



Case Report

Walking Molar – A radiographic Presentation

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Abstract

Dilaceration is the result of a developmental anomaly in which there has been an abrupt change in the axial inclination between the crown and the root of a tooth. It is seen involving both the permanent and primary dentitions. Root canal curvatures may be apical, gradual, sickle-shaped, severe-moderate-straight curve, bayonet / S-shaped curve and dilacerated curve. Curved root canals exhibit great difficulty in cleaning, shaping and obturation of the root canal system. This mandates routine periapical radiographs which aid the clinician in assessing these morphological variations in the root canal system. This article highlights a rare presentation of dilacerated distal root of left mandibular first molar resembling radiographically as walking molar in 17-year-male patient.

Keywords: Dilaceration, mandibular molar, walking molar.

Introduction

The term dilacerations refers to an abrupt change in the axial inclination or curve in the crown or root of a tooth. Tomes in 1848 was the first to use this term (Tomes, 1848) and refers to an angulation that may occur anywhere along the length of the tooth, that is, its crown, amelocemental junction, along the root, or by only involving the apex of the root (Tomes, 1848; Shafer *et al.*, 1983). Controversy is still in debate for the exact etiology of dilaceration; however the most accepted etiology is mechanical trauma to the primary predecessor tooth (Prabhakar *et al.*, 1990; Maragakis, 1995; Kearns, 1998; Matsuoka *et al.*, 2000). The other possible contributing factors that have been proposed include the ectopic development of the tooth germ, presence of scar/ infection/ cyst/ tumour, developmental anomaly of tooth germ, lack of space, syndrome and hereditary factors (Jafarzadeh and Abbott, 2007).

Case report

A 17-year-old male patient reported to the Department of Oral Medicine and Radiology with the complaint of pain in the left lower back tooth region of the jaw since a week. The pain was sudden in onset, mild, intermittent and non-radiating in nature. Medical, family and dental histories were non-contributory. On intra oral examination, deep class I cavitated caries noticed with respect to left first mandibular molar was observed and initial class I caries with respect to maxillary right upper first and second molars. Mild gingivitis was observed. Provisional diagnosis of chronic irreversible pulpitis was considered for left mandibular first molar. Intra oral periapical radiograph of left mandibular posterior region revealed diffuse coronal radiolucency involving enamel, dentin and approximating pulp. The roots showed dilaceration

in the apical one third of the distal root resembling radiographically as walking tooth (Fig. 1) and ill defined radiolucency with discontinuous lamina dura on the apical third of the mesial root suggestive of periapical pathology. Final diagnosis of periapical abscess of left first mandibular molar was considered and was referred to the Department of Conservative and Endodontics for further treatment. But patient did not show up for the follow up.



Fig. 1. Intraoral periapical radiograph showing coronal radiolucency involving enamel, dentin and approximating pulp with ill-defined radiolucency involving the mesial root and root dilaceration in the apical region of the distal root resembling as walking tooth.

Discussion

Permanent maxillary central incisors are the most commonly affected with dilaceration followed by mandibular

central and lateral incisors (Rowe *et al.*, 1986). The prevalence of dilacerations ranges from 0.32% to 7% but only 0.45% in mandibular first molar, mandibular third molars are affected most often, while the maxillary arch is affected more than the mandibular arch (Malcic *et al.*, 2006). Although dilacerations of a crown can be observed visually in the oral cavity, radiographic examination is required to diagnose a dilacerated root. The direction of root dilacerations can be in single plane or two planes. If the root bends mesially or distally, the dilacerations can be clearly apparent on a periapical radiograph while in buccal / palatal (lingual) direction it gives bull's eye appearance. When the root dilaceration is in labial direction, it is called a scorpion tooth. If a tooth is doubly affected, it is called a bayonet dilacerations (Valladares Neto *et al.*, 2010). According to severity; dilaceration can be mild, moderate, or severe. In the present case, we are reporting a rare presentation of root dilaceration affecting mandibular first molar radiographically mimicking as walking molar. The diagnosis and identification of a dilacerations are essential for any tooth that requires root canal therapy, as failure to diagnose root dilacerations contributes to higher rate of unfavourable outcome of endodontic treatment (Hamasha *et al.*, 2002).

Conclusion

From a clinical standpoint, radiographs provide proper information to the clinicians with the most appropriate method to detect variations in root canal anatomy. Only by correct examination and interpretation of radiographs, the clinician detects such variations and be aware of them before and during endodontic procedures. Proper attention should be directed in radiographic assessment to treat dilacerated roots.

References

Hamasha, A.A., Al-Khateeb, T., Darwazeh, A. (2002). Prevalence of dilaceration in Jordanian adults. *International Endodontic Journal*, 35(11), 910-912.

- Jafarzadeh, H., Abott, P.V. (2007). Dilaceration: review of an endodontic challenge. *Journal of Endodontics*, 33(9), 1025-30.
- Kearns, H.P. (1998). Dilacerated incisors and congenitally displaced incisors: three case reports. *Dental Update*, 25(8), 339-42.
- Malcic, A., Jukic', S., Brzovic', V., Miletic', I., Pelivan, I., Anic', I. (2006). Prevalence of root dilaceration in adult dental patients in Croatia. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, 102(1), 104-109.
- Maragakis, M.G. (1995). Crown dilaceration of permanent incisors following trauma to their primary predecessors. *Journal of Clinical Pediatric Dentistry*, 20(1), 49-52.
- Matsuoka, T., Sobue, S., Ooshima, T. (2000). Crown dilaceration of a first premolar caused by extraction of its deciduous predecessor: a case report. *Endodontics and Dental Traumatology*, 16(2), 91-94.
- Prabhakar, A.R., Reddy, V.V., Bassappa, N. 1998. Duplication and dilaceration of a crown with hypercementosis of the root following trauma: a case report. *Quintessence International*, 29(10), 655-657.
- Rowe, A.H.R., Alexander, A.G., Johns, R.B. (1986). *Tooth Abnormalities a Comprehensive Guide to Clinical Dentistry*. Delhi: All India publishers. Pp. 88, 93.
- Shafer, W.G., Hine, M.K., Levy, B.M. (1983). *A textbook of oral pathology*. 4th Eds. Philadelphia: WB Saunders.
- Tomes, J.A. (1848). *Course of lectures on dental physiology and surgery*. London: Gryphon Editions, Ltd.
- Valladares Neto, J., de Pinho Costa, S., Estrela, C. (2010). Orthodontic-surgical-endodontic management of unerupted maxillary central incisor with distoangular root dilaceration. *Journal of Endodontics*, 36(4), 755-759.