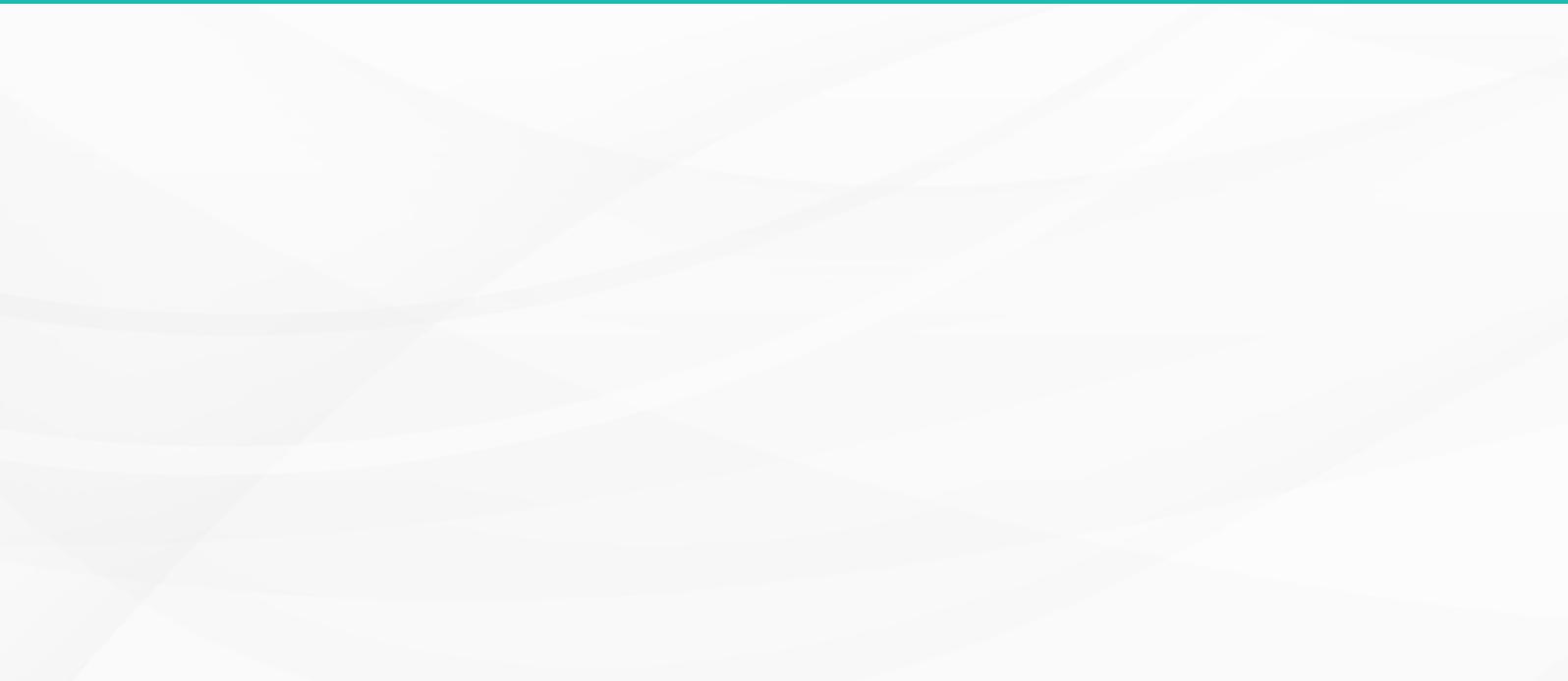




CeraSeal
&
CeraPutty

C L I N I C A L C A S E S





CeraSeal & CeraPutty

C L I N I C A L C A S E S

This Special Edition compiles the CeraSeal and CeraPutty cases featured in Flossing Issue 1 through 9. The cases have been segmented and reorganized by category to enhance clarity and usability. Meta Biomed sincerely thanks Dr. Filippo Cardinali, Prof. Talal Al-Nahlawi, Dr. Mostafa Anwar and Dr. Vishal Gandhi for their invaluable contributions.

CONTENTS

CeraSeal Clinical Cases

Category 1. Lesion Management

Category 2. Necrosis & Large Foramina (L.E.O.)

Category 3. Retreatments

Category 4. Complex Anatomy

Category 5. Resorption

CeraPutty Clinical Cases



1

Category 1

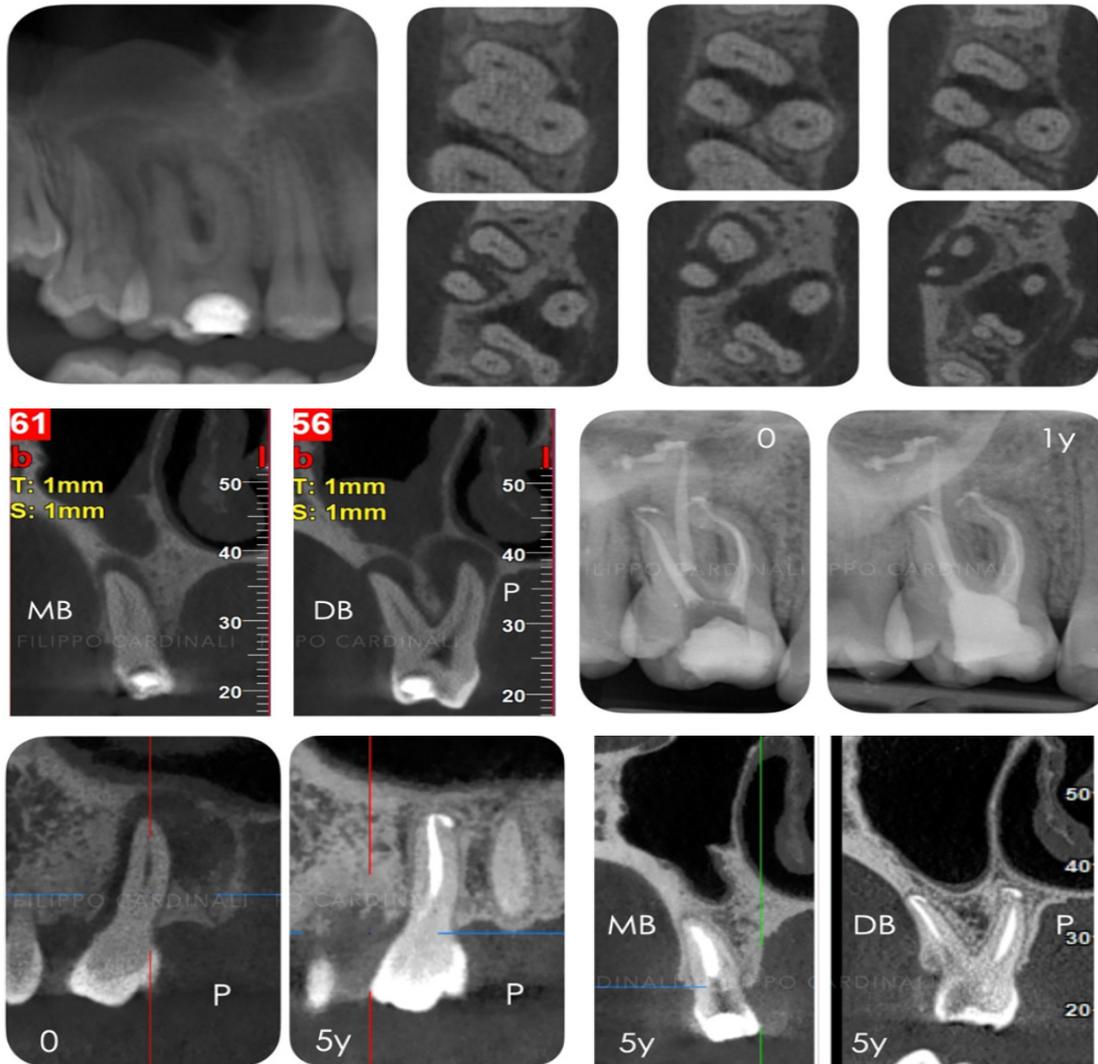


Lesion
Management

CeraSeal CLINICAL CASES

Lesion Management

Case 1 Treatment of 1.6 with a big periapical lesion - 5 years follow-up.



The patient was referred for the treatment of the necrotic 1.6 with a large periapical lesion. The CBCT shows the size of the lesion and mucosal thickening of the Schneiderian membrane of the maxillary sinus. The tooth was symptomatic and was treated in 2 visits. During the first visit the tooth was shaped, cleaned and then dressed with Calcium Hydroxide for 3 weeks. During the second visit the canals were obturated using the Cold Hydraulic Condensation Technique with CeraSeal bio-ceramic sealer.

Courtesy of
Dr. Filippo Cardinali



Case 2

Necrosis, big lesion and discoloration of 2.2 – 5 years follow-up.



Patient came to my attention for the discolored of 2.2 reporting abscess episodes in the past. The tooth was tender to percussion and palpation. Treatment was done in 2 visits. During the first visit the tooth was shaped, cleaned and dressed with calcium hydroxide . During the second visit the canal was obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. After the obturation a layer of flowable composite was immediately applied to seal the canal orifice and protect the obturation

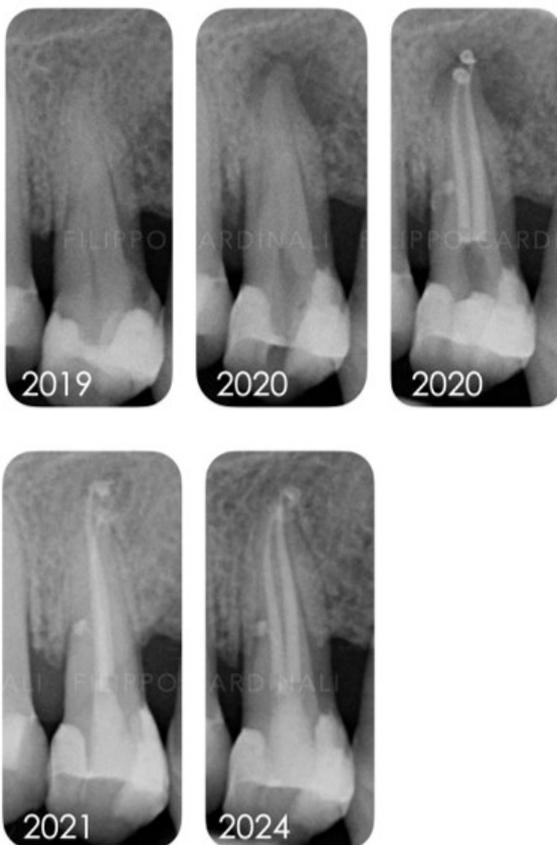
material by the action of the material for the internal bleaching. Review at 1 and 5 years shows the stability of this sealer based technique and the healing of the lesion.



Courtesy of
Dr. Filippo Cardinali

Case 3

1.4: Failure of Indirect Pulp Capping – CHC & CeraSeal – 4 years recall

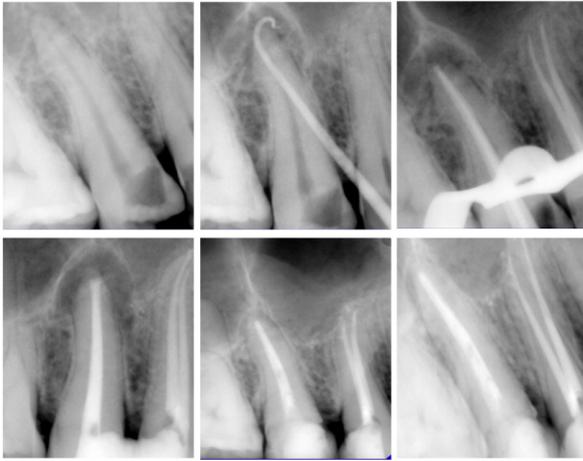


Patient with periodontal disease was referred for the failure of indirect pulp capping on 1.4 eight months before. The patient came to my attention with complaints of pain and swelling in the right upper quadrant. Access cavity was made and pulp chamber was opened and pus was allowed to drain. After 2 days the tooth was shaped, cleaned and dressed with Calcium Hydroxide. After 2 weeks canals were obturated using the Cold Hydraulic Condensation Technique, single cone with CeraSeal bioceramic sealer. The hydraulic pressure created by the proper application of the technique resulted in the injection of a lateral canal. Review at 1 and 4 years shows the stability of this sealer based technique and the healing of the lesion.



Courtesy of
Dr. Filippo Cardinali

Case 4 Upper right second premolar in Single visit.



Referred Upper Second Premolar with large periapical lesion and sinus tract confirmed by Gutta percha tracing. Root canal treatment was performed in single visit where dry canals were obtained after mechanical preparation & disinfection protocol, so obturation was done afterwards using Single Gutta percha cone & CeraSeal Bioceramic Sealer. Application of CeraSeal BC sealer in such cases provides many advantages; Antibacterial properties, Allows rapid tissue repair and bone healing over short period of

time due to its BioActivity. After One year and Three months, the Follow up Xrays show very nice tissue repair and almost complete healing ensuring a good success rate.

Courtesy of
Dr. Mostafa Anwar



Case 5 ROOT CANAL TREATMENT FOR UPPER LATERAL INCISOR

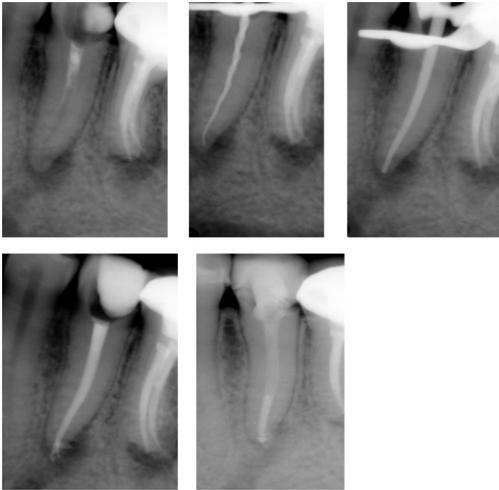


Referred Upper Second Premolar with large periapical lesion and sinus tract confirmed by Gutta percha tracing. Root canal treatment was performed in single visit where dry canals were obtained after mechanical preparation & disinfection protocol, so obturation was done afterwards using Single Gutta percha cone & CeraSeal Bioceramic Sealer. Application of CeraSeal BC sealer in such cases provides many advantages; Antibacterial properties, Allows rapid tissue repair and bone healing over short period of time due to its BioActivity. After One year and Three months, the Follow up Xrays show very nice tissue repair and almost complete healing ensuring a good success rate.

Courtesy of
Dr. Mostafa Anwar



Case 6 RCT for lower left second premolar



Bioceramic Sealers have changed the Endodontic treatment greatly as we started to see shorter healing periods with good tissue repair. In this case, we can see an evident large bone loss due to the periapical infection present. After root canal treatment while using CeraSeal in Single Cone Hydraulic Condensation technique, the case was referred to the prosthodontist. Surprisingly, the patient came for follow up after 10 weeks without prior notice due to personal circumstances. Follow up Xrays showed very nice healing in progress, evident start of bone formation and tissue repair in such short period of time. The periapical lesion decreased in size and bone formation following root anatomy started. Patient was advised to change the crown restoration and appointed for another follow up visit.



Courtesy of
Dr. Mostafa Anwar

Case 7 Root canal treatment for lower left first molar



Young Age, Immunity & Bioactivity!!
Root canal treatment of Lower First Molar was performed for a young age patient (13 Years). Evident large periapical lesions related to the mesial and distal roots with disruption of the lamina dura. The Biomechanical preparation was done then Obturation using CeraSeal Bioceramic sealer in Hydraulic condensation technique for Mesial Canals & CWC technique in Distal canal. After 2.5 months of Follow up, Almost Complete healing with evident bone formation & healthy lamina dura related to the roots. Healing in such Short time might be attributed to the patient's young age, body's immune response & repair at that age with the Bioactivity of CeraSeal bioceramic Sealer.



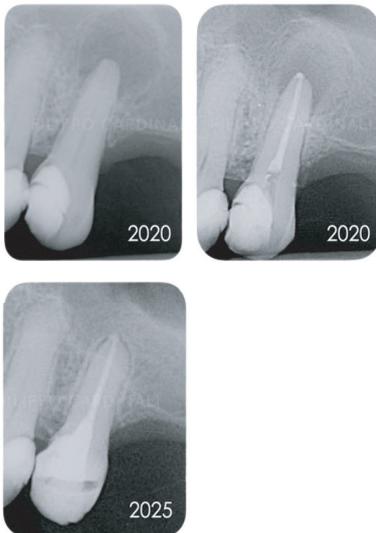
Courtesy of
Dr. Mostafa Anwar

Case 8
TREATMENT OF NECROTIC 3.6 WITH LESION - 5 YEARS RECALL


Patient was referred for the treatment of a necrotic 3.6 with lesion: the tooth 3.6 was tender to percussion and palpation and presented the typical signs of "Cracked tooth Syndrome" with no probing and favorable prognosis. Treatments was done in 2 visits. During the first visit canals were shaped, cleaned and dressed with calcium hydroxide . During the second visit the canals were obturated using the Cold Hydraulic Condensation Technique, single cone with CeraSeal bioceramic sealer. The referral Dentist placed immediately a long term temporary crown and placed the permanent crown after the 2 years recall. Nice recall sent by the referral Dentist after 5 years.



Courtesy of
Dr. Filippo Cardinali

Case 9
2.5: Big Lesion - CHC & CeraSeal - 5 years recall


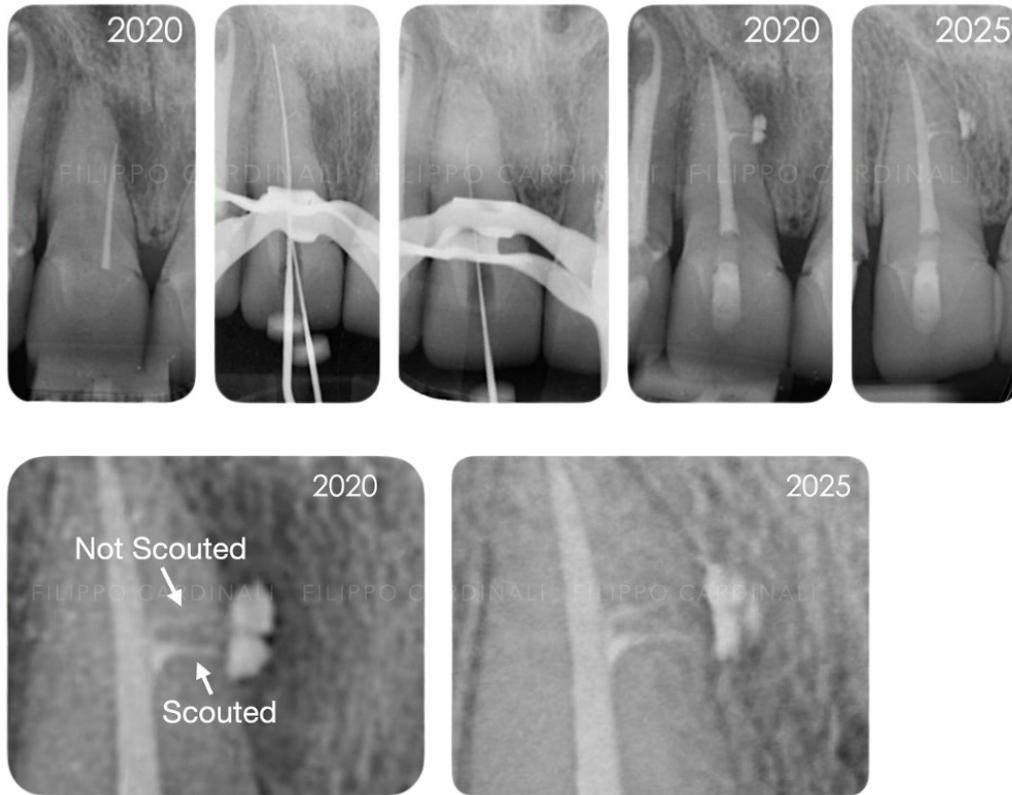
Patient was referred to my observation complaining for swelling and pain in the second quadrant.

The radiographic investigation reveals the presence of a big lesion in the tooth 2.5 that has mobility 2 and is tender to percussion and palpation at the clinical examination. The necrotic tooth was accessed to favor the drainage of the essudate and left open; after 2 days the complete shaping was followed by a deep cleaning of the canal that was dressed with calcium hydroxide. The patient didn't show after 4 weeks and came back after 8 weeks to complete the endodontic treatment; the tooth was obturated using CeraSeal bioceramic sealer with the Cold Hydraulic Condensation technique. Thanks to a good cone fit the overfilling was acceptable considering the big size of the foramen. The recall at 5 year shows the complete healing of the big lesion with no resorption of the overfilled bioceramic sealer.



Courtesy of
Dr. Filippo Cardinali

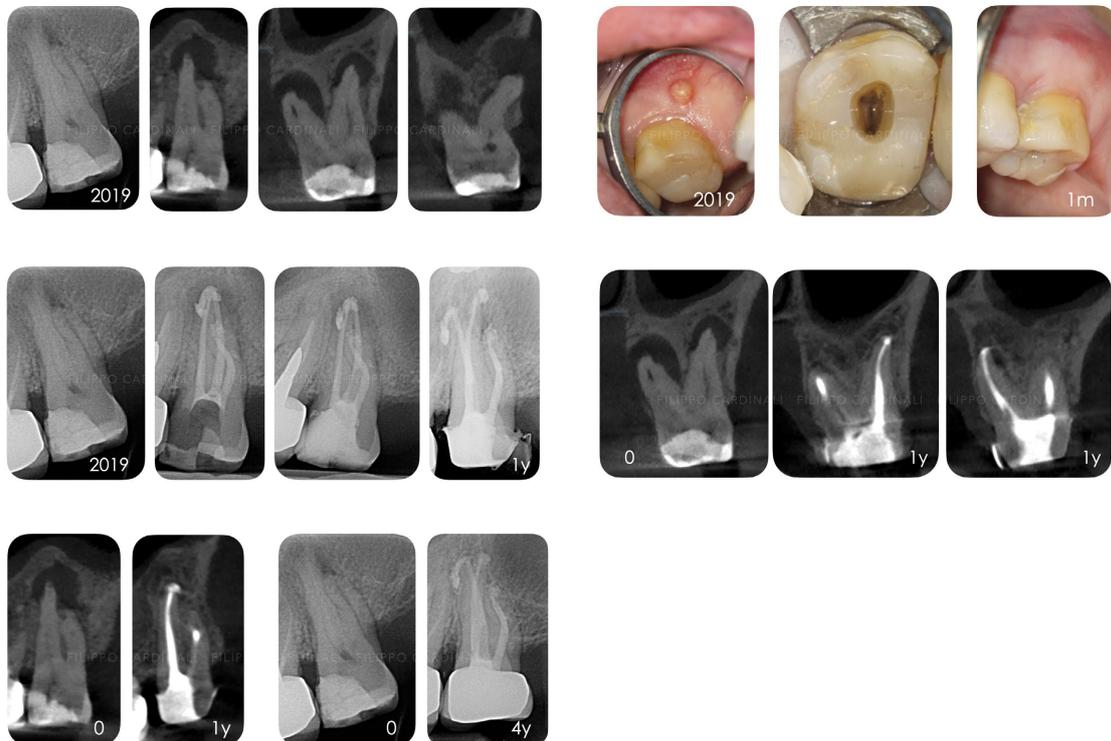
Case 10 1.1: Lateral Lesion - Overfilling 2 Lateral Canals- 5 years recall



Patient was referred for the treatment of a necrotic 1.1 with sinus tract and a big lateral lesion. Lateral lesions are always concentric to the P.O.E. of a lateral canal; that's why in this situation is raccomandabile to locate and negotiate the lateral canal with small K file. In the 2 intra-operative radiographs a small K file (10) is visible inside the lateral canal. After a deep cleaning the canal was obturated in a Single-Visit using CeraSeal bioceramic sealer with the Cold Hydraulic Condensation technique. Thanks to a good shaping and a good cone fit the overfilling was very well controlled at foramen level, but it's impossible control the overfilling from lateral canals. As visible in the post op RX 2 lateral canals were present even though only one was negotiated with manual files. The lateral canal not scouted was filled by the sealer thanks to 3 factors: the good quality of the cleaning that emptied the canal, the flowability of the CeraSeal, and the hydraulic pressure created during the obturation. The recall at 5 years shows the complete healing of the big lateral lesion with no resorption of the overfilled bioceramic sealer.

Courtesy of
Dr. Filippo Cardinali



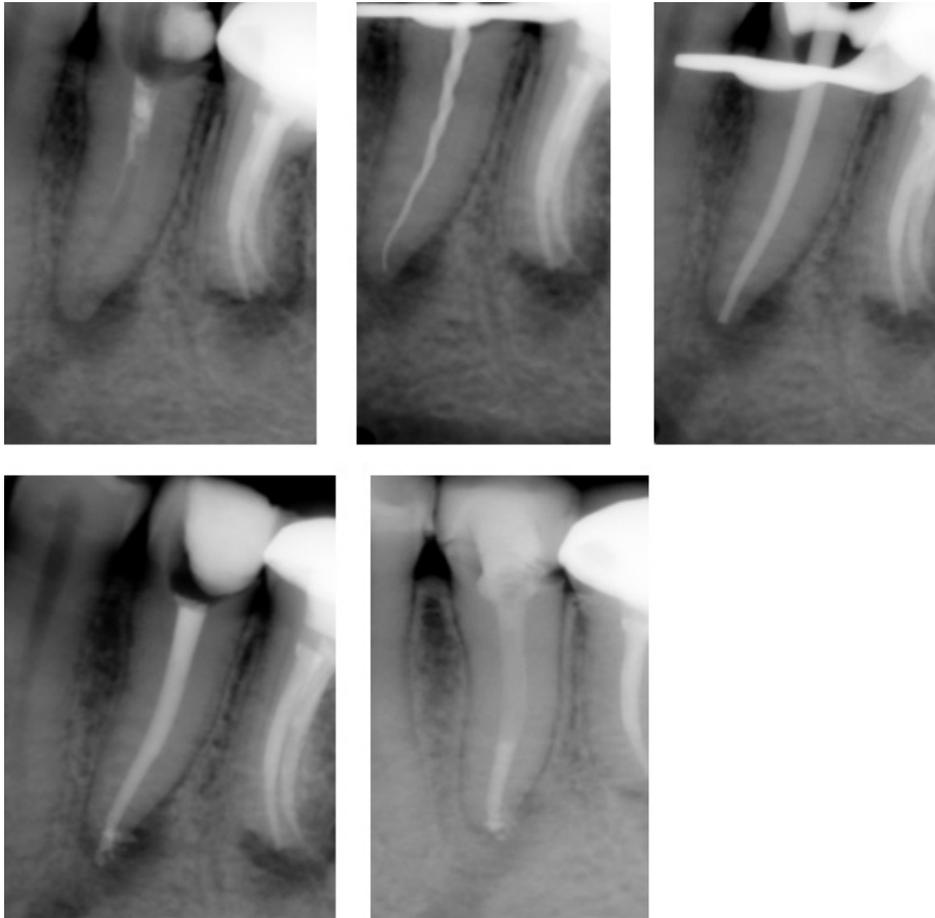
Case 11 2.7: Big Lesion – Sinus Tract – Overfilling – Healing –4 years recall


Patient was referred for the treatment of a symptomatic 2.7 with a big lesion and sinus tract. After 4 weeks dressing with Calcium Hydroxide, the sinus tract healed, symptoms disappeared and the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. At the post operative radiograph a big overfilling was present, not happy at all for that but it happens. The tooth was secured with a temporary crown and it was finalized with a Zirconia crown after the healing at 1y year was assessed with a CBCT. Nice recall sent by the referral Dentist after 4 years.

Courtesy of
Dr. Filippo Cardinali



Case 12 RCT of lower left second premolar



Bioceramic Sealers have changed the Endodontic treatment greatly as we started to see shorter healing periods with good tissue repair.

In this case, we can see an evident large bone loss due to the periapical infection present. After root canal treatment while using CeraSeal in Single Cone Hydraulic Condensation technique, the case was referred to the prosthodontist.

Surprisingly, the patient came for follow up after 10 weeks without prior notice due to personal circumstances. Follow up Xrays showed very nice healing in progress, evident start of bone formation and tissue repair in such short period of time. The periapical lesion decreased in size and bone formation following root anatomy started. Patient was advised to change the crown restoration and appointed for another follow up visit.

Courtesy of
Dr. Mostafa Anwar





2

Category 2



**Necrosis &
Large Foramina
(L.E.O.)**

CeraSeal CLINICAL CASES

Necrosis & Large Foramina (L.E.O.)

Case 1

Cold Hydraulic Condensation and Bioceramic Sealer for the obturation of a large foramen - 6 years follow-up.



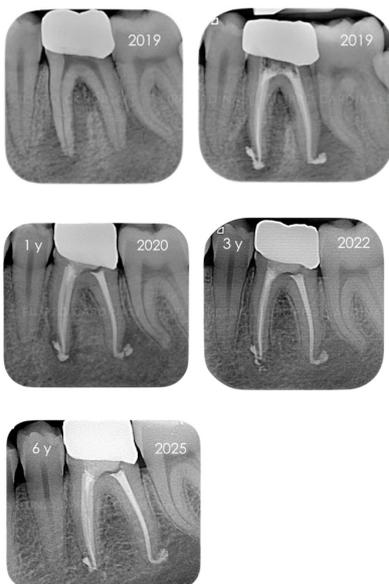
Ergonomics is one of the great point related to the bioceramic sealer. This case in the past would have been treated with carrier based obturation technique and an Apical Plug with MTA. After 3 weeks dressing with Calcium Hydroxide, canals were obturated with CeraSeal Bioceramic sealer and Single cone, in the distal canal a barrier was placed to contain the obturation material inside the root canal. Review at 3 and 6 years shows the complete healing of the big lesion.

Courtesy of
Dr. Filippo Cardinali



Case 2

36: Necrosis - Big L.E.O. - Big Overfilling - 6 years recall



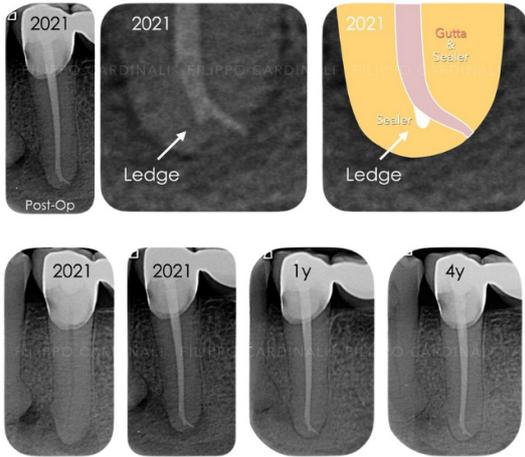
Patient was referred for the treatment of a symptomatic 3.6 with a big lesion. After 4 weeks dressing with Calcium Hydroxide, symptoms disappeared and the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. At the post operative radiograph a big overfilling was present, not happy at all for that but it happens; according with the literature the overfilling is present in 66% of teeth with lesion using bioceramic sealer and it doesn't affect the outcome of the treatment if the overfilling is UNINTENTIONAL after a proper shaping, cleaning and filling. Review at 1, 3 and 6 years shows the complete healing of the big lesion thanks to the proper filling technique and to the biocampitibility of the CeraSeal.

Courtesy of
Dr. Filippo Cardinali



Case 3

3.5: Necrosis – Lesion – Lip Paresthesia – Ledge – 4 years recall



Patient referred for treatment of a necrotic tooth 3.5 with associated periapical lesion. The patient initially presented with an acute abscess, pain, and lip paresthesia due to compression of the mental nerve. Despite an initial dressing performed by the referring dentist and antibiotic therapy, symptoms persisted. Endodontic treatment was initiated by the referring colleague, but he was unable to determine the working length due to the formation of a ledge in the apical third of the canal. After successful management of the ledge, the canal was medicated with calcium hydroxide. Two weeks later,

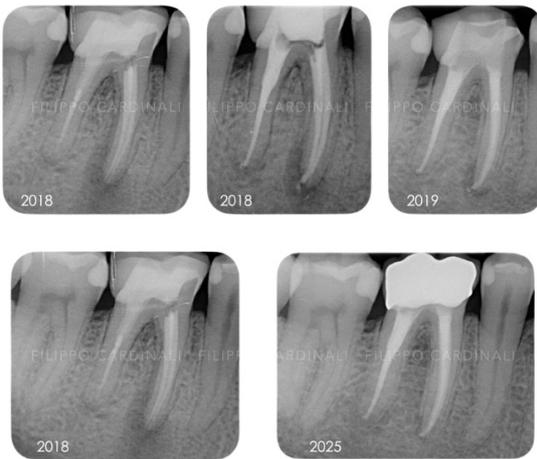
all symptoms had resolved completely, and the tooth was obturated using CeraSeal bioceramic sealer with the Cold Hydraulic Condensation technique. The post-operative radiograph shows the presence of the previously created ledge completely filled by the bioceramic sealer. Recall at 4 years shows the complete healing of the lesion.



Courtesy of
Dr. Filippo Cardinali

Case 4

4.6: SINGLE VISIT RETREATMENT – L.E.O – 7 YEARS RECALL



A large periapical lesion was present on the mesial root of tooth 4.6, which had been previously treated many years ago and restored with a fiber post and crown. The patient requested that the retreatment be performed through the crown, despite being informed that this was not the ideal approach. After removal of the fiber post using an ultrasonic tip, the tooth was desobturated with rotary files, then shaped, thoroughly cleaned, and obturated in the same session. CeraSeal bioceramic sealer was used with the Cold Hydraulic Condensation (CHC) technique, as the tooth was

asymptomatic and no exudate was present in the canal. The 1-year recall showed the not yet completed healing of the lesion and a fracture of the crown. At the 7-year recall, complete healing of the large lesion was observed – it's all about the outcome. ARE BIOCERAMIC SEALER AND CHC RELIABLE? IT'S ALL ABOUT OUTCOME, NO FOLLOW UP NO ENDO.



Courtesy of
Dr. Filippo Cardinali

Case 5 4.6: Necrosis – Big L.E.O. – Overfilling – 4 years recall

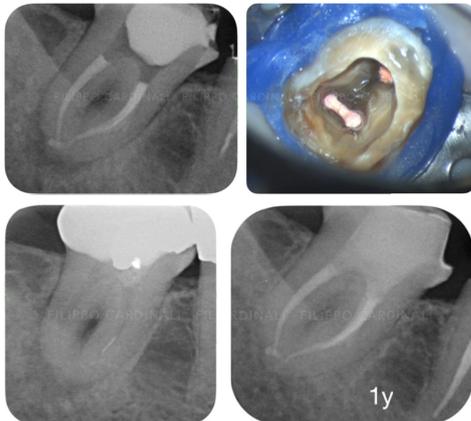


The 4.6 was treated in 2019 with an indirect restoration for the presence of a crack line. On 2021 the patient came back to the referral complaining for a discomfort during the function. The radiographic investigation reveals the presence of lesions in both roots of 4.6; the lesion in the distal root is bigger and it extend up to the forca-tion area. At the clinical examination the tooth slightly tender to percussion. Treatment was done in 2 visits. During the first visit canals were shaped, cleaned and dressed with calcium hydroxide. After 4 weeks the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer, with creation of a small overfilling in the distal root. The recall at 4 year shows the complete healing of the big lesion with no resorption of the overfilled bioceramic sealer.

Courtesy of
Dr. Filippo Cardinali



Case 6 Treatment of 4.8 with L.E.O : File Removal and obturation with bioceramic sealer 1year follow up.



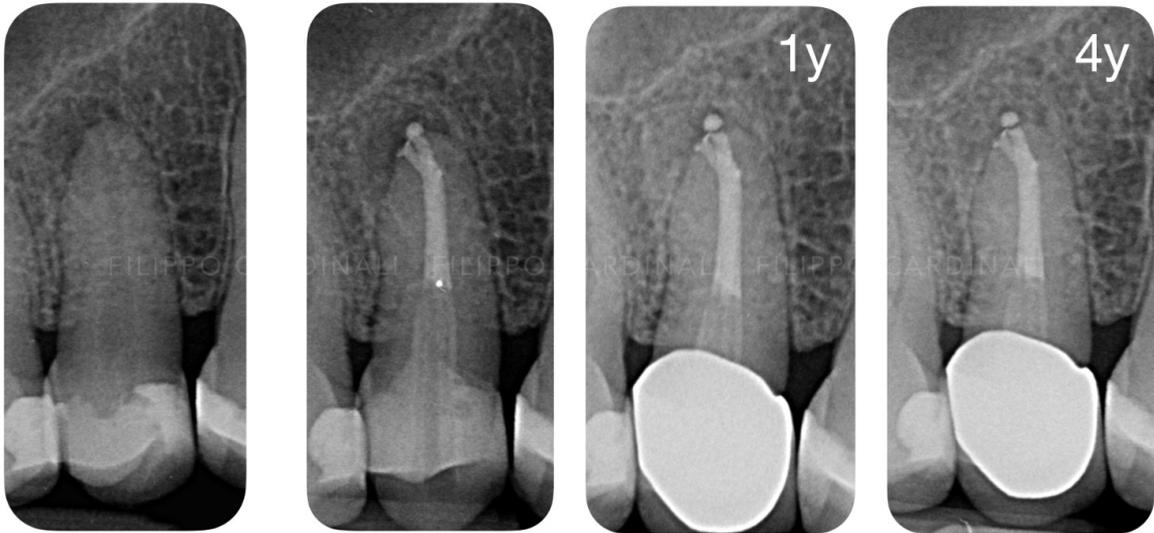
Referred patient for the removal of the broken file in the MB canal of 4.8 with periapical lesion. The file broke after the flaring. First with US tip I prepared the isthmus and cleaned the isthmus and the coronal third. Then I prepared the ML and D canals, I did the cone fit and I left the cones in the canals to secure them during the retrieval of the broken file. The broken file was removed activating EDTA with US tip and it came out during the irrigation with an Endodontics needle. The MB canal merges with ML so it was shaped up to the merging point. After a deep cleaning, CeraSeal was delivered in

the ML canal and the sealer was spread in apical direction and in the isthmus thanks the action of the tip of the EQ-S. ML was obturated with a single cone technique searing the cone off with EQ-V Pack. The MB canal was obturated with the Squirtting Technique delivering already melted gut-ta-percha thanks the EQ-V Fill. At the end of the procedure the EQ-V Fill was used to completely seal MB, ML and isthmus in order to isolate the CeraSeal inside the canal. The recall at 1 year show the healing of the lesion.

Courtesy of
Dr. Filippo Cardinali



Case 7 1.5 L.E.O. - Deep Apical Split - Large Foramina - 4y review



Treatment of 1.5 with lesion, deep apical split and large foramina.

Despite the sizes of the foramina were bigger than 70, the canals were obturated using the Cold Hydraulic Condensation Technique with CeraSeal bioceramic sealer: this approach is really ergonomic and time saving.

Review at 1 and 4 years shows the complete healing of the lesion.

Courtesy of
Dr. Filippo Cardinali





3

Category 3

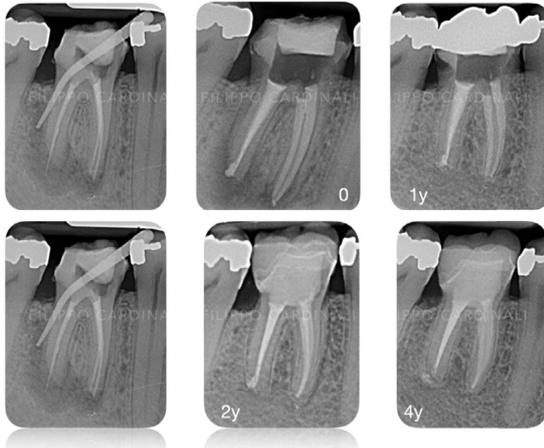


Retreatment

CeraSeal CLINICAL CASES

Retreatment

Case 1 Retreatment of 4.6 with L.E.O. and Sinus Tract – 4 years follow-up.



The tooth was obturated with a carrier based technique system, the plastic core in the distal root is beyond the apex. The case was faced in a multiple visits for the presence of exudate in the canals, a dressing with Calcium Hydroxide was placed for 4 weeks. Despite the sizes of the foramina were bigger than 50, the canals were obturated using the Cold Hydraulic Condensation Technique with CeraSeal bioceramic sealer; single cone and bio ceramic were placed in the mesial canals, whilst in the oval shaped distal canal other cones were passively added to the master cone. 2 years follow-up with complete healing of the lesion.

Courtesy of
Dr. Filippo Cardinali



Case 2 Retreatment of 4.6 with L.E.O. and Broken Lentulo – 4 years follow-up.



Tooth 4.6 presents a low quality obturation with a broken lentulo in the mesial root; in both roots a periapical lesion is present. The angled radiograph shows that the broken lentulo is located in the MB canal. Once secured the orifices of the ML and D canals, the broken lentulo was removed and all the canals were re-shaped, deeply cleaned and obturated using the Cold Hydraulic Condensation Technique with CeraSeal bioceramic sealer. Recalls at 12 months and 4 years show the complete healing of the lesions.

Courtesy of
Dr. Filippo Cardinali



Case 3

Retreatment of I.1 with L.E.O: Management of oval canal and foramen 70 with bioceramic sealer – 3 years follow-up.



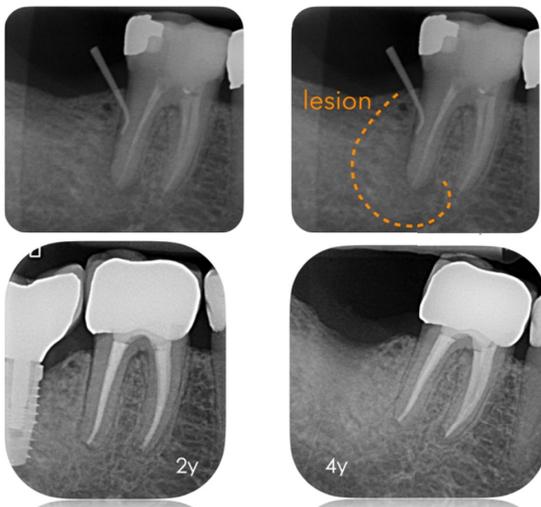
Many challenges in this pretreatment of a central maxillary incisor with periapical lesion: how to completely fill the oval shape canal using CeraSeal with Cold Hydraulic Condensation and how to control the overfilling in a 70 size foramen at the same time? In the video you see step by step the tips to get the solution. Recall at 3 years shows the complete healing of the lesion.

Courtesy of
Dr. Filippo Cardinali



Case 4

Retreatment of 4.6 with L.E.O and Sinus Track: a conflicting treatment plan – 4 years follow-up.



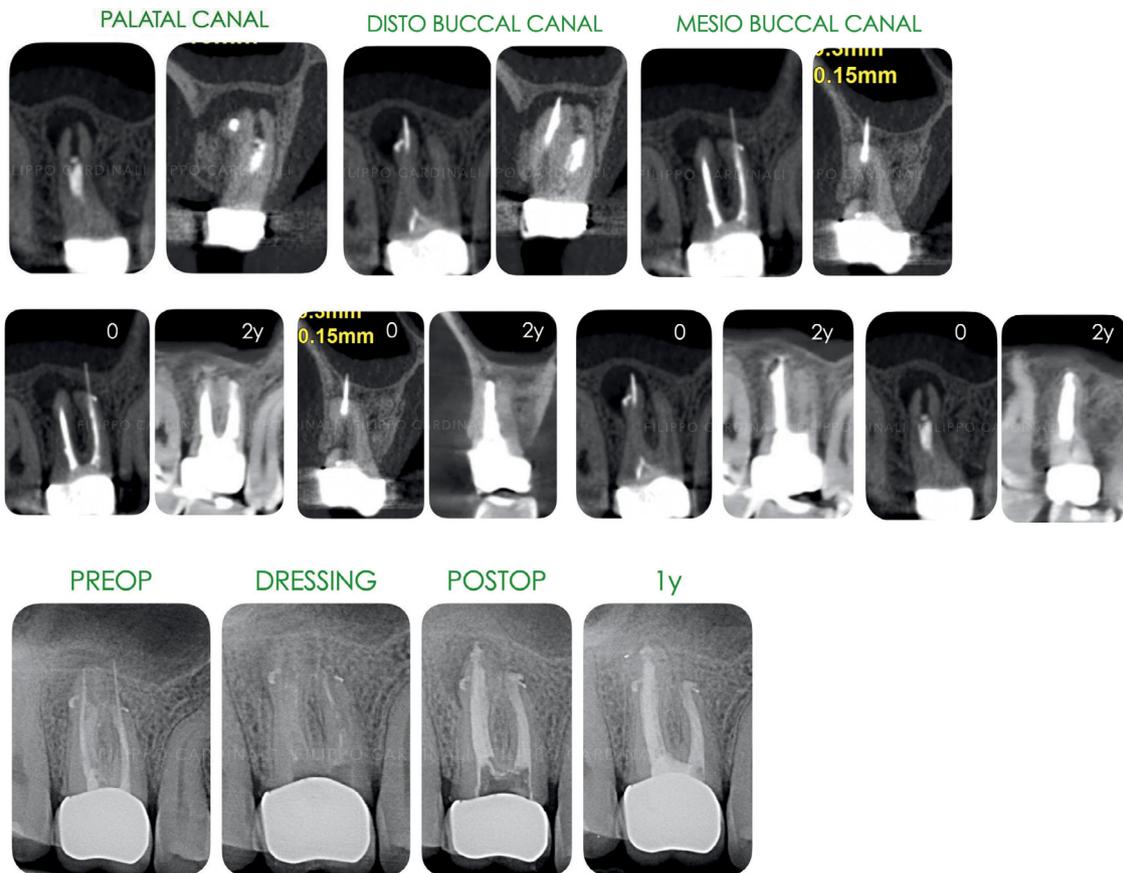
The patient was scheduled for implant placement to replace the 4.7, but a big lesion and sinus tract was present in the 4.6. The surgeon suggested the patient to extract the 4.6 and to replace it with an implant. The patient refused and was sent for the retreatment: implant placement on 4.7 was postponed waiting for the healing of the lesion on 4.6. After 4 weeks dressing with Calcium Hydroxide the 4.6 was obturated using CeraSeal with Cold Hydraulic Condensation Technique, basically single cones in the mesial canals and master cone with accessory cone in the distal canal with an oval shape. After 2 years the 4.6 was evaluated healed 100% and implant on 4.7 was placed. After 4 years the 4.6 is still working whilst the implant failed: this time endo won!!!!!!

Courtesy of
Dr. Filippo Cardinali



Case 5

Retreatment of 1.6 with L.E.O, carrier based core on the Maxillary Sinus and large palatal foramina 2 years follow up.



Many problems in this first maxillary molar despite the presence of a big lesion. The palatal root was over enlarged and the plastic cores of the obturator went beyond the apex in the buccal roots: in the mesio-buccal root the plastic core arrived inside the maxillary sinus and extrusion of the plastic core beyond the apex. The tooth was symptomatic and were addressed in 2 visits. During the first visit the obturation material was removed and the tooth was dressed with Calcium Hydroxide for 3 weeks. During the second visit the canals were obturated using the Cold Hydraulic Condensation Technique with CeraSeal bioceramic sealer.

Courtesy of
Dr. Filippo Cardinali



Case 6 **Retreatment of lower right second Premolar**

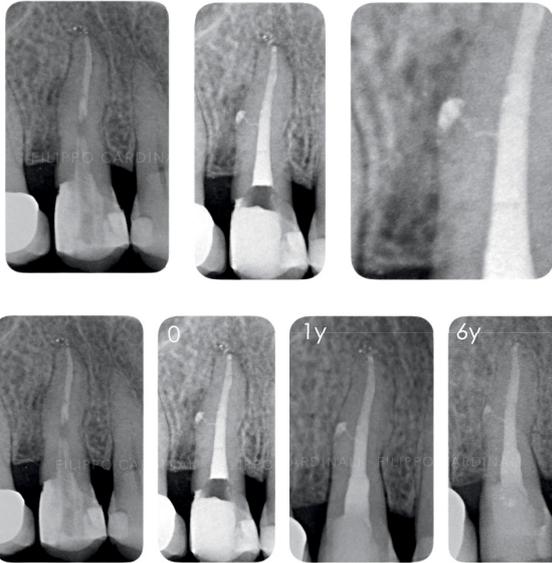


Well, in this retreatment case of lower right second premolar which had poor obturation above evident ledge, the gutta-percha was removed using rotary files and then the ledge was successfully bypassed. There was an evident periapical lesion related to this premolar, so after proper disinfection, i decided to use CeraSeal Bioceramic Sealer. However, i used it in Continuous Wave of Compaction Technique in order to create a post space later for the post and core restoration. The application of CeraSeal in such technique should be limited to the apical half of the canal without any pressure to avoid apical extrusion. If applied correctly, CeraSeal won't be affected by the heat of the CWC technique. After Three months of Follow up, you can see complete Tissue healing and bone repair with CeraSeal Integrity and Stability over time, which indicates the success of such case. More follow up is advised for sure since saving teeth is our priority.

Courtesy of
Dr. Mostafa Anwar



Case 7 Retreatment of 2.5 with Deep Probing, and Big distal bone loss – 6 years follow-up.

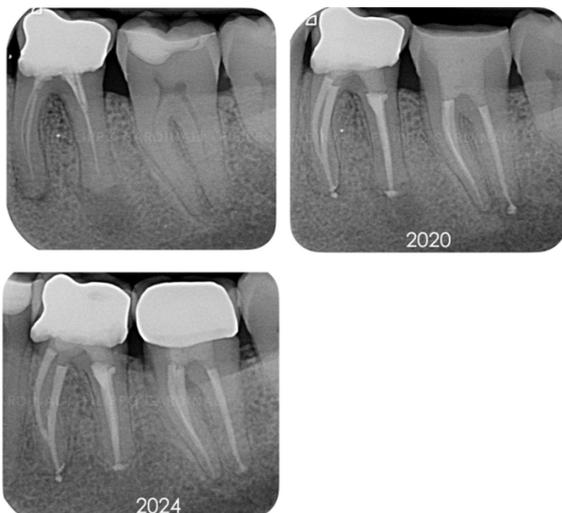


Challenging diagnosis in this case. The patient was referred with a suspect of VRF of 25. Clinical examination reveals the presence of a deep probing with no crack line, the radiographic examination shows a big distal bone loss and an empty area between the fiber post and the obturation material. Obturation using Cold Hydraulic Condensation and CeraSeal bioceramic sealer: a lateral canal that connect the empty canal space and the infection area is present and injected by the bioceramic sealer. The bone loss is a sinus tract inside the gingival sulcus. Review at 1 and 6 years shows the complete healing of the big lesion

Courtesy of
Dr. Filippo Cardinali



Case 8 Retreatment 36 with lesion and Treatment of symptomatic 37 – 4 years follow-up.

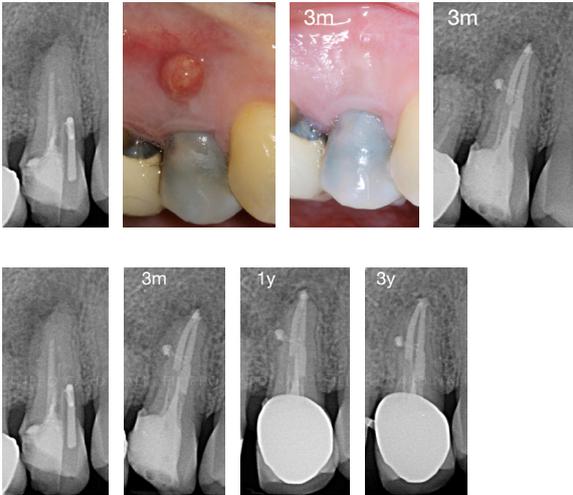


Patient was referred for 2 problems the tooth 36 was tender to percussion and palpation, the 37 presented the typical signs of "Cracked tooth Syndrome". Treatments were done in 2 visits. During the first visit teeth were shaped, cleaned and dressed with calcium hydroxide. During the second visit the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. Nice recall sent by the referral Dentist after 4 years.

Courtesy of
Dr. Filippo Cardinali



Case 9 **Retreatment of 1.5 with apical lesion and sinus tract: 3 years follow up.**

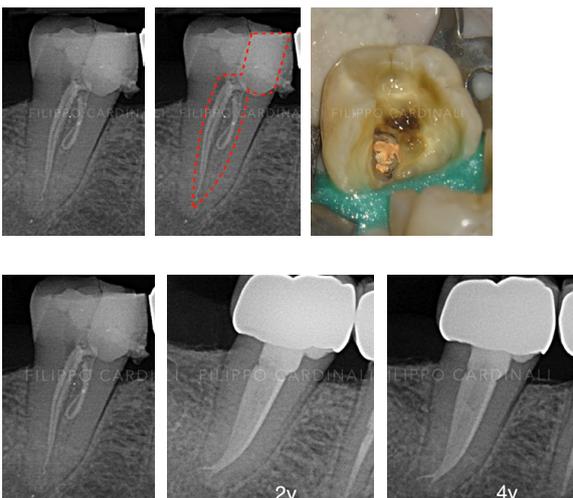


Cold Hydraulic Condensation obturation technique using a single cone and CeraSeal bioceramic sealer in both canals. After the delivery of the sealer in the middle and coronal thirds, cones were slowly inserted in the canals and then removed to assess the presence of the sealer at apical level; in this case I added CeraSeal at the tip of the cones to secure its presence in the apical third. The hydraulic pressure, generated during the insertion of the cones and during the packing at orifice level, and the flowability of the CeraSeal are responsible for the injection of the lateral canal that sustains the lateral lesion. The 3 years follow up shows the complete healing of the lesion.



Courtesy of
Dr. Filippo Cardinali

Case 10 **Retreatment of 4.7 with Apical Periodontitis – 4 years follow-up.**

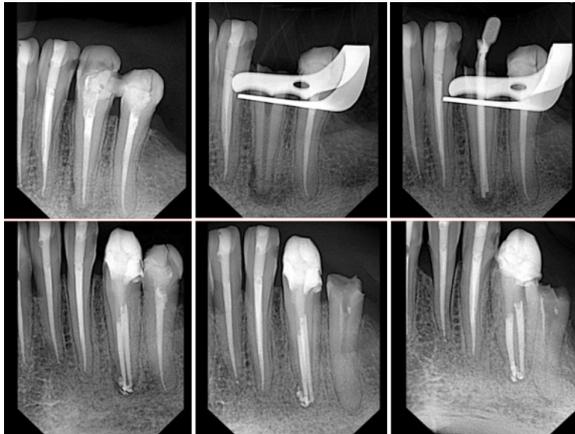


Very low quality obturation in this 47 even because of a wrong access cavity design. Once corrected the access, it was easy to remove the old obturation material. This tooth has a C-Shape canal configuration with a mesial and distal canal merging at apical level. The canals were obturated using the Cold Hydraulic Condensation Technique with CeraSeal bioceramic sealer: the proper delivery of the sealer and the hydraulic pressure, generated during the insertion of the cones and during the packing at orifice level allowed the CeraSeal to completely fill the narrow space between the canals and to inject an accessory foramen.



Courtesy of
Dr. Filippo Cardinali

Case 11 Retreatment of lower left canine with two roots



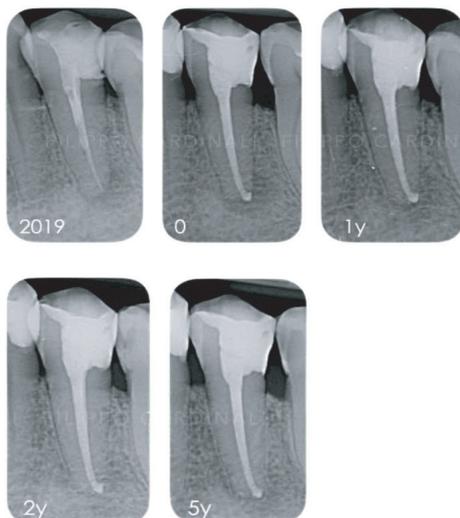
Patient came complaining of Lower left Canine showing poor obturation, a missed lingual root & periapical lesion with bone loss during previous RCT. Non-surgical retreatment was performed in single visit, there were two separate roots and obturation was done using Single Gutta percha cone & CeraSeal Bioceramic Sealer. Application of CeraSeal BC sealer in such cases provides many advantages; Anti-bacterial properties, Allows rapid tissue repair and bone healing over short period of time due

to its BioActivity. We never intentionally puff the sealer, however the flowability of sealer might show some apical extrusion of this Biocompatible material. After 11 months, the Follow up Xrays show very nice tissue repair and complete healing. Note the bone formation following the root anatomy. This helps to ensure a good success rate.

Courtesy of
Dr. Mostafa Anwar



Case 12 3.5 Retreatment - Lesion - Big Foramen - CHC & CeraSeal - 5 years recall



Patient was referred for the retreatment of a symptomatic 3.5 with periapical lesion.

After the complete desobturation the canal was shaped and deeply cleaned and the canal was dressed with Calcium Hydroxide. After 2 weeks the canal was obturated using CeraSeal bioceramic sealer with the Cold Hydraulic Condensation technique. Thanks to a good cone fit the overfilling was well controlled at foramen level, but it's impossible control the overfilling from lateral canal, as a lateral lesions is always concentric to the P.O.E. of a lateral canal. The recall at 5 years shows a stable and complete healing of the lesion, no sealer resorption.....it's all about outcome!!!!

Courtesy of
Dr. Filippo Cardinali



Case 13 **Retreatment of 4.7 with Apical Periodontitis - 4 years follow-up.**



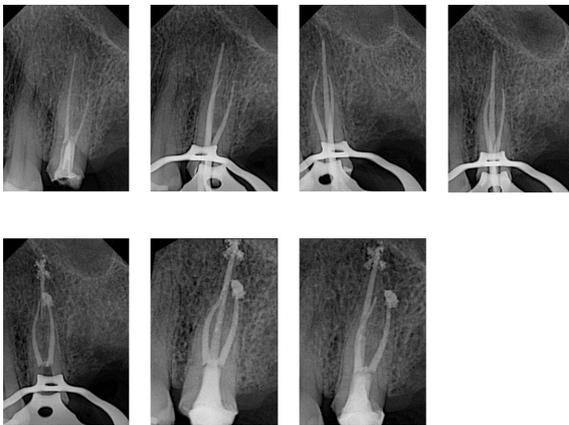
Cold Hydraulic Condensation obturation technique using a single cone and CeraSeal bioceramic sealer in both canals. After the delivery of the sealer in the middle and coronal thirds, cones were slowly inserted in the canals and then removed to assess the presence of the sealer at apical level; in this case I added CeraSeal at the tip of the cones to secure its presence in the apical third.

The hydraulic pressure, generated during the insertion of the cones and during the packing at orifice level, and the flowability of the CeraSeal are responsible for the injection of the lateral canal that sustains the lateral lesion. The 3 years follow up shows the complete healing of the lesion.



Courtesy of
Dr. Filippo Cardinali

Case 14 **Retreatment of upper left molarized second premolar**

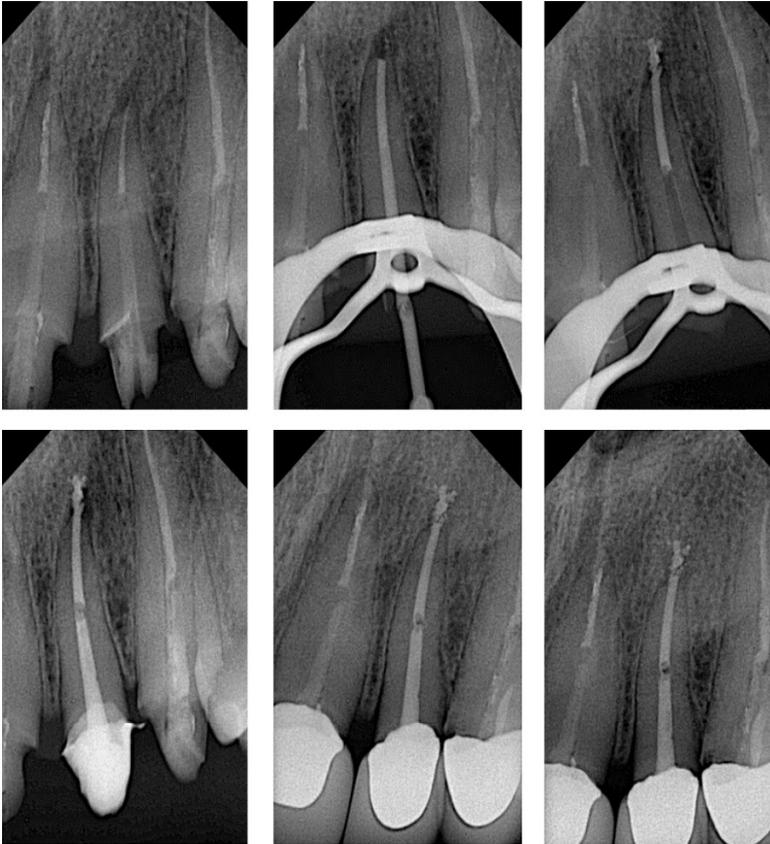


This retreatment case was referred having missed MB Canal/Root and poor obturation of DB and Palatal Canals. The gutta-percha was removed using rotary files, and shaping was done using reciprocation files. CeraSeal played an important role in Obturation due to the easiness & efficiency of the Single Matched Cone technique and power of Hydraulic condensation with CeraSeal flowability, i was able to obturate the MB & DB Canals even while having constricted entrance. As for the Palatal canal,

i intentionally applied CeraSeal in the Apical half of the canal as my plan was to sear off Gutta percha in the middle half of the canal and restore with post & core afterwards. CeraSeal can be used with hot obturation techniques safely if proper precautions are done. Even with large sealer puffs, there was no Flare up signs & symptoms at all due to the biocompatibility of CeraSeal, however intentional sealer puffs should be avoided. CeraSeal can be used in All Cases and All Obturation Techniques, Just use it Properly.



Courtesy of
Dr. Mostafa Anwar

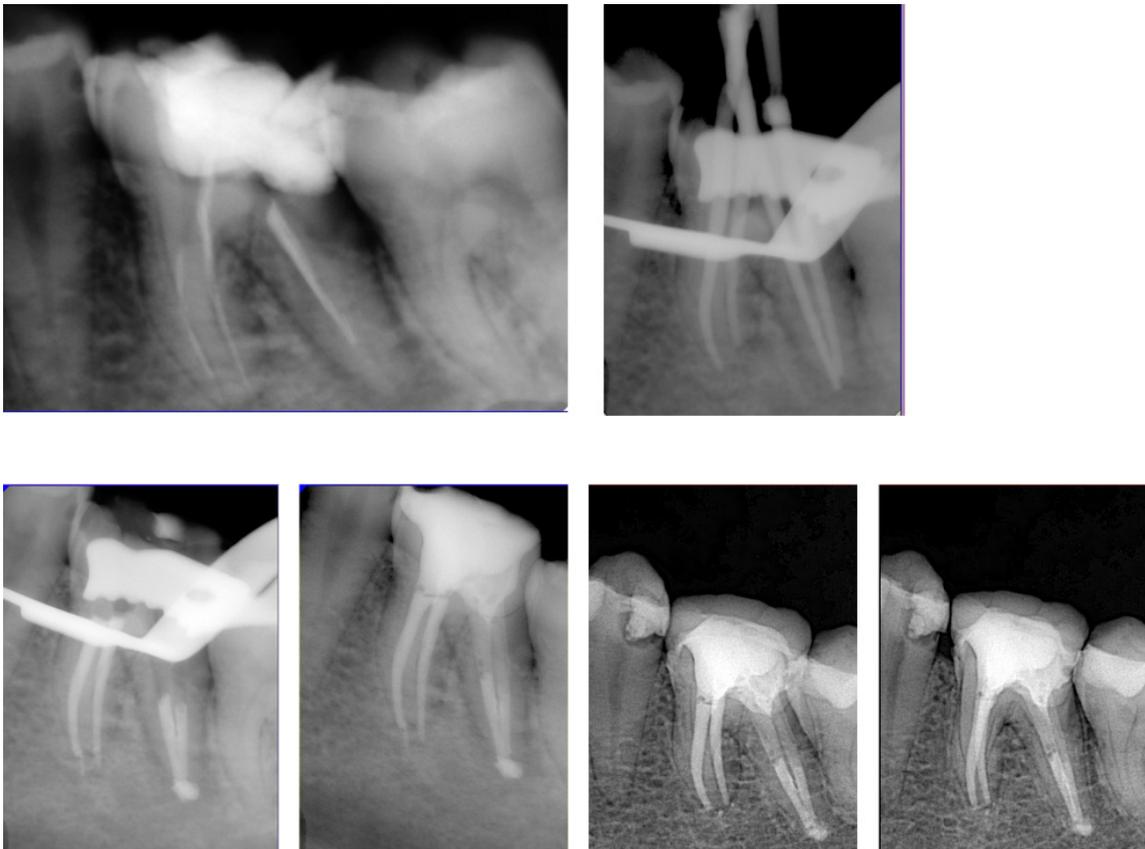
Case 15 **Retreatment of lower left canine with two roots**


It's the Era of Bioceramic Sealers!! In this retreatment case of Upper Left Lateral Incisor which had poor obturation & a Fiber post, the gutta-percha was removed using rotary files and the fiber post was removed using Ultrasonics. There was an evident periapical lesion related to this lateral incisor, so after proper disinfection, i decided to use CeraSeal Bioceramic Sealer. However, i used it in Continuous Wave of Compaction Technique in order to create a post space later for the post and core restoration. CeraSeal was limited to the apical half of the canal so that it wouldn't be affected by the heat of the CWC technique. After 33 Days of Follow up, you can see decreased size of the periapical lesion with evident bone formation above the apex of the root and notable radiopacity along the periapical area. Extruded CeraSeal showed Integrity and Stability over time, which indicates the success of such case. Rapid healing and short follow up periods became more common with Bioceramics. Longer follow up is advised for sure.

Courtesy of
Dr. Mostafa Anwar



Case 16 **Retreatment of lower left first molar**



Power of Bioceramic Sealers!! In this retreatment case of Lower Left First Molar which had poor obturation & a large periapical lesion related to the Distal Root with evident widening of the lamina dura, while the mesial root shows widening of lamina dura and very small lesion periapically. The gutta-percha was removed and Biomechanical preparation was done then Obturation using CeraSeal Bioceramic sealer. As clearly stated, CeraSeal was used in Continuous Wave of Compaction Technique in order to create a post space later for the post and core restoration. While, CeraSeal was used in Hydraulic Condensation (Single Matched Cone) technique in Mesials. After 2 years of Follow up, Complete Healing with evident bone formation related to the distal root with continuous healthy lamina dura for both Distal and Mesial Roots. Extruded CeraSeal showed Integrity and Stability over 2 years duration, which indicates the success of such case.

Courtesy of
Dr. Mostafa Anwar





4

Category 4



Complex Anatomy

CeraSeal CLINICAL CASES

complex anatomy

Case 1 Pulpitis 4.7 with a complex anatomy – 6 years follow-up.



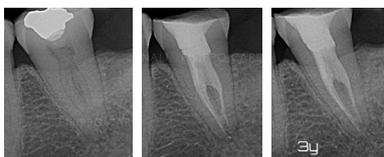
Patient was referred for the treatment of 47 with pulpitis few weeks after the cementation of the crown. Challenging anatomy in the mesial root with a double curvature that impede the proper execution of obturation with the Warm Vertical Compaction. The tooth was treated in 2 visits. During the first visit the tooth was shaped, cleaned and dressed. During the second visit the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. Review at 1 and 6 years

shows the stability of this sealer based technique with a partial resorption of the bioceramic sealer extruded beyond the apex in the distal root.

Courtesy of
Dr. Filippo Cardinali



Case 2 Treatment of 3.7 with Apical Periodontitis 3 years follow-up.



This 37 has a C-Shape canal configuration; the 2 mesial are merging, the distal canal has an independent foramen. The narrow connection between canals is really challenging to clean, to properly fill during the obturation and very difficult to dry. In the video you can clearly see the communication between the buccal canals during the delivery of the sealer, the sealer in the narrow coronal communication and how the sealer appears in the distal canal moving the GP cone in the buccal canal, that means that there is a second communication area in the apical third.

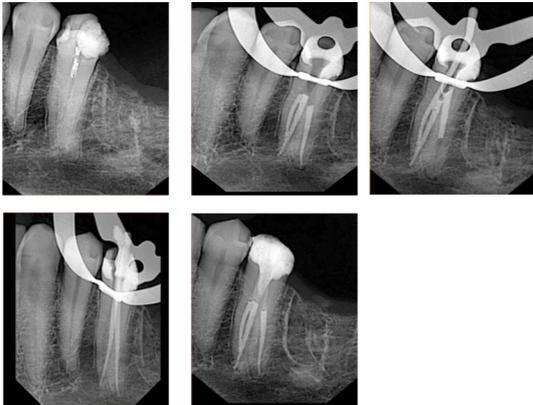
In these cases we do add sealer to completely fill the root canal space, the hydraulic pressure allow the filling of these narrow spaces, and the humidity present at that level won't interfere with the setting of the CeraSeal. At 3 years everything is running well, even though the patient refused to do a full cuspal coverage restoration.

Courtesy of
Dr. Filippo Cardinali



Case 3

Lower left second premolar with three canals.



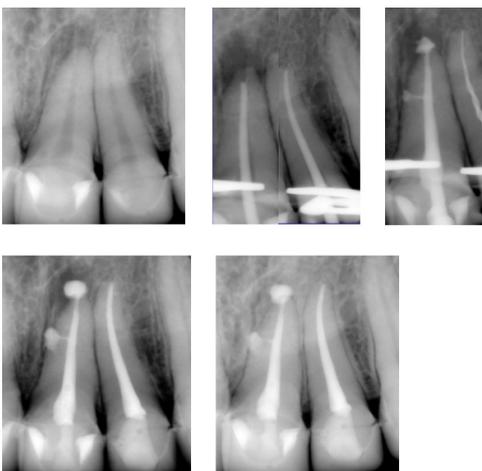
Referred Lower Second Premolar with complex anatomy, after access cavity preparation & Intracanal medication. CBCT shows Two Buccal fused roots with one POE and one lingual root. The complexity lies in RC preparation and obturation, however the obturation can be simplified with the use of CeraSeal Bioceramic Sealer. Application of CeraSeal BC sealer in all the canals, then using a Gutta-percha Single cone in DB canal followed by MB Master cone (Type II Canals). Application of the master cone of lingual canal where "Hot Modified" technique was used to create post space. Note; Lateral Canal in the DB root filled with CeraSeal due to its amazing flowability.



Courtesy of
Dr. Mostafa Anwar

Case 4

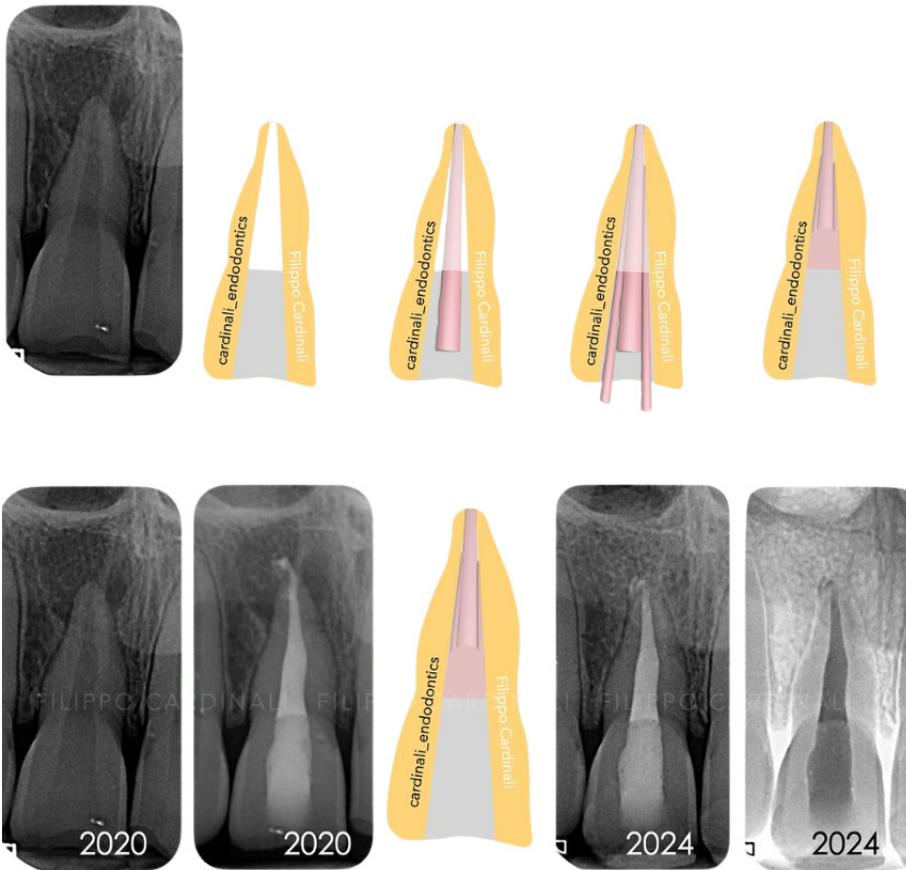
RCT of Upper left central & Lateral incisors



Lateral canals aren't evident sometimes in the pre-operative radiographs, however if there is a lateral lesion then we should suspect a lateral canal. In this case, a male patient came complaining of continuous pain related to Upper Left Central and Lateral Incisors, whom he recently restored with crowns. So, Access cavity was made through the newly made Crowns to preserve them. Paying attention and great care to Disinfection protocols while getting the benefit of CeraSeal Bioceramic sealer's flowability shows how can we fill those lateral canals simply and efficiently. Tissue healing and bone repair with CeraSeal Integrity and Stability over time, indicates the success of such cases. One year follow up with Excellent results.



Courtesy of
Dr. Mostafa Anwar

Case 5
How to completely fill an oval shape canal using CeraSeal with Cold Hydraulic Condensation?


1 Deliver the sealer in the canal

2 Insert the master cone

3 Passively add other cones

4 Sear the cones off and pack with a plugger in order to close the orifice with Gutta-Percha protecting the bioceramic sealer inside the canal.

Recall at 4 years shows the complete healing of the big lesion.

Courtesy of
Dr. Filippo Cardinali



Case 6

4.5: Lateral Lesion - Overfilling Lateral Canal-6 years recall



Patient was referred for the retreatment of 4.5 with lesion in the apico-mesial part of the root.. After a deep cleaning the canal was obturated in a Single-Visit using CeraSeal bioceramic sealer with the Cold Hydraulic Condensation technique. Thanks to a good shaping and a good cone fit the overfilling was very well controlled at foramen level, but it's impossible control the overfilling from lateral canal, as a lateral lesions is always concentric to the P.O.E. of a lateral canal. The recall at 6 year shows the complete healing of the big lateral lesion with no resorption of the overfilled bioceramic sealer.



Courtesy of
Dr. Filippo Cardinali



5

Category 5

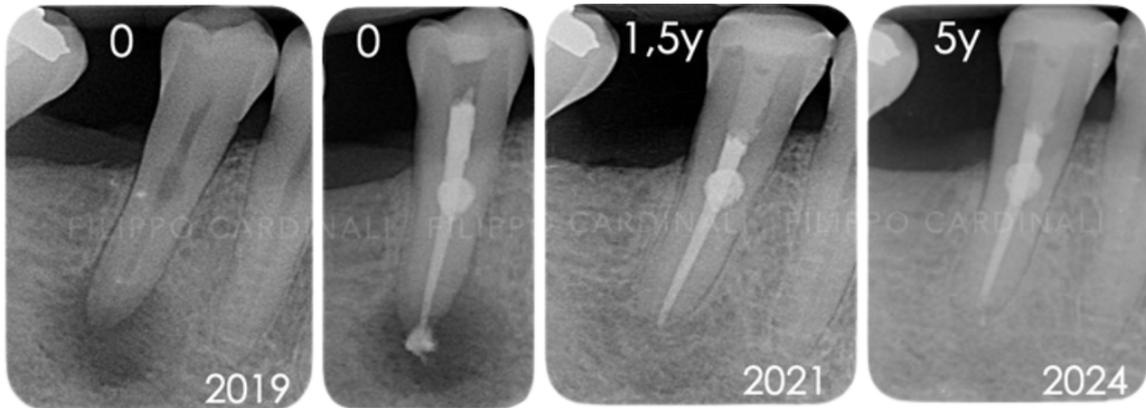


Resorption

CeraSeal CLINICAL CASES

Resorption

Case 1 4.5: Big Lesion - Internal Resorption - Sealer Resorption - 5 years recall



Patient was referred for the treatment of a symptomatic 3.6 with a big lesion. After 4 weeks dressing with Calcium Hydroxide, symptoms disappeared and the canals were obturated using the Cold Hydraulic Condensation Technique, a single cone with CeraSeal bioceramic sealer. At the post operative radiograph a big overfilling was present, not happy at all for that but it happens; according with the literature the overfilling is present in 66% of teeth with lesion using bioceramic sealer and it doesn't affect the outcome of the treatment if the overfilling is UNINTENTIONAL after a proper shaping, cleaning and filling. Review at 1, 3 and 6 years shows the complete healing of the big lesion thanks to the proper filling technique and to the biocompatibility of the CeraSeal.

Courtesy of
Dr. Filippo Cardinali





6



CeraPutty
Clinical Case

CeraPutty CLINICAL CASES

Micro-surgery of persisting apical pathosis with CeraPutty retrograde obturation; a 3.5 years recall

Introduction:

The good compatibility as well as sealing ability of bioceramics material allowed it to be used as a retrograde material during apical surgery with high success rate⁽¹⁾.

Case report:

30 years old female patient was referred complaining from repeated swelling in the anterior upper teeth area after 2 previous apical surgeries.

Clinical examination revealed palpation pain over apex area of upper right lateral incisor #12, with fixed prosthesis, and the X-Ray examination showed persisting apical lesion with over-extended obturation material due to previous failing apicoectomies. Figure 1.

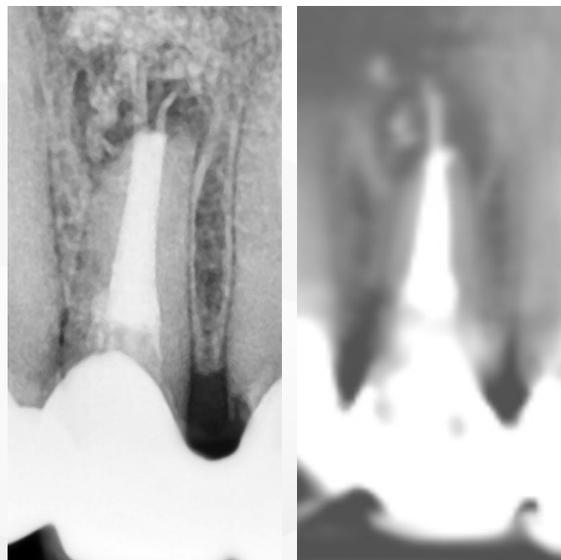


Figure 1: Pre-operative X-Ray and CBCT image showing persisting apical lesion after two apicoectomies.

A diagnosis of symptomatic apical periodontitis was confirmed, and the treatment plan was to perform micro-surgical apicoectomy to correct previous mistakes and to seal source of infection using retrograde obturation.

After profound anesthesia, incision, and flap retraction, the peri-apical lesion as well as the over-extended obturation materials were removed. Figure 2

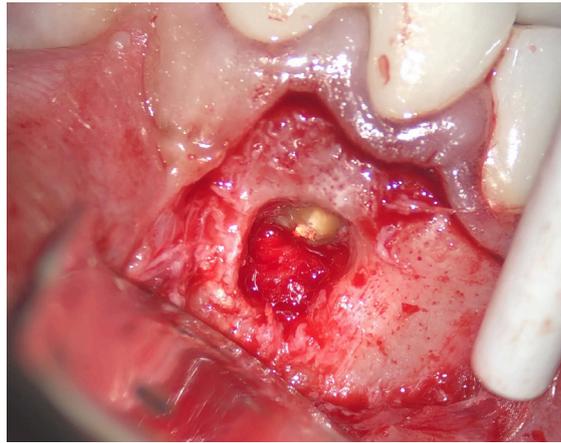


Figure 2: bone cavity after lesion removal and tooth apex exposure.

After retrograde preparation with ultrasonic tips, along with bleeding control and cavity dryness, figure 3, the retrograde cavity was obturated with LID technique⁽²⁾ using CeraSeal bioceramic sealer, figure 4, covered by CeraPutty bioceramics putty material, figure 5, from META BIOMED to completely obturate the retrograde cavity, figure 6.

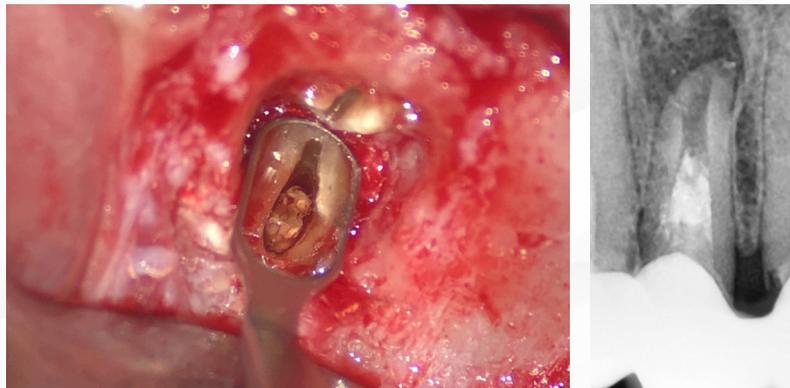


Figure 3: Retrograde cavity preparation clinically and on X-Ray.

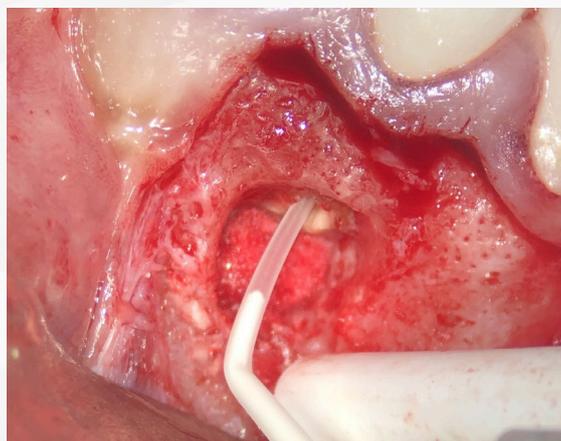


Figure 4: application of CeraSeal Sealer (META BIOMED).



Figure 5: The application of CeraPutty to completely obturate the retrograde cavity.

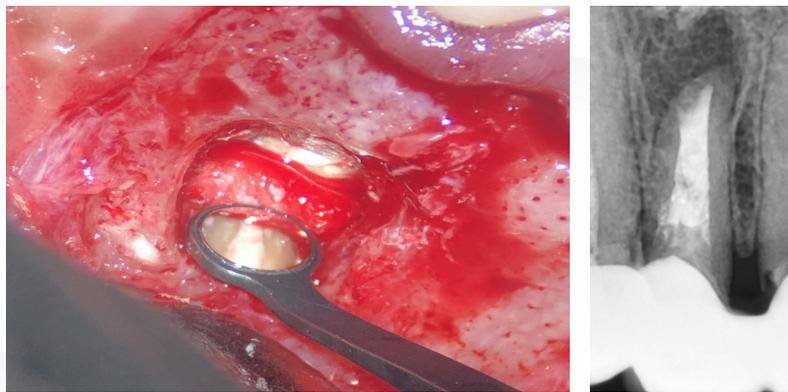


Figure 6: Hermetic seal provided by CeraPutty and SeraSeal bioceramics materials combination confirmed clinically and radiographically.

The 3.5 years recall periapical X-Ray revealed complete healing and formation of periodontal ligament PDL, Figure 7.



Figure 7. 3.5 years recall X-Ray examination showing complete healing and bone formation over the CeraPutty.

Conclusion:

The hermetic seal obtained by the combination between Ceraseal and CeraPutty was able to fill the retrograde cavity sufficiently to prevent the recurrence of the surgery again and the great biocompatibility of the CeraPutty allowed for a perfect bone healing and regeneration over the retrograde material.

Reference:

1. Abusrewil, S.M., McLean, W. and Scott, J.A., 2018. The use of Bioceramics as root-end filling materials in periradicular surgery: A literature review. *The Saudi dental journal*, 30(4), pp.273-282.
2. Nasseh, A.A. and Brave, D., 2015. Apicoectomy: The Misunderstood Surgical Procedure. *Dentistry Today*, 34(2), pp.130-132.



Prof. Talal Al-Nahlawi (Syria)

Leading endodontist and academic from Damascus, Syria. He earned his DDS, MSc, and PhD in endodontics from Damascus University. Currently teaches at several universities and founded the "Secrets of Successful Endodontic Practice" fellowship. Serves in key professional roles, including Head of the Scientific Committee of the Syrian Endodontic Society, Councilor of the Asian Pacific Endodontic Confederation (APEC), and founding member of the Arab Endodontic Society. Head of the Endodontic Department at Harmony Medical Group in the UAE.

[Instagram @talal_alnahlawi](#) [Facebook @talal.alnahlawi](#)

Clinical Evidence Highlight: Predictable Healing Through Advanced Bioceramic Technology

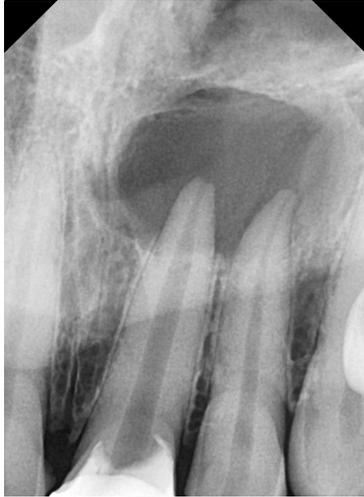


Fig 1. Pre-OP

This case beautifully highlights the power of precision endodontic retreatment supported by advanced bioceramic technology. A tooth presenting with extensive periapical rarefaction and disruption of the apical architecture was successfully managed through a conservative, non-surgical orthograde approach. Despite the severity of the initial pathology (Fig 1), predictable healing was achieved without surgical intervention, underscoring the effectiveness of contemporary non-surgical endodontic protocols.

The Pivotal Role of CeraPutty in Achieving a Reliable Apical Seal

Following meticulous chemomechanical disinfection and three dimensional obturation, CeraPutty bioceramic putty was placed orthogradely at the apical region. The material played a pivotal role in achieving predictable healing by providing an exceptional seal and promoting true biological repair. Its favorable handling characteristics allowed precise placement even in a compromised apical environment, highlighting the clinical reliability and regenerative potential of modern bioceramic materials.



Fig 2. Post-OP

Radiographic Evidence of Remarkable Healing at 1.5 Years

At the 1.5-year follow-up, postoperative radiographs revealed a dramatic transformation, with near-complete resolution of the extensive periapical pathology initially present. Substantial periapical bone regeneration with re-establishment of normal trabecular patterns was evident, indicating a highly favorable tissue response. The dense, well-adapted filling observed radiographically reflects both meticulous clinical execution and the regenerative capacity of CeraPutty bioceramic material. (Fig 2.) This case stands as a testament to conservative intervention, material science, and clinical expertise working together to restore long-term health and function.



Dr. Vishal Gandhi (India)

Founder and Director of JAL Microscopic Dental Clinic & RCT Hub, Ahmedabad's only ISO-certified endodontic center. Over a decade of experience in micro-endodontics. Globally recognized trainer and lecturer, having educated more than 1,000 dentists worldwide. Recipient of multiple international awards, including the "Saving the Natural Tooth World Championship" (IDS Germany 2023). Currently serves as a Key Opinion Leader for Meta Biomed and other leading global dental companies.

[Instagram](#) @dr_vishalgandhi_endoride [Facebook](#) @drvishalgandhiendoride

SPEAKER PROFILES



Dr. Filippo Cardinali (Italy)

Graduated summa cum laude in Dentistry in 1992. Active Member and Vice President of the Italian Society of Endodontics. Certified Member of the European Society of Endodontology. Associate Member American Association of Endodontists. Gold Member of Style italiano Endodontics. Private practice, concentrating mainly in Endodontics and Restorative Dentistry, author of publications on journals of national and international sector, speaker at national and international congresses and workshops.

Instagram @cardinali_endodontics

Facebook @filippo.cardinali.5



Prof. Talal Al-Nahlawi (Syria)

Leading endodontist and academic from Damascus, Syria. He earned his DDS, MSc, and PhD in endodontics from Damascus University. Currently teaches at several universities and founded the "Secrets of Successful Endodontic Practice" fellowship. Serves in key professional roles, including Head of the Scientific Committee of the Syrian Endodontic Society, Councilor of the Asian Pacific Endodontic Confederation (APEC), and founding member of the Arab Endodontic Society. Head of the Endodontic Department at Harmony Medical Group in the UAE.

Instagram @talal_alnahlawi

Facebook @talal.alnahlawi



Dr. Mostafa Anwar (Egypt)

Graduated from Ain Shams University, Egypt. Diploma of Healthcare & Hospital Management from the American University in Cairo. Master Degree of Endodontics from Ain Shams University on June 2015 & PhD Researcher. International Dental Conferences & Endodontics Key Opinion Leader. Co-Author of Retreatments by SIE. Micro-Endodontics Specialist at private practice, Cairo and the Gulf area.

Instagram @mostafa_anwar

facebook @ Mostafa Anwar



Dr. Vishal Gandhi (India)

Founder and Director of JAL Microscopic Dental Clinic & RCT Hub, Ahmedabad's only ISO-certified endodontic center. Over a decade of experience in micro-endodontics. Globally recognized trainer and lecturer, having educated more than 1,000 dentists worldwide. Recipient of multiple international awards, including the "Saving the Natural Tooth World Championship" (IDS Germany 2023). Currently serves as a Key Opinion Leader for Meta Biomed and other leading global dental companies.

Instagram @dr_vishalgandhi_endoride

Facebook @drvishalgandhiendoride



