

Walking ‘6 Year’ Molar

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A 30 year old male patient reported to our dental hospital with chief complaint of pain in the lower left back tooth. Patient gave us the history of a restoration done three months ago. The restoration was fractured ten days before reporting to the hospital. Clinical examination revealed the fractured restoration on the occlusal surface of mandibular left first molar. Intraoral periapical radiograph shows radiolucency involving occlusal enamel and dentine. Radioopaque restorative material is seen on the pulp chamber. In radicular aspect there are two mesial and two distal separate roots with separate root canals. Mesial roots are departed from each other towards mesially and distally. This gives the appearance of walking tooth. There is root dilaceration in one of the distal roots (Figure 1). Patient was advised for an endodontic treatment of mandibular left first molar.

The mandibular first molar tooth is also termed as “6 year molar” is the largest tooth in volume with complex in root and canal anatomy. There are many anatomical variations in canal and roots seen in mandibular first molar [1]. Some mandibular first molars shows five to eight separate root canals [2,3]. Like a number of root canals, number of roots are also reported. These extra root anomalies may develop during tooth bud morpho-differentiation as a result of a developmental aberration of both the ectoderm and mesoderm. Its severity depends on the formation stage of the involved tooth [4]. These additional extra roots are first mentioned in literature by Carabelli. These extra distolingual roots are called as radix entomolaris [5]. The prevalence of these radix entomolaris is different in different population. It is observed up to 3% in African population, 5% to 30% in Mongoloid population [5]. In Eurasian and Indian population it is less than 5% [6]. The presence of an additional mesiobuccal root is called radix paramolaris and prevalence of these roots are very rare and occurs less frequently than the radix entomolaris [6,7]. The dimensions of these radix entomolaris and radix paramolaris are vary from short conical extension to a mature root with normal length and root canal [8].

The present case describes a four rooted mandibular first molar with separate two mesial and two distal roots with independent root canals. Carlsen and Alexanderson described four different types of radix entomolaris and two different types of radix paramolaris (Table 1) [6].

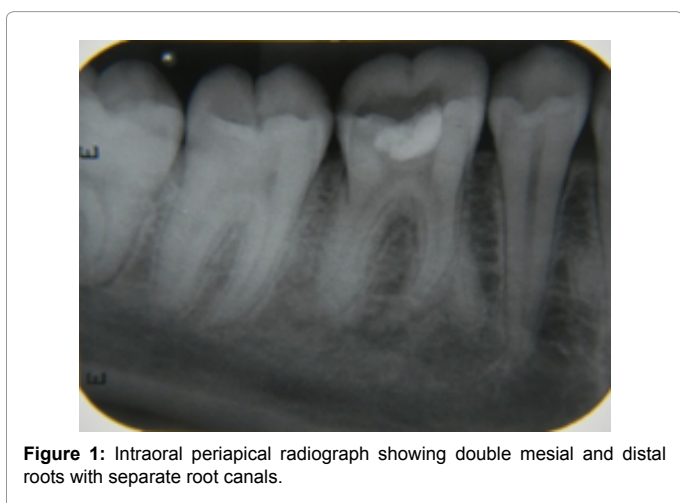


Figure 1: Intraoral periapical radiograph showing double mesial and distal roots with separate root canals.

Types of Radix Entomolaris	
Type - A	Distally located cervical part with two normal distal root components
Type - B	Same as type A but only one normal distal component
Type - C	Mesially located cervical part
Type - AC	Central location between mesial and distal root components
Types of Radix Paramolaris	
Type - A	Refers to an RP in which the cervical part is located on the mesial root complex
Type - B	Refers to an RP in which the cervical part is located centrally, between the mesial and distal root complexes.

Table 1: Types of radix entomolaris and radix paramolaris by Carlsen and Alexanderson.

The intension of this letter is to intensify the complexity of anatomical variation of mandibular first molars. Complete knowledge about the root and canal morphology and also their morphological variations will help the dentist in planning the treatment and improving the better prognosis. Careful examination of the pre-operative radiographs will help to decrease the failure rates of root canal therapy.

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Received May 20, 2015; Accepted July 15, 2015; Published July 25, 2015

Citation: Rao PK, Chatra L, Shenai P (2015) Walking ‘6 Year’ Molar. Dentistry 5: 320. doi:10.4172/2161-1122.1000320

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