Endodontic Management of Dilacerated Maxillary First Molar: A Case Report

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ABSTRACT
The prognosis of endodontic treatment is based mainly on cleaning and shaping followed by the complete obturation of the root canal system. The paper report the endodontic management of a maxillary first molar with dilacerated buccal roots.

Keywords: Dilaceration; Endodontic Therapy; Maxillary First Molar

Introduction
The internal anatomy of the mesiobuccal root in three-rooted maxillary first molars has been investigated more than any other root.1 Many authors define root dilaceration as a deviation or bend of 90-degree angle or greater along the axis of the tooth or root.2,3 Few studies examined this and the prevalence has been found to be relatively higher in mandibular third molars, ranging from 3.3 to 30.92%, compared to maxillary molars that ranges from 1.33 to 8.46%.4,5 Dilaceration can also be defined as deviation of the apical part of the root by 20 degree or more.6 A thorough knowledge of root canal morphology is an important aspect of root canal treatment.7,8 The paper report the endodontic management of a maxillary first molar with dilacerated buccal roots.

Case Report
A 24-year-old male patient was reported to Department of endodontics, Dental faculty of Shahid Beheshti University, with a chief complaint of pain during cold and hot food and drinks intake for last one week. The medical history was non-contributory. Intraoral examination reveals carious lesion in the right maxillary first molar. Periodontal probing revealed a normal intact gingiva. A diagnosis of irreversible pulpitis was confirmed by heat and cold sensitivity tests. The intraoral radiographic examination confirmed that the carious lesion extends proximally to the mesiobuccal and disto buccal roots of first molar. Tomes, in 1848, refers to an angulation or a sharp bend or a curve in the root or crown of formed tooth or a deviation or bend in the linear relationship of a crown of a tooth to its root and called such curvatures as “dilacerations.”6,9 Awareness and understanding of the presence of unusual external and internal root canal morphology contributes to the successful outcome of the root canal treatment.9

The present case was managed by hand instrumentation with K files and NiTi rotary instruments by keeping radiograph as reference and the prognosis was good following 10 months (Figure 4).

Discussion
Tomes, in 1848, refers to an angulation or a sharp bend or a curve in the root or crown of formed tooth or a deviation or bend in the linear relationship of a crown of a tooth to its root and called such curvatures as “dilacerations.”6,9 Awareness and understanding of the presence of unusual external and internal root canal morphology contributes to the successful outcome of the root canal treatment.9

One of the most important aspects of endodontic treatment is the cleaning and shaping of the root canals. The most desirable shape of the prepared canal is a progressive taper with the largest diameter at the coronal end and is narrowest at the apical constriction.10,11 A progressive taper allows a greater degree of instrument and irrigant contact with the surfaces of the canal walls, thereby enhancing the effectiveness of cleaning.11,12 Failure of root canal treatment in curved canals is mainly due to procedural errors like ledges, perforations, fractured instruments, zip, canal blockage and elbow creation.11,12,14

The present case was managed by hand instrumentation with K files and NiTi rotary instruments by keeping radiograph as reference and the prognosis was good.

Conclusion
In conclusion, NiTi preparations that use files with greater taper or variable taper produce better shape, using fewer instruments and in a shorter time when used in dilacerated teeth.
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References

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