

Two palatal roots in maxillary second molars

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I. Introduction

The common root canal anatomy of maxillary second molars has been described as 3 roots with 3 canals. Earlier studies have reported 1 palatal root with 1 canal, with additional palatal canals being rare. The purpose of this clinical report is to describe the unusual root canal anatomy of the maxillary molars with two separated palatal roots and the endodontic treatment procedures for those teeth.

II. Case Presentation

<Case I>

1. Sex/age: F/21
2. Chief Complaint (C.C): "I want a routine dental examination."
3. Past dental history : Endodontic therapy and amalgam core on #27 five years ago by general practitioner
4. Present Illness: Per(-) mob(-) on #27 w/ amalgam restoration with incomplete root canal filling
w/ secondary caries
5. Impression: Pulpless tooth on #27 w/ normal apex
w/ secondary dental caries
6. Tx Plan: Conventional endodontic retreatment

<Case II>

1. Sex/age: F/51
2. Chief Complaint (C.C): "I want the completion of root canal treatment on the left maxillary second molar which local clinic dentist started root canal therapy."
3. Past dental history : Emergency treatment on #27 by general practitioner
4. Present Illness: Per(-) mob(-) on #27 w/ previous access opening and the coronal temporary filling
5. Impression: Pulpless tooth on #27 w/ normal apex
6. Tx Plan: Conventional endodontic treatment

III. Conclusion

Radiographs are one of the important tools for detecting any anatomic variations. However, in both of the present cases, 2 palatal roots were not obvious from the preoperative radiographs. Meticulous inspection of the location of the palatal canal orifice with the aid of a microscope can decrease the chance of missing canal. In the present cases, the distance between the 2 palatal orifices was wider than that of the buccal canals. Further study regarding the incidence of 2 palatal roots in Korean populations can be suggested.