

Do we treat patients based on radiolucency? —A case report

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_Just after Christmas, on 26 December 2010, a 76-year-old male patient, who was in great pain, consulted the emergency dentist. The patient indicated that he felt a throbbing pain in his lower left jaw. The pain was unbearable and had kept him awake all night. The dentist took radiographs of teeth #36 and 37 and an orthopantomogram (OPG; Figs. 1 & 2).

Although the radiograph did not show the full anatomy of tooth #37 and its surrounding structures, the dentist diagnosed apical periodontitis (AP) and advised an endodontic retreatment or extraction and an implant. To make the patient comfortable for the time being, he prescribed 500 mg Amoxicillin and Ibuprofen.

After another sleepless night, the patient consulted a different emergency dentist on 27 December. The analgesics did not give him pain relief and he was starting to become desperate. The second dentist confirmed the original diagnosis and referred the patient to an oral surgeon because an endodontist was not available at short notice. He requested apical surgery on tooth #37.

The following day, the oral surgeon took another OPG and concluded that surgery was not the best treatment option in this case because the apex was located too close to the *nervus alveolaris inferior* and access to the apices of tooth #37 was difficult. He also confirmed the diagnosis of an AP and suggested extraction or endodontic retreatment.

On 5 January 2011, the patient visited my office for the first time. The pain had diminished but not disappeared. Intra-oral examination showed a well-restored dentition with a cantilever bridge on teeth #35 to 37, with #36 and 37 functioning as abutments. Tooth #37 showed an occlusal filling in the crown. Palpation of the buccal fold was not painful and there was no mobility of teeth #36 and 37. The pockets of #36 were within normal limits. However, periodontal probing distal of #37 provoked strong pain and extreme bleeding. The distal pocket measured approximately 6 mm.

As the previously taken radiographs were not available and the OPT was considered unsuitable for proper diagnosis, a peri-apical radiograph (Fig. 3) was taken. The radiograph showed that tooth #37 had previously been treated endodontically. The mesial canals were filled with silver cones rather too short of the apex. There also appeared to be some gutta-percha and a large metal post in the distal

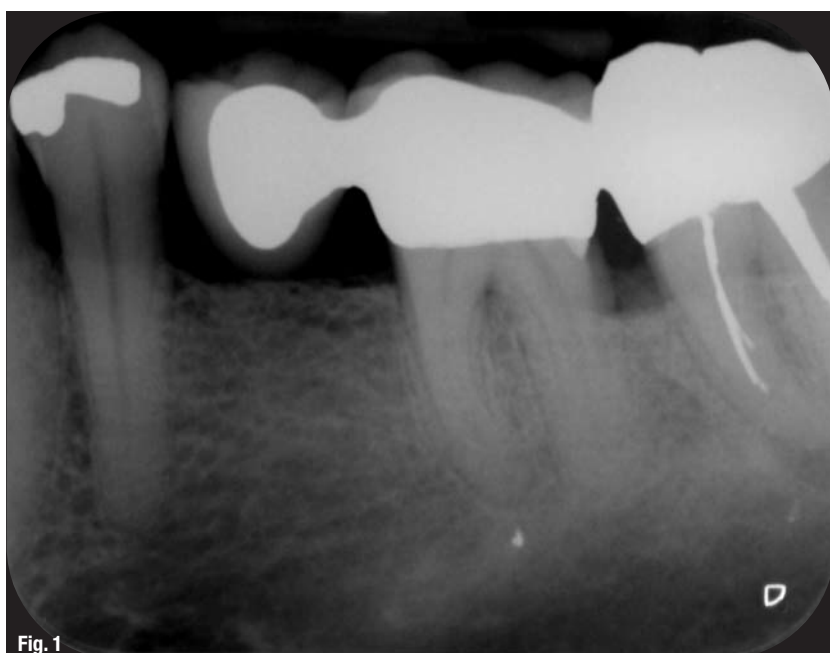
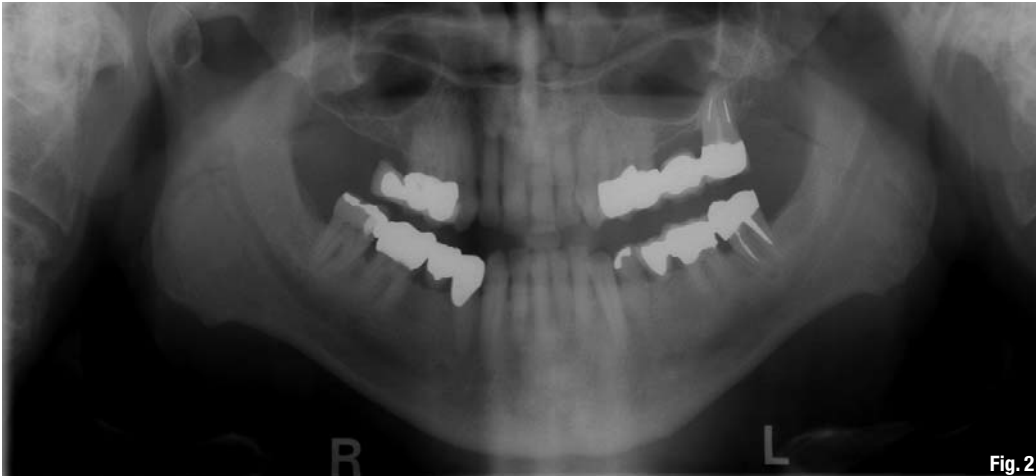


Fig. 1



“The radiographic picture is **only one means of diagnosis** ... the picture **may show a lot of rarefaction**, but to use it as the **sole means of diagnosis** is unwise.”

—Thomas Philip Hinman, 1921—

canal. Additionally, radiolucency was noticeable around the apex of the mesial root. According to the patient, he had received endodontic treatment about 15 years ago owing to pain following bridge cementation. The tooth had been without symptoms since then.

Considering the history and my clinical and radiographic findings, my differential diagnosis was:

1. painful AP owing to reinfection or leakage;
2. painful marginal periodontitis distal of tooth #37 owing to poor oral hygiene;
3. vertical root fracture (VRF) of the distal root of tooth #37.

As diagnosis 1 and 3 would have required rather invasive therapies (retreatment or extraction), we opted to rule out the local marginal periodontitis first. Under local anaesthesia, the distal pocket was thoroughly cleaned and the patient was instructed to use dental floss distal of tooth #37 on a daily basis.

On 31 January, three weeks after initial treatment, the patient returned for evaluation and appeared free of complaints. There was no bleeding on probing and pain could not be provoked.

It should be noted that by selecting this strategy, neither an AP nor a VRF was definitively excluded as a cause of pain. It should be taken into account that owing to the patient being on antibiotics, the

symptoms of the AP may have temporarily disappeared and returned at a later stage. Nevertheless, at that point we treated the patient based on history, a radiograph and patient complaints rather than merely on the basis of the radiolucency evident on the radiograph.

In May 2011, the patient returned to our office once again. He was free of complaints, pockets were within normal limits and there was no bleeding on probing.



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