Management of internal resorption: A case report

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Abstract

Internal resorption is an unusual type of tooth resorption, which begins within the pulp and extends to the peripheral dental hard tissues. Although, trauma or inflammation are proposed as etiology, still in most of the cases it is idiopathic. Internal resorption is usually asymptomatic and often recognized clinically or by routine radiographs. Treatment can vary from simple monitoring to surgical extraction of tooth. We hereby present a case of idiopathic asymptomatic internal resorption. Extraction of the tooth was performed due to its unfavourable prognosis.

Key words: Internal resorption, pink tooth, surgical management and prosthetic rehabilitation

Introduction

Tooth resorption maybe physiological (shedding of primary tooth) or a pathological process, that involves resorption of dentin, cementum, bone and sometimes the enamel. Tooth resorption may be external, when it is initiated in the periodontium and affects the external surface of the tooth. They can also be internal, when the resorption is initiated in the pulp space and is associated with loss of dentine and cementum.

External resorption can be classified as surface, inflammatory or replacement. Based on their location they can be cervical, lateral or apical. Internal resorption is further classified as inflammatory and replacement types. Tooth with internal resorption may have a pinkish hue owing to the greater visibility of pulp through the thinned tooth and hence, they are also known as “pink tooth of Mummery”; termed after anatomist James Howard Mummery. Depending on the amount of resorption, treatment varies from endodontic procedure to extraction.

We, hereby, present a case of internal resorption and its management.

Case report

A 39-year-old male patient reported to the dental office with a chief complaint of pain and mobility in the upper front tooth. No relevant history of trauma or inflammation was given by the patient. On examination, he had a pinkish discoloration of maxillary right lateral incisor. There was no obvious intra oral or extra oral swelling present. On palpation, the tooth was tender and was diagnosed to have Ellis class III fracture (Figure 1 and 2).

Figure 1: Pink Colour discoloration of maxillary left lateral incisor

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Tooth was beyond restoration and extraction was the recommended treatment. The extracted tooth was subjected to histopathological examination. Specimen radiograph was taken which showed scalloped dentinal margin indicating resorption (Figure 3 and 4). Histopathological section revealed multiple resorption bays on the dentin with odontoclasts (Figure 5). The patient was rehabilitated with prosthetic replacement of the missing tooth using ceramic bridge with zirconia coping (Figure 6 and 7). Six-month follow up revealed normal healing and uneventful recovery.
Discussion

Internal resorption is a pathological process, initiated within the pulp space and is associated with loss of dentine and sometimes enamel. Internal resorption is usually asymptomatic and often recognized clinically or by routine radiographs. Clinically, teeth with internal resorption may have a pinkish hue due to the visibility of the granulation tissue through the thinned dentinal tissue.

Radiograph of the affected tooth usually shows an oval enlargement (ballooning out) of the root canal space. The Radiographs taken at different angulation can reveal resorptive lacunae. Pain may occur depending on the pulpal condition or perforation of the root resulting in a periodontal lesion.

Etiology is usually idiopathic in nature. Trauma, pulpitis, pulpotomy, cracked tooth, tooth transplantation, restorative procedures, invagination, orthodontic treatment, and even viral infection (Herpes zoster) are considered to be possible causing factors. The resorption process may commence due to shifting of pH value to acidic, as in irreversible pulpitis so that the process of chelation dissolves the dentin and enamel substances. The present case revealed no relevant history for trauma or inflammation and hence, it is a case of idiopathic internal resorption.

If untreated, resorption can progress to the external surface of the tooth causing it to fracture. This case showcased typical colour change in the coronal surface and was asymptomatic for longer duration, which eventually lead to complete destruction of tooth in the cervical area with the crown to fracture.

Idiopathic conversion of normal pulp into a granulomatus tissue is noted. Activation of undifferentiated mesenchymal cells of the pulpal tissue leads to subsequent differentiation into odontoclasts resulting in resorption. Odontoclasts resorbs the dentinal walls commencing from the centre to the periphery of the tooth.

There are two types of internal resorption; inflammatory and replacement types. The inflammatory type of resorption is associated with the presence of granulation tissue and progress without adjunctive deposition of hard tissues adjacent to the resorptive sites. While, in replacement resorption, the resorptive activity causes defects in the dentin adjacent to the root canal with concomitant deposition of bone like tissue in a few regions of the defect. It results in an irregular enlargement of the pulp space with partially or completely obliterated area of the pulp chamber.

Depending upon the degree of internal resorption, the management of the condition varies. Therapeutic abstention and monitoring, orthograde root canal treatment, retrograde apical treatment and extraction are the various treatment modalities quoted in the literature. Non-conservative procedure was performed in this case because of its unfavourable prognosis.

Conclusion

Internal resorption is an asymptomatic condition, which can be detected by a routine clinical and radiographic examination. If ignored, this can progress to fracture the tooth as in the case mentioned above. It is important to properly diagnose and initiate a prompt endodontic procedure to improve the prognosis of such teeth.

References


