RICHMOND
ENDODONTIC CENTRE

# THE THIN DENTINE LINE

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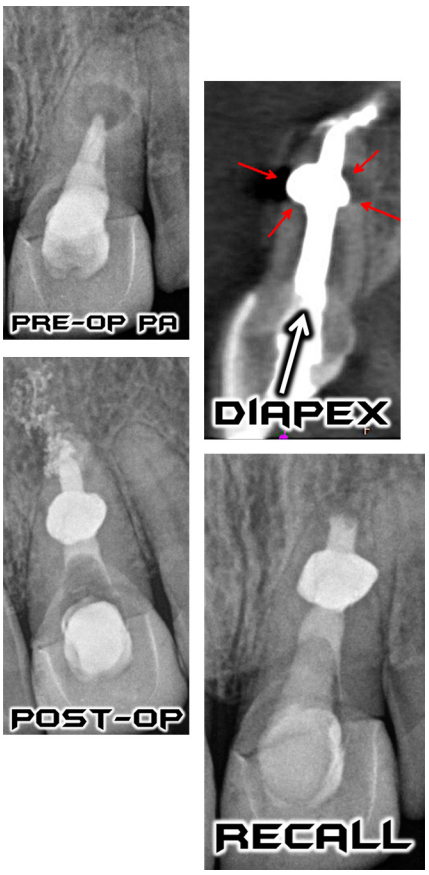


The diagnosis of previously treated with a chronic apical abscess does not allow for a description of the sizable internal resorptive (IR) defect present apical to the gutta-percha (GP) of this 21. In 1931, Pritchard noted, histologically, IR tissue is analogous to a granuloma of the pulp. Radiographic features that distinguish internal from external resorption are:

- Sharp, smooth, and clearly defined defect margins for internal resorption; much less so for external resorption
- A more uniform defect, in appearance, for internal resorption; 'moth-eaten' is an apt description of external resorption
- Canal walls are altered by internal resorption; no such alteration is present for external resorption unless it is so large as to have perforated through the canal wall
- The internal defect will not shift in relation to the canal even with severely angled PA's (SLOB rule)

The 49-year-old lady, recalls hurting this tooth in a fall when she was twelve. Endodontic treatment was done ten years later when the clinical crown had turned grey. It is plausible the resorptive defect was partly responsible for the short obturation:

- Unreliable readings from the apex locator
- Misinterpreting the haeme of the defect as red exudate from the apical periradiculum
- Successful shepherding of files across the resorptive abyss and recapturing the true canal path was deemed an incautious task that was best avoided

There were no probing defects or mobility and the patient ebulliently confirmed her preference to embark on efforts to save this storied tooth. It was decided to initiate treatment and then take a CBCT scan. It was hoped Diapex in the defect would increase the likelihood of detecting a perforation if one was indeed present. The scan confirmed Diapex was contained within the atypical tumefaction. Both the tactile feedback from the incision and drainage and the CBCT images threw cold water on the notion that a mid-root perforation existed. These findings emboldened us to proceed as planned.

After thirty days, the lady returned with an asymptomatic 21 and a fully healed sinus tract. Copious amounts of irrigant were used with the EndoActivator to remove Diapex from the rotund divergency. Also, small hand files with pronounced curves were inserted to dislodge tenacious clumps of the material. GP and sealer were utilised to obturate the canal apical to the defect whilst MTA was used to fill the bulbous irregularity itself. Sealing this substantial imperfection without voids was a tedious endeavour. It involved using a carrier to deliver 'damp' MTA apically and then tapping it into place with trimmed paper points and a variety of pluggers. In hindsight, I would reconsider this approach in favour of a modification of my typical technique for warm-vertical compaction. Nevertheless, orthograde treatment was eventually completed and a bonded composite core was placed the following week.

Unfortunately, the sinus tract returned six months later but, as providence would have it, the radiographic (new PA's and a CBCT scan) and clinical findings were not suggestive of involvement of the resorptive defect. The lady remained steadfast in her desire to not give up on this tooth just yet. The proceeding endodontic microsurgery confirmed only the apex was a nidus for infection as it was visible in a fenestration of the buccal cortical plate. No defects were observed coronal to the resected root end. MTA was used to seal the retrofilling and the histopathological diagnosis was chronic apical periodontitis.

The two-year recall examination confirms this tooth responded well to our treatment. Such intumescent canal maldevelopments are certainly diagnostic and technical challenges. If it were not for the protective features of a non-perforated thin envelope of dentine the prognosis for success would be immeasurably less favourable.

Regards,

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