

Endodontic treatment of maxillary 2nd premolar with secondary caries

Cha-kyoung Kwon*

School of Dentistry, Kyoungpook National University, Daegu, Korea

I. Introduction

One of the keys to a successful endodontic therapy is a sound knowledge of the root canal anatomy and morphology. Identification and access to pulp canals is particularly challenging in the endodontic treatment of teeth with atypical canal configuration. Anatomic variations if recognized early in the diagnostic phase of therapy can lead to critical changes in the treatment strategies thereby ensuring better predictability of the outcome of treatment. (Robin et al, 2014) In this case, radiographically, secondary caries was found in the lower part of the previous restoration and strong pain was felt in percussion. After removal of amalgam and secondary caries, the pulp was exposed and a conventional root canal treatment started. After a few clinical examinations, it was found that two separate canals leave the pulp chamber and join short of the apex to form one canal, called type II categorized by Vertucci. Through the endodontic treatment concluding passive ultrasonic irrigation, the pain released and treatment was completed.

II. Case report

1. Sex/age: Female/30
2. Chief Complaint: I have felt chilled when drinking cold water on right upper side.
3. Past dental history:
 - Previous amalgam filling of #15
 - For last few months, patient had been undergoing pain and chilled
4. Present illness

| | #16 | #15 | #14 |
|--|-------------|-------------|-------------|
| Percussion | + | ++ | - |
| Palpation | - | - | - |
| Mobility | 0 | 0 | 0 |
| Periodontal pocket depth (Buccal/Palatal) | 3.3.3/3.3.3 | 3.3.3/3.3.3 | 3.3.3/3.3.3 |
| Cold test | + | ++ | + |
| EPT | 14/64 | 13/64 | 7/64 |

5. Diagnosis: Secondary caries of dentin on #15
6. Treatment plan:
 - Removal of DO amalgam filling
 - > Re-amalgam restoration
 - > Exposure of pulp -> Endodontic treatment

III. Conclusion

The degree of filling of main canal and removal infected factor and residual tissue in each canal determine the result of the endodontic treatment. Joy J et al. reported in 2015 that a bacterial biofilm adherent to the root canal surface at the apical third of the root canal might be efficiently removed by: 1. Sufficient enlargement of the canal by increasing the canal taper. 2. Agitation of an irrigant, with a passive ultrasonically activated file. Within the limitation of the study the patient had complained sharp pain of the tooth persistently after the pulp extirpation. After the canal was cleansed by passive ultrasonic irrigation, the patient's complaint was released subsequently and the treatment was completed through canal filling.

Presenter: Chakyoung Kwon

School of Dentistry, Kyoungpook National University
Dalgubuldaero 2177, Jungu, Daegu 41940, Korea
cgkwon@naver.com