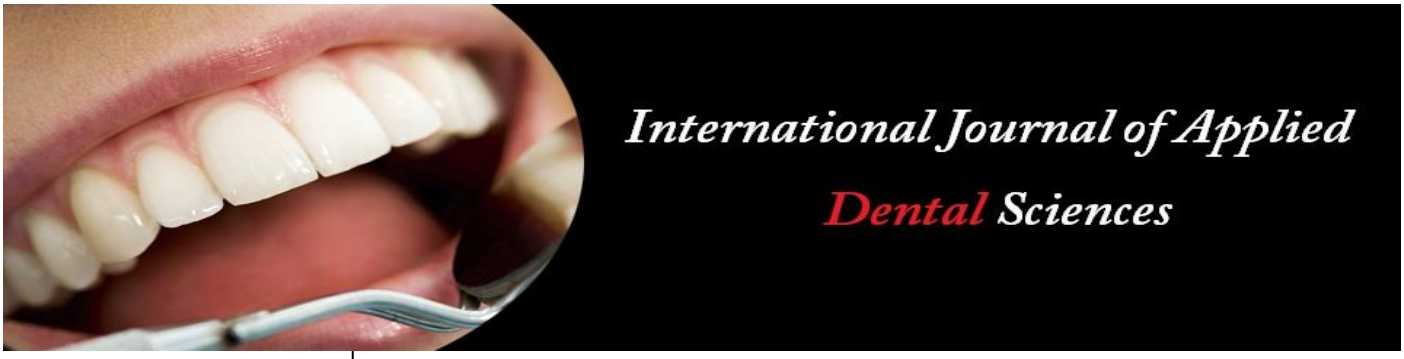

ISSN Print: 2394-7489
ISSN Online: 2394-7497
IJADS 2019; 5(3): 297-298

www.oraljournal.com
Received: 10-05-2019
Accepted: 12-06-2019

Reena Rani
PG Student, Department of Pedodontics and Preventive Dentistry, Swami Devi Dyal Hospital and Dental College, Barwala, Panchkula, Haryana, India

Sanjay Chachra
Professor and Head, Department of Pedodontics and Preventive Dentistry Swami Devi Dyal Hospital and Dental College, Barwala, Panchkula, Haryana, India

Shivangi Verma
PG Student, Department of Pedodontics and Preventive Dentistry, People's Dental Academy, Bhopal, Madhya Pradesh, India

Diksha Sharma
PG Student, Department of Pedodontics and Preventive Dentistry, Swami Devi Dyal Hospital and Dental College, Barwala, Panchkula, Haryana, India

Parthvi Singh
Senior Lecturer, Department of Conservatives and Endodontics, People's Dental Academy, Bhopal, Madhya Pradesh, India

Archana Chandel
PG Student, Department of Pedodontics and Preventive Dentistry, Swami Devi Dyal Hospital and Dental College, Barwala, Panchkula, Haryana, India

Correspondence
Reena Rani
PG Student, Department of Pedodontics and Preventive Dentistry, Swami Devi Dyal Hospital and Dental College, Barwala, Panchkula, Haryana, India

Unilateral radix entomolaris in primary first molar: A rare entity

Reena Rani, Sanjay Chachra, Shivangi Verma, Diksha Sharma, Parthvi Singh and Archana Chandel

Abstract
In present, Pediatric dentistry is not just about teeth and gums that are easily visible to everyone in children's mouth rather it has now become about those structures that are difficult to identify/hidden and often remain undiagnosed under some circumstances. An awareness regarding the variations in root morphology in primary teeth is very important among clinicians to render the best treatment and to maintain these teeth into the oral cavity. Primary mandibular first molars usually exhibit two roots with three canals. It is very rare that and additional root is present. The aim of this case report is to present the case of Radix Entomolaris in primary mandibular first molar and to describe its clinical significance.

Keywords: Mandibular primary first molar, radix entomolaris

Introduction
A complete knowledge of primary teeth and their root canal anatomy is very important for clinical success of the treatment. The presence of dental anomalies is lesser in primary teeth than in the permanent dentition. A supernumerary root is a developmental anomaly which can affect treatment planning as well as prognosis of any tooth and is known as 'Radix entomolaris' (RE).[1]It is also known as 'extra distolingual root' or a 'distolingual root' or an 'extra third root'.[2] Root in RE can be a short conical or a mature root of its usual length [3]. Tratman in 1938 has reported that three rooted mandibular molars are rare with a frequency of <1% in the deciduous dentition and common in the permanent dentition [4].
Molars are most frequently affected by dental caries at an early age and may require successful endodontic treatment for their long-term retention in the oral cavity. The main objective of pediatric endodontic therapy is thorough removal of the pulp tissue from all the roots and canals followed by chemo-mechanical cleaning and filling with a suitable obturating material. Failure to diagnose and treat the supernumerary roots in molars may lead to the endodontic treatment failure and even tooth loss at an early age resulting the patient to suffer functionally, esthetically, and psychologically. Therefore, pediatric dentist must be aware of these unusual root structures to provide the overall benefit to a child patient because when they are present are highly challenging to diagnosis as well as to endodontic treatment [5].
Case Report: A 6-year-old male patient reported to the Department of Pedodontics and Preventive Dentistry with a chief complain of pain, difficulty while chewing and sensitivity to hold and cold in the right lower back tooth region of the jaw since 1 week. On intraoral clinical examination it was found that deep carious lesions were present in relation to 74, 84 and pit and fissure caries in 75 and 85. (Figure-1A) Based on the chief complaint and history, IOPAR of 84 was taken and (Figure-1B) a provisional diagnosis of chronic irreversible pulpitis was made and endodontic therapy was planned under strict sterilization protocol. Tell-show-do technique of behavior management was done before starting the treatment. After administration of local anesthesia, tooth 84 was isolated under rubber dam. All the carious part was removed and access cavity was made. Canals were explored using a size 10 H file and pulp was extirpated with debridement. Working length was taken (Figure-2A) and after chemo-mechanical cleaning canals were obturated with Metapex followed by stainless steel crown placement. (Figure-2 B, C) The other active carious lesions in 85 and 75 were sealed (Figure-3) and pulpectomy was done in 74 which exhibited normal root anatomy on taking IOPAR.

Fig 1: (A) Pre-operative photograph and (B) IOPAR 84

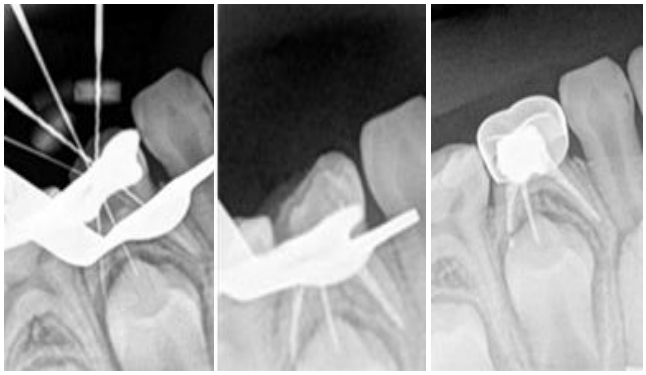

Fig 2: (A) Working length determination, (B) Obturation and (C) Post obturation restoration followed by stainless steel crown 84

Fig 3: Post operative photograph

Discussion

Knowledge of teeth and their anatomical variations are important for clinical point of view, anthropological data, and for the forensic record. Three rooted permanent mandibular first molar and deciduous mandibular second molar have been reported widely in literature, however, the presence of three roots in deciduous mandibular first molar is relatively rare and only a few cases are being reported.[6-8]Studies have shown that there is 15.2% of higher incidence rate is seen in the population of Mongolian origin (Japanese, Malaysian, Chinese, Thai, Eskimo, Aleutian, and American Indian) [9]. However, the etiology of supernumerary roots is unknown, it has been proposed that if during the development of root, epithelial sheath of Hertwig is folded or disrupted, it can lead to formation of an accessory/supernumeraryroot canals. This can be attributed to the most probable cause of the presence of three roots in the present case [10].

First case was reported by Winkler and Ahmad in 1997 [11] followed by two more cases reported by Gupta *et al*. [12] and Ramamurthy *et al*. [13] in the Indian population. Badger reported a case of unilateral three-rooted primary mandibular first molars in a 5-year-old Caucasian boy [14] which was similar to our case.

So, while performing endodontic therapy in primary teeth, the clinician should be aware of the possibility of an anomalous root. During exodontic procedures, the clinician should make sure that the crown of the premolar is not trapped in the interradicular area of the primary teeth as this could cause accidental removal of the developing permanent tooth. The clinician should always check clinically and radiographcally to ensure that all roots of anomalous primary tooth have been retrieved. Since it is not known whether these abnormal root configurations affect the normal exfoliation of the primary teeth, it is unclear whether these anomalous teeth present orthodontic problems. The presence of a third root, whether primary or permanent, may have forensic value for identifying people of the Mongoloid race [12].

Conclusion

Knowledge of unknown variation in the root morphology is necessary as non treatment of one additional root or root canal can lead to failure of endodontic treatment. So before starting with extraction or endodontic procedure, a clinician should take two periapical radiographs (taken at different angles) to confirm the presence of an extra root in order to prevent the trauma to developing premolars as well as for the successful endodontic treatment.

References

1. Carabelli G. Systematisches Handbuch Der Zahn-heikunde. 2nded. Vienna: Braumuller and Seidel, 1844, 114
2. De Moor RJ, Deroose CA, Calberson FL. The radix entomolaris in mandibular first molars: an endodontic challenge. Int Endod J. 2004; 37:789-99
3. Calberson FL, De Moor RJ, Deroose CA. The radix entomolaris and paramolaris: clinical approach in endodontics. J Endod. 2007; 33:58-63.
4. Tratman EK. Three rooted lower molars in man and their racial distribution. Br Dent J. 1938; 64:264-74.
5. Nagaven NB, Umashankara KV. Radix entomolaris and paramolaris in children: A review of the literature. J Indian Soc Pedod Prev Dent. 2012; 30:94-102
6. Badger GR. Three rooted mandibular first primary molar. Oral Surg Oral Med Oral Pathol. 1982; 53:547
7. Mokhtari S, Mokhtari S. Primary mandibular first molar with three reports. J Pak Oral Dent J. 2013; 33:74-5
8. Mayhall JT. Three-rooted deciduous mandibular second molars. J CanDent Assoc. 1981; 47:319-21
9. Ferraz J, Pecora J. Three rooted mandibular molars in patients of Mongolian, Caucasian and Negro origin. Braz Dent J. 1992; 3:113-7
10. Yadav S, Mishra P, Marwah N, Goenka P. Bilateral multirooted first primary molar: A rare case report. J Indian Acad Oral Med Radiol. 2017; 29:63-6.
11. Winkler MP, Ahmad R. Multirooted anomalies in the primary dentition of Native Americans. J Am Dent Assoc. 1997; 128:1009-11
12. Gupta S, Nagaveni NB, Chandranee NJ. Three rooted mandibular first primary molar: Report of three cases. Contemp Clin Dent. 2012; 3(suppl 1):S134-6
13. Ramamurthy N, Srinivasan I. Bilateral three-rooted primary lower molars. Indian J Dent Res. 2012; 23:700
14. Badger GR. Three rooted mandibular first primary molar. Oral Surg Oral Med Oral Pathol. 1982; 53:547