

## Mandibular First Molar with a Radix Entomolaris: A Case Report

Dr. Anil K Tomer<sup>1</sup>, Dr. Akankshita Behera<sup>2</sup>, Dr. Nitish Mittal<sup>2</sup>,  
Dr. Nutan Indwar<sup>3</sup>, Dr. Arvind Bhateja<sup>3</sup>

1. Professor and Head. Dept of Conservative Dentistry and Endodontics, DivyaJyoti College of Dental Sciences and Research, Modinagar.
2. PG Student. Dept of Conservative Dentistry and Endodontics, DivyaJyoti College of Dental Sciences and Research, Modinagar.
3. BDS. Institute of Dental Sciences, Bhubaneshwar, Odisha.  
Corresponding Author:-Dr. Akankshita Behera,

---

**Abstract:** Complete disinfection of the root canal system is of utmost importance to achieve a successful root canal treatment, the main objective is the elimination of the bacteria from the infected root canals. Radix Entomolaris is a tooth having a third root which is distolingual to the distal root. In 1844 Carabelli described about this kind of variation in mandibular molar. The purpose of this article is to describe the management of a case with a Radix Entomolaris.

---

Date of Submission: 01-10-2018

Date of acceptance: 15-10-2018

---

### I. Introduction

Radix Entomolaris is a tooth having a third root which is distolingual to the distal root.<sup>1</sup> In 1844 Carabelli described about this kind of variation in mandibular molar.<sup>2</sup> Complete disinfection of the root canal system is of utmost importance to achieve a successful root canal treatment, the main objective is the elimination of the bacteria from the infected root canals. In order to prevent the re-infection of the canal a proper shaping and cleaning of the root canal system is necessary followed by the irrigation protocol which is then followed by three dimensional obturation to obtain a proper coronal seal to prevent the entry of micro-organisms.<sup>3</sup> The mandibular molar represents a number of variations morphologically. Usually the mandibular molar represents two roots the mesial and distal root, the mesial root having two root canals the mesio-buccal canal and the mesio-lingual canal.<sup>4,5</sup> The purpose of this article is to describe the management of a case with a Radix Entomolaris.

### II. Case Report

A 18 year-old female patient with a chief complaint of pain and sensitivity on consuming hot and cold food came to the Department of Conservative Dentistry and Endodontics. On Clinical examination a deep carious lesion was seen on the right permanent first mandibular molar. Radiographically, the lesion was approaching to the pulp (Figure 1). The case was diagnosed as irreversible pulpitis. The radiograph showed the presence of an additional lingual root. The tooth was anesthetized and access opening was done. On exploring the chamber a fourth canal was found on the lingual side of the distal root. Working length was determined using a K file ISO size #15 with the help of apex locator. The canal lengths were confirmed using radiovisugraphy. The canals were then irrigated with 3% sodium hypochlorite along with EDTA to clean the canals. Shaping and cleaning was done with Hyflex EDM. The canals were then given a dressing of calcium hydroxide paste and the patient was recalled 7 days later. At the second appointment, the patient was totally relieved from pain. Master cone were properly placed onto the canal and evaluated by radiograph (Figure 2). With the help of paper points the canals were dried. Obturation was then done with AH Plus sealer (Figure 3). After obturation post endodontic restoration was done with composite.



**Figure 1: pre-operative radiograph**



**Figure 2: Master cone**



**Figure 3: obturation & composite restoration**

### **III. Discussion**

According to Ribeiro&Consolaro (1997) classification for RE is as follows: a straight root canal is included under the type I, root which is curved at first and is then continued as a straight root comes under the type II, root which is curved at first in the coronal part and unlike the type II it again take a curve buccally from middle to the apical portion.<sup>6</sup>

In order to avoid procedural errors and mishaps one should emphasize on proper diagnosis. A proper diagnosis is mandatory to obtain a successful treatment in Endodontics. A proper radiograph is an essential parameter to diagnose a tooth with variant configurations of root canal anatomy. Thorough examination is required to find out the variation like Radix Entomolaris. After the access opening the Radix Entomolaris can be diagnosed by the use of instruments like an endodontic explorer. In the case of a Radix Entomolaris the shape of the access cavity is changed to a rectangular or trapezoidal form rather than triangular shape.<sup>7</sup>

#### **IV. Conclusion**

The mandibular molar often exhibits variation in its root canal configuration and morphology. The variation can be in form of single canal as well as extra canal. It is of utmost importance to thoroughly check the pulpal floor to find an extra or fourth canal. A proper radiograph is always helpful in diagnosing any anatomical variations. In the case of Radix Entomolaris, the shape of the cavity is changed from triangular to trapezoidal.

#### **References**

- [1]. Priyanka Sarangi and Veerendra M Uppin. Mandibular First Molar with a Radix Entomolaris: An Endodontic Dilemma. J Dent (Tehran). 2014 Jan; 11(1): 118–122.
- [2]. Carabelli G. Systematisches Handbuch der Zahnheilkunde. 2nd ed. Vol. 1844. Vienna: Braumuller und Seidel; p. 114.
- [3]. Amit Parashar, Shikha Gupta, Abhishek Zingade and Shashi Parashar. The Radix Entomolaris and Paramolaris: A Review and Case Reports with Clinical Implications. J Interdiscipl Med Dent Sci 2015, 3:1
- [4]. Vertucci FJ (1984) Root canal anatomy of the human permanent teeth. Oral Surg Oral Med Oral Pathol 58: 589-599.
- [5]. Barker BC, Parsons KC, Mills PR, Williams GL (1974) Anatomy of root canals. III. Permanent mandibular molars. Aust Dent J 19: 408-413.
- [6]. Carlsen O, Alexandersen V. Radix para-molaris in permanent mandibular molars: identification and morphology. Scan J Dent Res. 1991;99:189–95.
- [7]. Calberson FL, De Moor RJ, Deroose CA. The radix entomolaris and paramolaris: clinical approach in endo Anatomic variations of lower first permanent molar roots in endodontics. J Endod. 2007 Jan;33(1):58–63.

Dr. Akankshita Behera, "Mandibular First Molar with a Radix Entomolaris: A Case Report." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 10, 2018, pp 71-73.