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The use of MTA in teeth with open apices

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I. Introduction

Endodontic treatment of the pulpless, permanent tooth with an open apex has long been a challenge in dentistry. The most widely accepted technique is to apply intracanal medicament, with the hope of creating a "calcific" barrier. But these roots were often thinner and, more brittle, thus increased the chances of losing these teeth due to fracture. To overcome these problems, MTA has been presented as an alternative way.

Following case presents use of MTA for apical barrier formation in the treatment of teeth with open apices.

II. Case Presentation

< Case I >

1. Sex/age : F/25
2. Chief Complaint(C.C) : Patient felt pain on left lower teeth.
3. Past Dental History(PDH) : #35 previous endodontic treated tooth.
4. Present Illness(P.I) : #35 : Per(+) , M(-)
   External root resorption
5. Impression : #35 Chronic apical periodontitis
6. Tx. Plan : #35 Endodontic treatment

< Case II >

1. Sex/age : F/36
2. Chief Complaint(C.C) : Referred for endodontic treatment from general practitioner.
3. Past Dental History(PDH) : #45 endodontic treatment initiated by a general practitioner.
4. Present Illness(P.I) : #45 : Per(+) , M(-)
   Chamber opening space filled with temporary material.
5. Impression : #45 Chronic apical periodontitis
6. Tx. Plan : #45 Endodontic treatment

< Case III >

1. Sex/age : M/21
2. Chief Complaint(C.C) : Referred for endodontic treatment from general practitioner.
3. Past Dental History(PDH) : #37 endodontic treatment initiated by a general practitioner. Metapaste placed in distal canal only.
4. Present Illness(P.I) : #37 : Per(+) , M(-)
   Chamber opening space filled with temporary material.
   Distal root resorption due to #38(horizontal impaction)
   #38 : Horizontal impaction, Pericoronitis
5. Impression : #37 Chronic apical periodontitis
6. Tx. Plan : After #38 extraction, #37 endodontic treatment.

III. Conclusion

MTA has a good sealing capability, biocompatibility, and scaffold effect when used for closure of open apex in a short time. Therefore, the MTA procedure is an effective alternative to many patients with difficulty of making several visit to the dental office or with open root end even after long term calcium hydroxide therapy. MTA would seem to be the material of choice for an apical barrier.