

Endodontic treatment of multiple canals in mandibular first premolars

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I. Introduction

Failure to recognize the presence of an additional root canal may result in unsuccessful treatment and be the origin of acute flare-ups during and after treatment. Therefore, the clinician must have a thorough understanding of normal anatomy, and of common variations from the norm.

Mandibular premolars have gained a reputation for having aberrant anatomy. The recent studies reported the presence of two and three canals in mandibular first premolars with two or more canals at 25% and less than 1% respectively.

The following shows the case report of endodontic treatment in mandibular first premolar with two or three canals.

II. Case Presentation

< Case I >

1. Age/Sex: 44/M
2. Chief Complaint (C.C): #44 gold crown falling off & secondary caries (symptom free)
3. Past Dental History (PDH): gold crown about 20 years ago & crown falling off one day ago referred by general dental practitioner for endodontic treatment
4. Present Illness (P.I): temporary sealing material, Per(-), Pal(-), Mob(-)
5. Impression: Chronic apical periodontitis
6. Tx Plan: Endodontic treatment

< Case II >

1. Age/Sex: 67/M
2. Chief Complaint (C.C): #34 dull pain
3. Past Dental History (PDH): dull pain development a month ago referred by general dental practitioner for endodontic treatment
4. Present Illness (P.I): opened access cavity, fistula(+), per(+), pal(+), mob I
5. Impression: Chronic apical periodontitis
6. Tx Plan: Endodontic treatment

III. Conclusion

Although the frequency of mandibular premolars with more than one canal is low, each case should be investigated carefully clinically and radiographically to detect additional root canals. The use of the dental operating microscope and fiberoptic endoscope allows to better view canal morphology as well as canal preparations