

RECURRENT ABSCESS - A DIAGNOSTIC DILEMMA

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ABSTRACT

The most common emergency in dental practice is an abscess. When they occur recurrently, both the patient and the clinician are in turmoil as it is painful for the patient and arduous for the clinician. The etiology of an abscess can be of endodontic or periodontal origin. The diagnosis and clinical management of both may be difficult as the interrelation between the pulp and the periodontium influence each other during function and disease. On the other hand, vertical root fractures may be difficult to diagnose, as the early stage may not reveal any radiographic signs. This case report deals with one such condition wherein a recurrent abscess that had put the clinicians in a diagnostic dilemma. On surgical exposure, a vertical fracture was evident and the initial treatment plan was modified. Thorough knowledge of the etiology, treatment modalities and clinical dexterity alone can help clinicians to combat such situations.

KEYWORDS: abscess, vertical root fracture, endo Perio lesion.

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INTRODUCTION:

Recurrent abscess occurring on a particular tooth can be traumatizing to the patient and challenging to the clinician. The etiology of the abscess can be of endodontic or periodontal origin. Therefore, understanding the interaction in an endo-perio lesion is of crucial importance to the clinician because of the challenges frequently encountered in the assessment, diagnosis, treatment and prognosis of combined endodontic-periodontal diseases.¹ The certainty that the periodontium has an anatomical interrelationship with the dental pulp via the lateral canals and apical foramina, creates a pathway for commutation of toxic agents between the two tissue compartments.

The diagnosis and management of endo-perio lesions can sometimes be a herculean task, but it is of pivotal importance to make an appropriate diagnosis so that the correct treatment can be provided. Etiological factors such as bacteria, fungi and viruses as well as various contributing factors such as trauma, root resorptions, perforations and dental malformations play an important role in the development and progression of such lesions.² This case report discusses one such recurrent abscess in a particular tooth, that put us in a diagnostic dilemma, and the technique used by our team to restore form and function of the tooth.

CASE REPORT:

A 46-year old male patient was referred to the Department of Periodontics, Meenakshi Ammal Dental College and Hospital, with a chief complaint of pain and pus discharge in relation to left upper posterior tooth for the past 10 days. On eliciting the history, pain was present for the past three months with occasional pus discharge. The pain was intermittent with no aggravating factors. There was no relevant medical history. Intra-oral examination revealed periodontal abscess in relation to 26 (Fig 1), with probing depth of 8 mm. No evidence of mobility was noted. Intra-oral periapical radiograph in relation to 26 revealed root canal treated 26 with mild periapical radiolucency on the mesiobuccal root



Fig 1 : Abscess evident in 26



Fig 2 : IOPA 26



Fig 3 : Vertical fracture on the mesiobuccal root of 26



Fig 4 : Resected mesiobuccal root of 26



Fig 5 : Post root resection



Fig 6 : Sutures placed



Fig 7 : One week post operative view

(Fig 2). Endodontic opinion revealed no pathological findings.

As there was the presence of an abscess with pocket depth of 8 mm in relation to 26, complete oral prophylaxis and abscess drainage was done. Medication was prescribed following which periodontal therapy was planned.

Informed consent was obtained from the

patient. Local anaesthesia (2% lignocaine) was administered. Full thickness mucoperiosteal flap elevation was done. On elevation, vertical root fracture was evident in 26 from the cervical margin to the root tip on the mesiobuccal root (Fig 3). The initial treatment plan was reformulated and as the patient was keen on saving the tooth, therefore, resection of the mesiobuccal root was performed (Fig 4). High speed rotary motor with copious irrigation was used to resect the mesiobuccal root. Post resection the area was thoroughly curetted (Fig 5), flap was repositioned and sutured with 3-0 black silk as continuous sling sutures (Fig 6). Periodontal pack was placed and post-operative instructions were given. Antibiotics and analgesics were administered.

The patient was recalled after one week and sutures were removed (Fig 7). No evident pus discharge was present post root resection and patient was relieved of the pain and discomfort that was present prior to the treatment.

DISCUSSION:

Root fractures constitute to less than 0.5-7% of all dental injuries.³ The diagnosis of vertical fracture is often difficult to establish by radiograph, percussion, or by other means. In the early stage, when hairline fracture is present and before separation of fragments is evident, no radiographic changes are visible either in the tooth or in the adjacent bone. It is seen that vertical fracture is the third most common reason for extraction of an endodontically treated tooth.⁴

Periodontal abscesses are also one of the clinical findings in cases of vertical root fracture, which result from chronic inflammation at the fracture line.⁵ There are multiple predisposing factors for vertical root fractures such as root canal anatomy, change in dentin characteristics in an endodontically treated teeth, root fracture associated with corrosion are a few to be mentioned.

Management of teeth with vertical fractures is challenging, one such treatment strategy to retain teeth includes root resection. It is the process by which one or more roots of tooth are removed at the level of the furcation and leaves the crown and remaining

roots functional.⁶ It is one of the conservative way of preserving the tooth. Some investigators have reported that root resected molars had more than 90% survival rate.^{7,8} Basaraba⁹ proposed the following indications for root resection therapy: teeth with periodontal problems, endodontic problems, root fractures, and prosthetic problems. In our case we opted to amputate the root as the anatomy of the tooth root was not fused and there was adequate support from the remaining roots. Good prognosis, absence of mobility and healthy periodontal condition was observed for upto a period of three months of follow-up. In accordance with previous reports¹⁰, root resection is a valid treatment option for molar teeth, which otherwise would go for extraction. Thus management of vertical fracture through root resection helps not only preserve tooth, but also reduce the financial burden, psychological trauma of the patient.

CONCLUSION:

This case report brings into limelight the fact that combined endodontic-periodontic lesion that affect a single tooth can be treated successfully, with a predictable prognosis in many instances. Thus, cases like this which are challenging to the practitioner can be managed through proper diagnosis, followed by removal of etiological factors and combining treatment modalities in order to restore form and function to the teeth.

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CONFLICT OF INTEREST:

There is no conflict of interest

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