Case Report

Endo Perio Lesion- A Case Report

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ABSTRACT

Endo Perio lesions are a common finding in the dental practice. Progression of an endodontic lesion, if allowed leads to periodontal involvement or vice versa. This is a case report on an endodontic lesion with periodontal involvement that has been treated by performing Root Canal Treatment (RCT) followed by flap surgery.

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INTRODUCTION

Endo perio lesions are a challenging condition for the dental professionals regarding the diagnosis and treatment for the same. Simring and Goldberg described the relation between pulpal and periodontal disease in 1964(Simring M et al,1964). Bacterial infection is the main cause for pulpal and periodontal disease. Cross-infection between the root canal and the periodontal ligament can occur via the following pathways: anatomical (apical foramen, lateral and accessory canals, dentinal tubules and palato-gingival grooves) non-physiological pathways (iatrogenic root canal perforations and vertical root fractures)(Zehnder M et al,2002). Periodontal destruction is the loss of bone from the coronal to apical direction whereas the endodontic infection is from the apical to coronal direction.

Pulpal infection leads to an inflammatory response to the periodontal structures, however the periodontal infection leading to pulpal inflammation is still under discussion and there are conflicting opinions regarding the same(Seltzer S,et al 1963). The pulp is not affected by periodontal disease until accessory canals are exposed to the oral environment or the microvasculature of the apical foramen is damaged, clinically.( Rubach WC et al 1965). The initial step in diagnosis is vitality test. Vitality test’s ability to detect non sensitive reaction represented a necrotic pulp showed an 89% reported rate with cold test and electrical test showed 88% (Mandel E et al,1993).

The main factors to take into account for decision-making regarding the treatment are the pulp vitality, type and extent of the periodontal defect.

The aim of the present study is to diagnose and to manage the endo-perio lesion presented.

PRIMARY PERIODONTAL DISEASE WITH SECONDARY ENDOdontIC INVOLVEMENT

Patient aged 42 years, with no relevant medical history was referred to our department for the treatment of pain that was intermittent and throbbing in nature in the left mandibular first molar region.

Probing depth was 10mm. Clinical attachment loss of 10mm was seen on the buccal aspect of 36.

Radiographic examination revealed bone loss up to apical third around the distal root of tooth #36 (Fig 1.1) The rest of the dentition had normal periodontal status. The tooth #36 did not respond to vitality tests.

Treatment plan

Emergency phase- Root Canal Treatment

Phase1- oral prophylaxis

Phase 2- flap surgery with bone graft in relation to 36

Phase 3- restoration of 36(crown placement)

Phase4- recall and review

Full thickness flap was raised, debridement done and bone graft was placed in the intrabony defect( Osseograft®). Root canal treatment was performed. After 6 months, during the recall visit, significant improvement was observed.

(Fig. 1.2) post op radiograph shows complete bone fill in the intrabony defect that was present earlier.
Fig.1.1 shows probing depth of 10mm

Fig.1.2 Pre operative radiograph showing angular bone loss upto apical third of the distal root of #36

Fig.1.3 debridement

Fig.1.4 bone graft placement

Fig.1.5 sutures

Fig.1.6 .post operative radiograph-6months

Discussion

The endo-perio lesions are a challenging factor to clinicians as far as diagnosis and prognosis of the involved teeth are concerned. Correct diagnosis is an important factor to determine the treatment and long-term prognosis. Some studies have reported that endodontic treatment may cause a negative effect on periodontal wound healing (Morris et al, Sanders et al,1983) while a few others have (Perlmutter S et, de Miranda et al,2003) shown no significant effects.

The possible influence of endodontic treatment on the healing response of furcation defects is related to the accessory canals and permeable areas of dentin and cementum. Accessory canals in the whole furcation area of molars are found in 30–60% of molars and predispose this area to be a zone of intense communication between pulpal and periodontal tissues(Lowman JV et al,1973). These canals are mostly observed in the furcation area of mandibular molars (Gutmann JL et al,1978)

Other materials like hydroxyapatite and beta tricalcium phosphate granules can be used as grafting materials.

This case demonstrates that proper diagnosis, followed by removal of etiological factors and osseous grafting, will restore health and function to a tooth with severe attachment loss caused by an perio-endo lesion.

Conflict of interest: There is no conflict of interest in this report.

Reference


