Dental Traumatology

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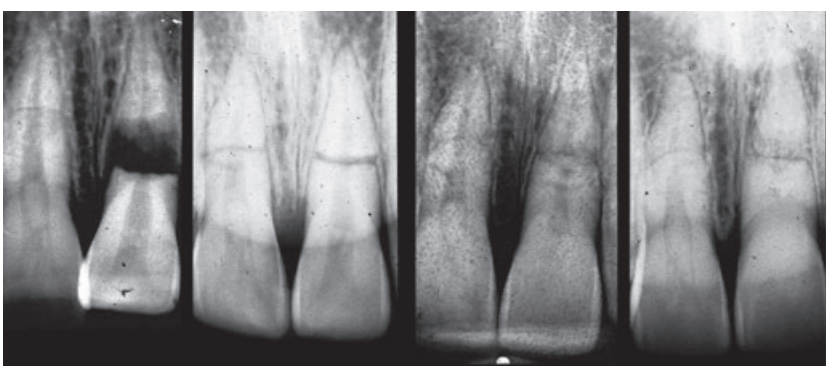
Re: G.S. Heithersay AO & B. Kahler 'Healing responses following transverse root fracture: a historical review and case reports'

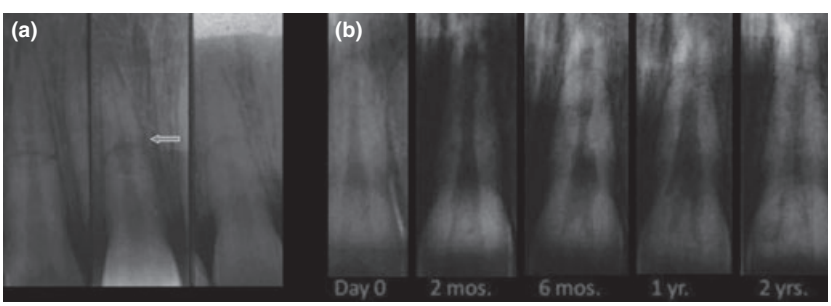
LETTER TO THE EDITOR

Dear Lars,
First of all, I would like to compliment the authors on their meticulous historical review of the difficult problems concerning healing after transverse root fractures. The article was very informative. While the scope of the work was an historical approach, I feel that some information could have been added as an aid to the clinician. That is, how to diagnose the healing modalities – particularly the distinction between hard tissue (HT) and connective tissue (CT) healing.

Until my clinical research in the 1980s, the recommended approach was described by Jens Andreasen using mobility testing – the use of a periodontometer and 100 g force facially and orally. If the values were



Radiographs, from left to right: at the time of injury, after repositioning, 1-year follow-up, 4-year follow-up. Two root fractures, without and with displacement of the coronal fragment. Pulpal anatomy of the right central incisor remains unchanged throughout the observation period: HT. The coronal pulp chamber of the left central incisor has become obliterated: CT. Obliteration of the apical pulp chambers has no effect on diagnosis.



A: Internal surface resorption (arrow) at fracture site – sign of HT; B: Internal tunneling resorption starting at fracture site and progression coronally – sign of CT.

greater than those of adjacent, non-injured teeth, the diagnosis was CT. If the same, then HT. This approach was tedious and required the aid of a chairside assistant to stabilize the impression tray.

In 1988, Jens and I published the article 'Resorption and mineralization processes following root fracture of permanent incisors' in *Endodontics & Dental Traumatology* (1988; *4*:202–214). In this article, it was demonstrated that root fracture healing could be diagnosed from radiographs. The first attached figure demonstrates the principles involved.

To finish the story, the second set of radiographs (from the cited article) demonstrates the inter-relationship between resorption following root fracture and root fracture healing.

I hope that this information is useful to your readers.

Warmest regards – and thanks for an excellent journal,

Frances M. Andreasen
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Response from the authors

We thank Frances Andreasen for her kind comments – they are particularly appreciated coming from someone who has made such a major contribution to the field of Dental Traumatology. While our historical review was limited to histological reports/studies, we envisaged that it could compliment any subsequent major review of clinical and radiological reports/studies of transverse root fractures. Frances Andreasen's letter has 'kicked that ball into court' by referring the readership to her significant 1988 paper, which was co-authored by Jens Andreasen. When we discussed Blackwood's 1959 histological material of a maxillary central incisor which showed evidence of internal resorption, we did direct readers to their publication (reference 30) but it was not discussed in any detail as it and other referenced clinical/radiological studies fell beyond the histological parameters of our review.

Sincerely,

Geoffrey Heithersay, Bill Kahler