

Case Report

Intentional Re-implantation is a New Hope to Salvage TeethUmesh Pratap Verma¹, Rakesh Kumar Yadav², Vaibhav Sheel Gupta¹, Abhaya Gupta¹, Harshil Parikh¹¹Department Periodontology, Faculty of Dental Sciences (FODS), King George's Medical University(KGMU), Lucknow 226003, Uttar Pradesh, India²Department Conservative & Endodontics, Faculty of Dental Sciences (FODS), King George's Medical University(KGMU), Lucknow 226003, Uttar Pradesh, India***Corresponding author**

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Abstract: Non-surgical Endodontic therapies have a very good success rate. In some cases failures may occur which can be managed by non-surgical endodontic re-treatment or endodontic surgical intervention. Intentional replantation is an accepted procedure in which a tooth is extracted and treated outside the oral cavity, then reinserted into its socket to correct an obvious radiographic or clinical endodontic failure. This article focused on the importance of minimal time in surgical procedure to produce best outcome to enhance the prognosis of hopeless tooth.

Keywords: Intentional re-implantation, Endodontic failures, Prognosis

INTRODUCTION

Glossary of Endodontic terms defines intentional replantation as "insertion of a tooth into its alveolus after the tooth has been extracted for the purpose of performing treatment, such as root end fillings or perforation repair.

Non-surgical Endodontic therapies have a very good success rate. In some cases failures may occur which can be managed by non-surgical endodontic re-treatment or endodontic surgical intervention [1]. Intentional replantation is an accepted procedure in which a tooth is extracted and treated outside the oral cavity, then reinserted into its socket to correct an obvious radiographic or clinical endodontic failure [2].

According to Grossman re-implantation is a purposeful removal of a tooth and its reinsertion into the socket almost immediately after sealing the apical foramina [3].

Replantation was first done by Pare in 1593 [4]. Pierre Fauchard, in 1712, reported an intentional replantation, fifteen minutes after extraction [5]. Thomas Berdmore reported intentional replantation for mature and immature teeth [6]. Scheff in 1890 described the periodontal ligament role in prognosis of replanted teeth [7]. Hammer in 1955 described the importance of leaving an intact periodontal ligament on intentionally replanted teeth [8]. Loe and Waerhaug in

1961 tried to replant teeth immediately after extraction successfully [9].

INDICATIONS AND CONTRAINDICATIONS

Cases with ledge formation, instrument separation, calcifications, limited access, anatomical limitations, trismus, perforations in areas not accessible to surgery, failed apical surgery and persistent chronic pain where non-surgical or surgical root canal therapy is not possible or impractical.

Vertically fractured or non-restorable tooth, tooth having curved roots which may fracture during extraction or teeth having poor periodontal support are relatively contraindicated for re-implantation procedure [10].

The most important and critical event in the re-implantation procedure is to maintain cellular vitality in the periodontal ligament under aseptic environment so that regeneration of the periodontal ligament occurs as a favorable outcome. The removal of all tissue debris and irritating substances from the root surface, achievement of a good apical seal and reinforcement of the crown structure are mandatory for normal Function [2, 11, 12].

Although some authors believe that it should be reserved as a last resort to save a tooth [13-16]. Messkoub stated in his case report that the literature reports of the range of success in retaining replanted teeth in terms of time vary between 52 and 95%, when

cases were followed from 1-22 years. He also mentioned in the same report that the average time of retention is 3-5 years [17]. The unfavorable outcome for this procedure is root re-sorption specifically ankylosis or replacement re-sorption which is direct related to the duration of time in which the tooth is out of the mouth [12]. The removal of all tissue debris and from the root surface, achievement of a good apical seal and reinforcement of the crown structure are mandatory for normal function [12].

CASE DESCRIPTION

A 35 year old female patient came with the chief complain of pain in lower right back jaw region. On clinical examination caries in relation with 45 found. Tooth was also depressible in socket with slight mobility. On radiographic examination caries involvement of pulp with periapical radiolucency found. Patient was not ready for surgical intervention as the intention re-implantation with periapical curettage planned, with proper antibiotic coverage and written consent was obtained before the procedure. Lignocaine 2% with 1:200000 adrenalines was given as Inferior alveolar and lingual nerve block. In order to lessen extra oral time, access opening and bio mechanical preparation was done before the extraction. Tooth was then extracted atraumatically without using any elevators. Care was taken that the beaks of the forceps do not go beyond the cemento-enamel junction to avoid any kind of damage to the cementum which may eventually cause root re-sorption. After extraction, the tooth was placed in normal saline and periapical curettage was performed. Tooth was then obturated and retrograde filling was done. Care was taken to avoid any kind of contact to the root surface. After achieving proper coronal and apical seal and conditioning of root surface, the tooth was placed in its socket immediately. Occlusal reduction was carried out to avoid any kind of premature contact. The complete procedure was performed within 5 minutes (Fig 1-5). She was happy with such kind of minimal invasive treatment and zero complain with this tooth even post 18months.



Fig-2: Pre-operative View



Fig-3: Immediate Extracted tooth



Fig-4: Post re-implantation



Fig-1: Intra oral periapical X-ray



Fig-5: Post 18 months

CONCLUSIONS

Patient centered therapy is need of hour. Time and atraumatic treatment modalities definitely produced impact on the prognosis and management of endodontically failures and inaccessible periapical lesions.

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