

# A case report on management of grossly decayed radix entomolaris in mandibular second molar

Swati Mohanty, Sindhu Ramesh

Departments of Conservative Dentistry and Endodontics, Saveetha Dental College, Saveetha University, Chennai, Tamil Nadu, India

**Correspondence:** Sindhu Ramesh, Department of Conservative Dentistry and Endodontics, Saveetha Dental College, Saveetha University, 162, Poonamallee High Road, Chennai, Tamil Nadu – 600077, India. Phone: +91-9840136543. E-mail: drsinramesh@gmail.com

## ABSTRACT

Among ethnic groups, the presence of radix entomolaris (RE) in a mandibular first molar is common, while the presence of RE in a mandibular second molar is rare. It is essential to anticipate and treat the distolingual root canal considering the presence of RE in the mandibular second molar. In our present case, along with the presence of an extra root in 37, there was loss of crown structure and occlusal morphology which made the treatment plan of postendodontic restoration difficult. This case report highlights the necessity and indications of endocrown as a successful postendodontic restoration.

**Keywords:** Radix entomolaris, endocrown, postendodontic restoration, second molar

## Introduction

The major cause of failure of root canal therapy is due to the complexity of the root canal system. Mandibular molars can manifest with several anatomical variations based on the internal and external morphology of the tooth.<sup>[1]</sup> The most common variation in the mandibular first molar is the presence of a distolingual supernumerary root called radix entomolaris (RE), mentioned first by Carabelli, or mesiobuccal root (radix paramolaris).<sup>[2,3]</sup> According to Manning, 22% of mandibular second molars have one root, 76% have two roots, and 2% have three roots. It has been noted that a patient's age, sex, and race have a direct relationship with second molar anatomy.<sup>[4]</sup>

The most common root morphology in the second molars of Indians is the two-rooted morphology with three canals. Type IV and Type I canals predominating in the mesial and distal roots. These teeth showed both Mongoloid and Caucasian traits, with 8.98% of the teeth having three roots.<sup>[5]</sup> The number of roots on the mandibular

first molar is related to certain ethnic groups.<sup>[6]</sup> The prevalence of RE in the mandibular first molar is 40% in those with Mongolian traits, 3.4–4.2% in Europeans, 3% in Africans, and <5% in Indians and Eurasians.<sup>[7-13]</sup> Identification and treatment of RE are important because a missed canal remains a center for infection and can compromise the treatment outcome.

Endocrown-type restorations are single prostheses indicated for endodontically treated molar teeth that have significant loss of coronal structure. Endocrown offers advantages for the restoration of root canal treated molar tooth, as they promote adequate function and esthetics, and also maintain the biomechanical integrity of the compromised structure of nonvital posterior teeth.<sup>[14]</sup>

This is a case report of management RE of a mandibular second molar with loss of crown structure and occlusal morphology restored with a metal-ceramic endocrown.

## Case Report

A 27-year-old male patient reported to the departments of conservative dentistry and endodontics with a chief complaint of spontaneous pain in the lower left back tooth for the past 3 days. The patient gave a history of intermittent pain for the past 1 month. On clinical examination, the presence of decay in the mandibular left second molar was observed. The tooth was tender to percussion and not on palpation. Periodontal probing was within the physiological limits with no mobility. Heat test resulted in intense lingering

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