Assessing previous endodontic treatment radiographically: making clinical decisions

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T he clinical case pictured in Figure 1 was referred to me for diagnosis and treatment. The endodontic treatment pictured was completed two years before presenting in my office. The patient described the treatment as extremely painful at the time the canals were filled, which was reported to be after root canal obturation of the MB root canal. After the initial treatment, the patient’s symptoms went away and had returned approximately a week before her presentation into my office. When examined, the patient was extremely sensitive to percussion. The pain was spontaneous, nocturnal and the tooth was acutely sensitive to chewing. At the time of my examination, the tooth, No. 5, was extremely sensitive to percussion, moderately sensitive to palpation, mobility was slight, and the tooth had probing depths no greater than 6. The patient attributed the pain to the sealer. It is unknown which type of sealer was used in the previous treatment. The patient was acutely sensitive to palpation, mobility was slight, and the tooth was moderately sensitive to palpation. The value of early coronal seal control is vital at all stages of canal preparation. The clinician injected sealer with a syringe without focus being placed on the location of the needle tip. Apical over enlargement and/or a very thin needle used incorrectly with a syringe could also explain such a gross extrusion of sealer. In this context, the needle was beyond or locked at the apical foramen and the clinician did not realise either how much sealer had been extruded or where the sealer puffs were located.

1) There were three large sealer puffs present apically as well as obvious tracks of sealer leading to two of the puffs. It was unknown which type of sealer was used in the previous treatment.

2) The clinician injected sealer with a syringe without focus being placed on the location of the needle tip. Apical over enlargement and/or a very thin needle used incorrectly with a syringe could also explain such a gross extrusion of sealer. In this context, the needle was beyond or locked at the apical foramen and the clinician did not realise either how much sealer had been extruded or where the sealer puffs were located.

3) Sealer puffs: mechanism of this iatrogenic event. It is noteworthy that the radiographic image was taken two years after the initial treatment and that the extrusion of sealer was in all likelihood greater than that present radiographically when examined by me. It is unknown how the sealer puffs were created, but it is likely one of two mechanisms were involved:

- Length control is vital at all stages of canal preparation. While this is possible, it is unlikely because the opacity of the canal fillings are not identical. Discussing these findings in the context of both obturation technique and avoidance of these outcomes has value.

- ‘...it is likely that the minor constriction of the apical foramen of each of these canals was violated in the canal preparation.’