Single Visit Endodontic Treatment for Calcified Lower Centrals

By Dr Mostafa Anwar, Egypt

Single visit root canal treatment (RCT) is becoming more popular and achievable among patients nowadays. Lots of reasons lie behind, such as new advances in tools and devices used for RCT, advanced techniques in activation of irrigation for proper disinfection, decreasing incidence of post-operative pain, lack of time due to work responsibilities by patients who can’t come several times, an economically efficient solution for both dentist and patient, among others. This leads to a high demand for single visit treatment which is becoming a trend among patients, especially professionals.

This case report shows how single visit treatment can be done easily, even in complex cases, as long as the proper tools, devices and equipment are available.

First Contact with the Patient

A 57 years old female came to our dental clinic seeking for a smile makeover due to protruded upper and anterior teeth. The patient was advised to opt for orthodontic treatment at first, but refused due to special reasons. The patient decided to go for aesthetic treatment, which will be crowning the upper and lower anterior teeth. After performing a smile analysis and reviewing the required radiographs, the prosthodontist referred the case to my clinic for doing RCT of the lower anterior teeth. An IOPA radiograph (Fig. 1) was taken using CDRelite by FONA for the lower laterals and canines.

Endodontic Treatment

Before starting this treatment, it was planned that the Lower Lateral and Canines will be done first, then continue the treatment, leaving the lower two centrals for the last stage. This decision was confirmed during the access cavity step, where the two canals showed calcification at the coronal third and no canal negotiation could be done, as illustrated in Figures 2 and 3 with the help of a clear radiograph.

Using UniTeeth Loupes of Magnification x5, it was again confirmed that these two teeth will need more steps for RCT, so now the case was confirmed radiographically and clinically under magnification. The decision was taken and RCT was done for the lower laterals and canines on both sides using 2Shape files by Micro Apex for mechanical preparation and using a standard rinse protocol of 3% NaOCl, 17% EDTA and 2% CHX, with activation of irrigation using passive ultrasonic irrigation.

Once the RCT of the above-mentioned teeth was done, negotiating the canals of the lower centrals started. Newtonian ultrasonic device by Acteon and Etac tip were used to locate the calcified canals and explore the floor of the pulp chamber but there was still no sign of the canal, although the tip was nearly 5 mm below the cervical line. So, I decided to go for canal negotiation guided by radiograph, where I take OPTA X-ray with a differently-sized sharp explorers placed in 2 different directions (Labial and Lingual) to decide where the ultrasonic tip will be directed. As the rubber dam was already in place, it was challenging to know if the proposed direction of the ultrasonic tip is in the right path or not, due to the superimposition of the clamp on the tip of the explorer. Here, I decided to remove the clamp while keeping the rubber dam sheet in place, tied by dental floss for better radiographic interpretation, as shown in Figures 4 and 5. Now, the procedure became easier.

According to the radiograph taken (Fig. 9) I found that I have to trough in the middle, between the tips of the two sharp explorers. More troughing was done and the canals were negotiated and prepared, using 2Shape rotary system till TS2 (25/0.06). After activation of the canals, the type II canals of each mandibular central joined and became a single canal. Then a master cone X-ray was taken before the obturation step and the clamp was put back in place, as shown in Figure 6.

In the next step, the teeth were ready for obturation, which was done using TotalFill bioceramic sealer by FGG and gutta-percha cones of size 25/0.06. After obturation, a post-operative radiograph was taken to confirm the quality of the RCT, as shown in Figures 7-8.

Result

The patient had her RCT of the lower anterior teeth completed in a single visit. Analgesics were prescribed for the patient in case of post-operative flare up. Then, she was referred to the prosthodontist who will further complete the treatment plan. She was satisfied with the RCT and was happy that all teeth were done in such a short time.

Conclusion

This clinical case shows that if we have enough knowledge of the latest dental and advanced equipment, we can provide our patients the required treatment in one visit, even in the complex cases that would otherwise require multiple appointments.

CDRelite helped diagnose the case correctly first, allowing to go through the next steps of the RCT quickly and smoothly. Moreover, the tools provided in the FONA imaging software aided in getting more enhanced images with minimal radiation dose, especially in this case where many radiographs were taken for diagnosis and treatment.

The New Swiss Endo Academy Training Centre

FKG Dentaire is proud to announce the opening of its new Training Centre in Dubai.

By FKG Dentaire

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