

# Bilateral presence of radix entomolaris in first and second permanent mandibular molars identified in a Caucasian woman

Tomaž Hitij,<sup>1</sup> Luka Hočevar,<sup>2</sup> Iztok Štampelj<sup>1,3</sup>

<sup>1</sup>Faculty of Medicine, Department of Dental Diseases and Dental Morphology, University of Ljubljana, Ljubljana, Slovenia

<sup>2</sup>Faculty of Medicine, Department of Paediatric and Preventive Dentistry, University of Ljubljana, Ljubljana, Slovenia

<sup>3</sup>Department of Operative Dentistry and Endodontics, University Medical Centre Ljubljana, Ljubljana, Slovenia

## Correspondence to

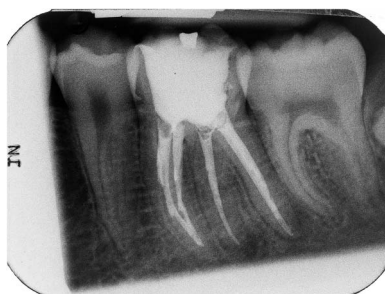
Dr Tomaž Hitij,  
tomazhitij@gmail.com

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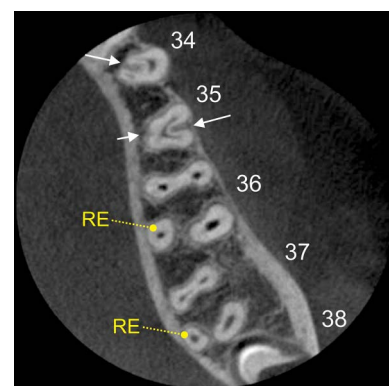
## DESCRIPTION

A healthy Caucasian girl aged 12 years was referred to the dental clinic by a general dentist who failed to completely instrument canals in the mesial and distal root of tooth 36 (FDI system). In the first session, supernumerary root radix entomolaris (RE)

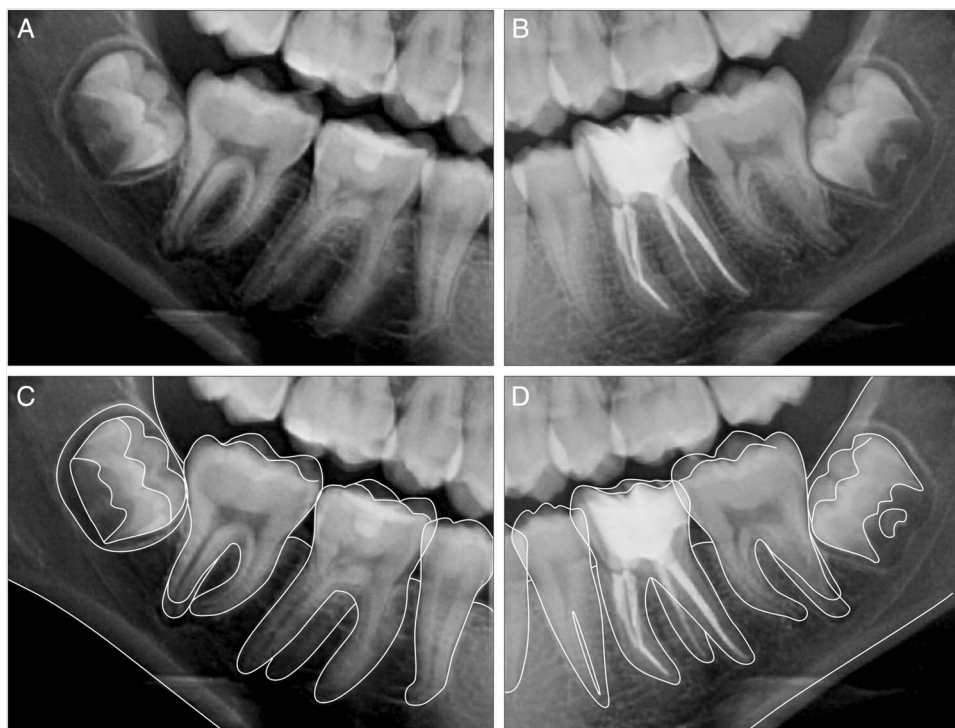
was identified and cone beam CT (CBCT) scan was taken. Afterwards, several ledges in the root canals were successfully negotiated and treatment was completed in the third session (figure 1). CBCT revealed the presence of RE also on tooth 37 and



**Figure 1** Postoperative radiograph of the left first permanent mandibular molar exposed with mesial horizontal angulation. The tooth was obturated by cold lateral condensation technique using precurved stainless steel spreaders, precurved gutta-percha cones and AH Plus sealer (Dentsply DeTrey).



**Figure 2** Axial CBCT image of the roots showing radix entomolaris (RE) on the left first and second permanent mandibular molar. Deep grooves (→) and C-shaped canal pattern are seen on the first and second premolar. Teeth are numbered according to the FDI system.

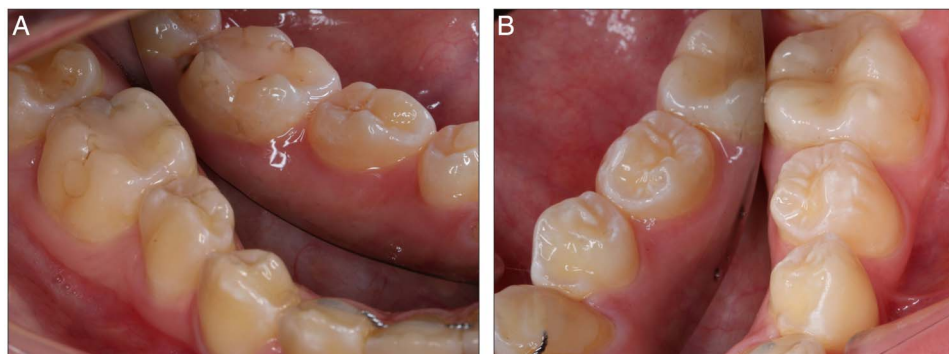


**Figure 3** An enlarged lower right (A) and left (B) side of the panoramic radiograph indicating bilateral presence of RE on first and second permanent molars. Outlines of teeth are marked on images C and D, which correspond to images A and B, respectively.



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**Figure 4** Unusual coronal morphology of right (A) and left (B) mandibular second premolar. Mirror images on both pictures show teeth from the lingual side.

deep longitudinal grooves and C-shaped canal pattern in roots of both neighbouring premolars (figure 2). Additionally, panoramic radiograph indicated the presence of RE on the contralateral first and second molars (figure 3). Roots of mandibular third molars have not yet been developed. Clinically, the crowns of both mandibular second premolars were mesiodistally enlarged; the right one exhibiting four cusps and the left one exaggerated marginal ridges (figure 4).

Individuals with bilateral RE on first and second mandibular molars are extremely rare, especially in ethnic Europeans who have a low prevalence of this radicular trait. Unilateral presence of RE in both aforementioned teeth has been documented in

two endodontic patients of Chinese<sup>1</sup> and Indian descent;<sup>2</sup> however, researchers failed to mention this in text. In another Indian patient, right first and left second mandibular molars were affected.<sup>3</sup> Development of RE and a tendency of mandibular premolars to increase the root number may be associated.<sup>4</sup> Observations also indicate that in mandibular premolars, atypical coronal enlargements may be accompanied by increased differentiation of the root.<sup>5</sup>

**Contributors** TH and LH examined and treated the patient. TH, LH and IS contributed equally to the preparation of the manuscript.

**Competing interests** None declared.

**Patient consent** Obtained.

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### Learning points

- ▶ If a clinician identifies a mandibular molar with radix entomolaris, he or she should thoroughly evaluate all available radiographic images of neighbouring as well as contralateral molars and premolars.
- ▶ Unusual coronal morphology should always alert the clinician to the possibility of unusual radicular morphology.
- ▶ CBCT is useful for appreciation of extremely complex root canal systems, such as those of teeth with supernumerary roots.

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