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MTA orthograde filling of maxillary lateral incisors with open apex

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I. Introduction

Teeth with incomplete root formation have large canal, thin and fragile walls, and open apex. These features make instrumentation of the canal difficult and hinder the formation of an adequate apical stop. In the past, techniques for management of the open apex in non-vital teeth were confined to custom fitting with the filling material, paste fills and apical surgery. However, in recent times interest has centered on the use of mineral trioxide aggregate (MTA) for apexification.

II. Case presentation

Case I

1. Sex /age: F/23
2. Chief complaint (C.C): Pus discharge in the maxillary right anterior portion
3. Past Dental History (PDH): Endodontic treatment & PFM on #12
4. Present Illness (P.I): Palpational pain, open apex and periapical lesion on #12
5. Impression: Radicular cyst on #12
6. Tx Plan: Re-endodontic treatment, Cyst enucleation, PFG

Case II

1. Sex /age: M/32
2. Chief complaint (C.C): Referred for endodontic treatment on #12
3. Past Dental History (PDH): N. S.
4. Present Illness (P.I): Dense invagination, open apex and periapical lesion on #12
5. Impression: Periapical abscess on #12
6. Tx Plan: Root canal treatment on #12

III. Conclusions

When applied as an apical plug, MTA favored apexification and periapical healing. MTA provides scaffold for the formation of hard tissue and the potential of a better biological seal. In these cases, absorbable collagen matrix reconstructed the outer shape of the root and facilitated the adaptation.