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A CASE REPORT OF AN ENDO PERIO LESION

Periodontics

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ABSTRACT

The inflammatory products found in periodontium and pulpal tissues describes the term “Perio-Endo” lesion. This case report describes about a patient who underwent Root canal treatment (RCT) two months priorly with no crown placement and then the patient observed swelling and gradual pain in lower left region of tooth. The patient was referred to department of Periodontics where abscess drainage was done initially followed by Scaling and Root Planing (SRP) with placement of Local drug delivery (LDD) i.e Metronidazole and Re-RCT was done. After three months surgical treatment was carried out. The local antibiotic regimen given along with SRP showed a tremendous result in this case.

KEYWORDS

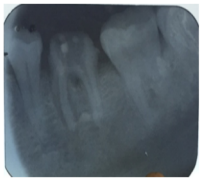
Periodontium, Perio-endo Lesion, Metronidazole, Local Drug Delivery,scaling And Root Planing.

CASE REPORT:

A 63 year old male patient named Amarnath was referred to department of Periodontics with a chief complaint of pain and swelling in the lower left back tooth region of tooth since one and half month. Patient has given a history of root canal treatment and with no crown placement in relation to the same tooth in a private clinic two months back. Patient was asymptomatic 2 months back. Later, he noticed a swelling which was gradual in onset, associated with intermittent pain and pus discharge. Patient had no relevant medical history. Upon clinical examination, a swelling was seen irt 36 which is solitary extending from marginal gingiva to alveolar mucosa, soft and fluctuant, bleeds easily on probing, with sinus opening. The color of gingiva was erythematous, soft and edematous, rolled marginal gingiva with blunt interdental papilla, with enlarged marginal and attached gingiva along with loss of stippling, with localized bleeding on probing and exudation present irt 36 and the periodontal status of the patient was presence deep pocket of 7mm with grade 2 furcation involvement irt 36. IOPA was taken which revealed furcation involvement and crestal bone loss.

Initally, drainage of abscess was done and antibiotics were prescribes i.e Augmentin 625mg for 5 days, Metrogyl 400mg for 5 days, Acecloren twice a day for 3 days. After the antibiotic regimen of 5 days, a non-surgical periodontal therapy was carried out i.e Phase 1 therapy was carried out: Scaling and root planing. After one week the swelling was persistent without purulent discharge hence a curettage was done irt 36 along with Local drug deliver (LDD) using Metronidazole 1% w/w and Chlorhexidine 1% w/w and the patient was recalled after 15 days.

After 15 days there is a resolution of swelling but with a persistent probing depth. Then Phase 2 treatment was carried out i.e Re-RCT was performed irt 36.After 3 months, an IOPA was taken which revealed furcation involvement and crestal bone loss irt 36, we proceeded with a surgical phase aiming at regeneration of lost bone. After appropriate local anesthesia, a conventional flap procedure was done, after debridement of granulation tissue and scaling & root-planing we could appreciate grade 2 furcation defect, where an Osseo graft was placed into the furcation defect and the surgical site was protected with a periodontal pack. Post-operative antibiotics and analgesics were prescribed and post-operative instructions were given.

Pre Op (Fig 1)


Placement of Local Drug Delivery (fig 2)


After RCT, showing probing depth and IOPA showing Grade 2 furcation (fig 3)

Surgical therapy with placement of OSSEOGRAFT (fig 4)


Follow Up (After 6 months) (fig 5)

DISCUSSION

Periodontal disease is a slowly ongoing disease that may have an atrophic effect on the dental pulp. 50% of tooth mortality are due to pulpal and periodontal problems.[1] Pulpal and Periodontal tissues are closely related and the disease transmission between these two lesions has been demonstrated by many studies, which showed significant microbiological similarities between infected root canals and advanced periodontitis.

The infected root canals and advanced periodontitis have shown many significant bacteriology, virology and mycology similarities which have been demonstrated by many studies and concluded that the

disease transmission between the pulpal and periodontal problems are closely related.[2]

CLASSIFICATION OF PERIO ENDO LESION:

The most commonly used classification was given by Simon, Glick and Frank in 1972;

1. Primary endodontic lesion
2. Primary periodontal lesion
3. Primary endodontic lesion with secondary periodontal involvement
4. Primary periodontal lesion with secondary endodontic involvement
5. True combined lesion

This case was a PRIMARY ENDO SECONDARY PERIO LESION

After RE-RCT, we aimed to regenerate the lost periodontal structures. Initally after the emergency and non-surgical phase, we attempted a Local drug delivery with REXIDINE M-FORTE GEL

Composition:

METRONIDAZOLE - 1 % (W/W)
CHLORHEXIDINE - 1% (W/W)
LIDOCAINE - 2% (W/W).

Locally delivered anti-infective pharmacological agents, specifically antibiotics, are generally administered in doses much lower than that required with systemic administration, reducing the risk of serious systemic side-effects associated with the drug. It is important, therefore, to determine the usefulness of these drugs in periodontal therapy in an effort to weigh the relative benefits and risks associated with their use.[3] One of the indication of LDD is the Endodontic failure and patients who have undergone endodontic therapy, but suffer from persistent infections or resistant microorganisms.[4]

Bender *et al.*, stated that periodontal endodontic problems were much more frequent in the molars than in the anterior teeth because of the greater number of accessory canals present in the molars.[1] The percentage of lateral canals in the furcation is 46% in first molars and 50 to 60% in any multirooted teeth.[5] Perinetti et al compared the clinical healing and the microbiological findings following repeated intrasulcular applications of 1% metronidazole or 1% chlorhexidine gels in persistent periodontal pockets previously treated by scaling and root planing and obtained a similar reduction with both gels at 1% concentration.[6] Sangeetha singh et al in 2015 have conducted a study to evaluate the efficacy of metronidazole as LDD in the treatment of pockets of 5-7mm. This study even evaluated the microbiological parameters using PCR (Aa,Pg,Tf) after a period of 90 days. The study included 60 subjects and are divided into 2 groups. Group A received oral prophylaxis in combination with metronidazole. Group B received only oral prophylaxis. After 3 months both the groups were assessed for clinical and microbiological parameters. The METRONIDAZOLE group showed statistically significant improvements when compared to the other group.[7] Meetu Jain in 2013 has conducted a study on Efficacy of chlorhexidine gel as an adjunct to scaling and root planing in treatment of the chronic periodontitis and concluded that Subgingival injection of Chlorhexidine gel adjunct with scaling and root planing appeared to cause significant improvement compared with scaling and root planing alone in persons with chronic periodontitis.[8] Sunitha etal in 2008 have stated that when the pulp is nonvital and infected, conventional endodontic therapy alone will resolve the lesion, if primary endodontic lesions persist, despite extensive endodontic treatment, the lesion may have a secondary periodontal involvement. In case of secondary periodontal involvement, root canal therapy is instituted immediately and the cleaned and shaped root canal is filled with calcium hydroxide paste, which has bactericidal, anti-inflammatory and proteolytic property, inhibiting resorption and favoring repair. It also inhibits periodontal contamination of instrumented canals via patent channels connecting the pulp and periodontium before periodontal treatment removes the contaminants. Treatment results should be evaluated after two to three months and only then should periodontal treatment be considered. This allows sufficient time for initial tissue healing and better assessment of the periodontal condition. Prognosis of primary endodontic disease with secondary periodontal involvement depends on periodontal treatment and patient response.[9]

The present case was a PRIMARY ENDO AND SECONDARY PERIO LESION, we have evaluated after 3 months of Re Root canal treatment, as there was a probing depth of 7 mm and Grade 2 furcation defect with crestal bone loss we proceeded with a Surgical Phase of Periodontal Surgery where a conventional flap was raised after adequate local anesthesia, and the granulation tissue debridement was done followed by Scaling & Root planing then a OSSEOGRAFT was place in defect and the flaps were repositioned back.

The bacterial plaque is the primary etiologic factor for the progression of furcation defects and the consequences of inflammation which resulted from indelible presence. The presence of local anatomic factors and the extent of attachment loss required to produce a furcation defect is not consistent.[10] In the present study the furcation defect here was classified according to GLICKMAN as a Grade II Culdesac lesion. Tsao et al have shown that the furcation defect is a graftable lesion. They found that lesions that were grafted had greater bone fill than areas treated with open flap debridement alone.[11] The Osseograft used here was a Demineralized bone matrix derived from bovine cortical bone, with a particle size of 250 microns, which resorbs in 6-12 weeks with a bone inductive capacity. The LDD used here after Scaling and root planing was to condition to tissues as it was a re infected tooth after intitial root canal treatment so after conditioning the tissue only we wanted to proceed with Re RCT, and we fetched a desirable results after placement of Local drug delivery along with curettage and after tissue conditioning only we went forwarded with root canal treatment and we got a fetching results after surgical phase when evaluated after 6 months and we could also appreciate the bone fill in the culdesac lesion.(Fig:5)

Thus to conclude the endodontic periodontal lesion often presents a diagnostic and treatment dilemma. The complete treatment of both aspects of endo-perio lesions is essential for successful long-term results. Site specific administration of simple injectable formulations into periodontal pocket may serve as an adjunct to surgical protocols offering a means of saving teeth which is the ultimate goal of any dental treatment.

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