ROOT RESECTION- A CASE REPORT

Abstract
Root resection is the clinical procedure intended to remove one or two roots of an involved molar tooth while retaining the crown portion intact. It is synonymous with root amputation. This is in contrast to hemisection which removes the root of the involved tooth and the contiguous crown portion. This case report discusses root resection in mesiobuccal root of maxillary first molar.

Key Words
Periapical surgery, Root end resection, Hydroxyapatite crystals

Introduction
The goal of endodontic therapy is the elimination of bacteria from the root canal system and establishment of an effective barrier to prevent further passage of microorganisms or their products to the periapical tissues. [1,2] Conventional endodontic treatment has been shown to be successful in about 90% of cases. If endodontic therapy fails then retreatment is indicated. If this is not possible, or if retreatment fails, periapical surgery may be required. Periapical surgery consists of one of, or a combination of, simple curettage of infected or inflamed tissue, removal of an infected or damaged root apex or a retrograde filling to prevent communication between the root canal system and the periapical tissues. [3, 10] Root resection (also called apicoectomy) is a surgical procedure in which the root apex is removed and the adjacent periapical tissue in curetted. Root resection is the clinical procedure intended to remove one or two roots of an involved molar tooth while retaining the crown portion intact. It is synonymous with root amputation. This is in contrast to hemisection which removes the root of the involved tooth and the contiguous crown portion.

This case report discusses a surgical management of an endodontic retreatment procedure using root end resection.

Case Report
A 35 year old male patient reported in the OPD of Department of Conservative Dentistry & Endodontics with a chief complaint of pain & pus discharge in his right upper back tooth region since last 20 days.

Detailed clinical examination of the region revealed that the patient was using a metal crown in tooth 16. Adjacent gingival region was inflamed and had a sinus opening. Using gutta percha and radiograph the location and extent of lesion was estimated. Lesion was located around the mesio buccal root of right maxillary first molar.[16]

Treatment consisted of performing root end resection. Under local anesthesia flap reflection was performed and the mesio buccal root was exposed. Root end resection was performed using a micromotor.

The granulation tissue was removed using curettes (API). Hydroxyapatite crystals were placed in the defect and collagen membrane was placed to enhance healing.

The flap was repositioned and sutured using sling suture technique. The crown was cemented using Type 1 GIC(Ketac 3ESPE).

Follow up radiographs were taken after 3 months to access healing.

Discussion
The purpose of placing a retrograde seal after apicectomy is to establish an effective barrier between the root canal and the periapical tissues. [4,5] The indications for resection are mainly when previous root canal therapy has not been successful. [5, 9] The root canal may either be underfilled, and an area of periapical radiolucency is still present, or the canal may be markedly overfilled, irritating the periapical tissue. Other conditions are (a) when the root apex is involved in a cystic condition; (b) when a perforation has occurred or an instrument has been broken in the apical third of the canal; and (c) when internal or external root resorption is present.[6] Bone graft and collagen membrane ensures optimal and quick healing in the presence of sterile environment. [5,8]. The type of graft used in the present case is an allograft. Allografts, also called allogenic, homologous, or homografts, are composed of materials taken from another individual of the same species. This type of grafting material is attractive because it closely matches the recipient in constitutional elements and architecture and is theoretically available in unlimited quality. Allografts for maxillofacial and periodontal use generally come as demineralized freeze-dried bone allografts (DFDBA) or mineralized freeze-dried bone allografts (FDBA) and in the form of particles, sheets, blocks, or entire preformed bones[5,8]

Conventional techniques involve reflecting a flap over the surgical area, drilling the bone overlying the root if the bone is not already necrotic, cutting away the root tip using air driven drills, and curetting the...
periapical granulomatous or cystic tissue with curets. Maintenance of hemostasis in a highly vascular granulomatous area is also demanding.[5,7,8,9].

Apical end root resection is necessary as periradicular curettage alone will invite the recurrence of the lesion. [5,9]. Apical surgery therefore entails not just the removal of diseased tissue or root tip but also ensures the resealing of the root canal system.[10].

BIBLIOGRAPHY