

# A complex mandibular 2<sup>nd</sup> molar - A particular clinical case.

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**The second** lower molar has been endodontically treated for an invasive caries, but during the therapy the colleague faced some problems in the mesio-buccal canal and for this reason he decided to refer the patient.

From the intra-op x-ray, taken during the previous treatment, it's evident that the manual file is out of the root, simulating a perforation.

From the pre-op cbct the clinical situation is pretty clear: part of the mesial root is separated from the rest of the tooth. The apical two-thirds have probably been fractured due to a previous trauma, but they are still vital, that's why it doesn't represent a problem for the patient. The coronal one third has been treated as a root with a large foramen.

First, we improved the access cavity removing completely the decayed tissue; after that, we proceeded with the control of the copious bleeding coming from the canal, applying a firm pressure with large paper points.

After a correct cleaning

and shaping, a collagen extra radicular barrier was used to improve the apical control of the MTA plug.

The cement has been injected using the MAP One syringe, then condensed and finished with a micro-brush

In a second appointment, the root canal treatment has been completed, despite the difficulties due to the endodontic anatomy.



Fig. 1

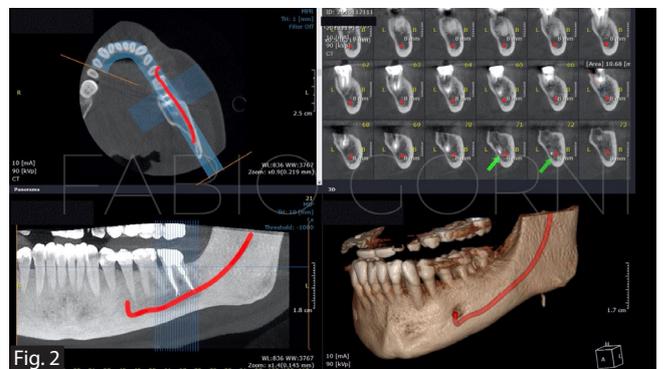


Fig. 2

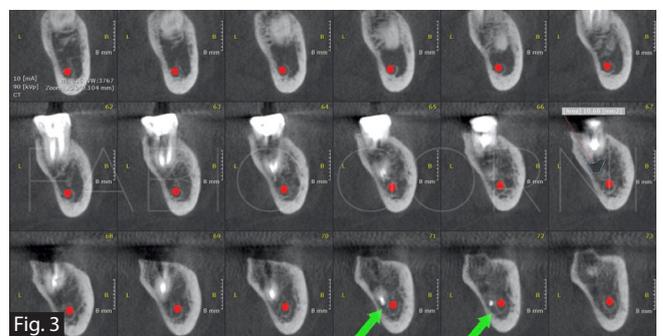


Fig. 3

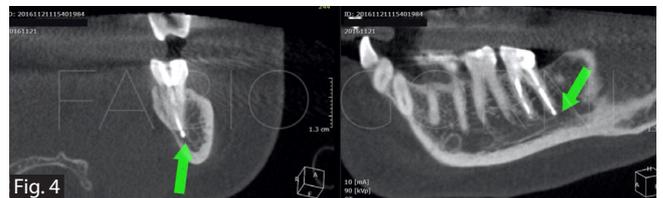


Fig. 4

Fig.1. Female 63 yrs old , the patient has been referred to the office for a problem on distal root in second lower molar , the patient has pain during the chewing and radiographically is evident an overfilling due to a wrong obturation technique . Two different operative options, endodontic surgery or non surgical retreatment , but in this case we preferred the retreatment option for the unfavorable anatomy and the difficulty in the surgical access even in presence of materials beyond the apex .

Fig. 2. In the CBCT the anatomy situation is clear , it's possible to see the relationships between the apex and the mandibular nerve as well as the materials over the apex.

Fig. 3. CBCT cross sections. Fig. 4. Green Arrows show the overextended material in two different CBCT views.



Fig. 5

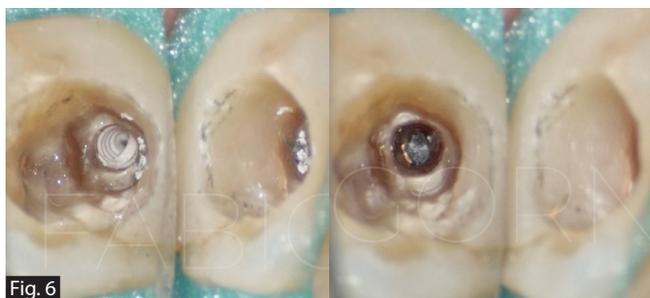


Fig. 6

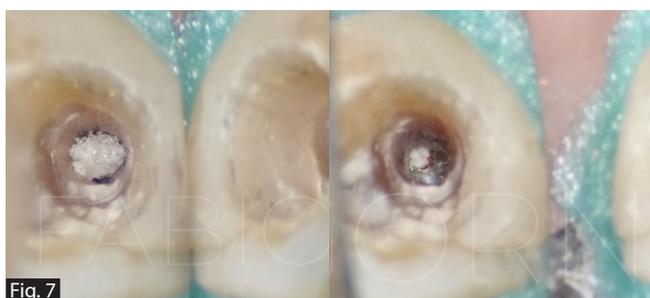


Fig. 7



Fig. 8

Fig. 9

Fig. 10



Fig. 11



Fig. 12



Fig. 13



Fig. 14

## Conclusions

An accurate examination of the x-rays and of the CBCT can help the clinician to do a proper diagnosis in complex cases. After understanding the problem, the sequence to be followed during the therapy is clear. The choice of MAP system has been useful to position MTA in a predictable, precise and correct fashion.

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Fig. 5. We removed the big screw post thanks to the a special screw driver and after that all the cement using ultrasonic tips , in the previous treatment the colleague used thermafil technique and part of the core is out of the apex .

Fig. 6. After the disassembling we can see the cement in the canal and the plastic core that occlude the space.

Fig. 7. When the disassembling has been completed , the canal shaped and cleaned , we positioned a collagen matrix beyond the foramen to obtain a better control during the apical plug.

Fig. 9. the cement must be mixed correctly with the right powder liquid ratio.

Fig. 10. MTA mixed and ready to use.

Fig. 11. The MAP One bring the MTA in the apical one third

Fig. 12. Using the MAP One it's easy to bring the MTA in the apical one third , subsequently the material is pushed and adapted gently to the foramen, using a paper point.

Fig. 13. Post-op xray, the plug is perfectly positioned, no over-filling and the obturation is tridimensional.

Fig. 14. With MAP system it's possible to obtain a MTA block, 5 mm leght ideal to do apical plug.