Intentional Reimplantation: A Report of Two Cases

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Intentional reimplantation is a procedure in which tooth extraction is performed followed by reinsertion of the extracted tooth into its own socket after performing the desired procedure. In this study, two case reports of intentional reimplantation are described and discussed as a treatment approach for broken instrument and a periapical lesion that is very near to mandibular canal in mandibular first molar. The indications for and limitations of intentional reimplantation as well as recommended literature on the subject is discussed. The present article describes two cases of intentional replantation: (1) Mandibular first molar with continuous pus discharge and (2) mandibular first molar with the fractured instrument.

Keywords: Periapical, Reimplantation, Resorption

INTRODUCTION

Grossman defined intentional reimplantation as the purposeful removal of a tooth and its reinsertion into the socket almost immediately after sealing the apical foramina.

He also stated that it is the act of deliberately removing a tooth and following examination, diagnosis, endodontic manipulation, and repair-returning the tooth into its original socket.¹

The main indication for replantation is when there is no other alternative to maintain the tooth in the oral cavity and according to Weine other indications of this procedure are: (1) When there is a perforation, or internal or external resorption and surgery is not possible; (2) when routine endodontic treatment is not possible such as in patients who are incapable of maintaining their mouth open for a long period of time; (3) when the root canal is sealed and there is a fractured instrument, calcification, or periapical radiolucency and routine surgery is not possible; (4) when there is a foreign body, such as a filling material, in the periodontal ligament or periapical tissue and surgery is not possible; (5) when previous treatment failed and surgical or non-surgical retreatment is not possible.²

The present article describes two cases of intentional replantation:
1. Mandibular first molar with continuous pus discharge
2. Mandibular first molar with fractured instrument.

CASE REPORTS

Case 1

The present article describes a case of intentional reimplantation. A 23-year-old male reported to the Department of Conservative Dentistry and Endodontics, D. J. College of Dental Sciences and Research, Modinagar, Uttar Pradesh, India with the chief complaint of persistent pus discharge in lower left tooth back region since 1 week. There was large periapical lesion involving furcation area with respect to the tooth. Periapical surgery was not indicated as the tooth was very near to the mandibular canal and hence there was a danger of damage to the nerve.

The patient was informed of the risks and the benefits of this treatment and agreed to it.

The patient received antibiotics and anti-inflammatory medication (625 mg of augmentin twice a day, 300 mg setrogyl twice a day, and 50 mg diclofenac sodium, 3 times a day for 3 days) and was instructed to return 72 h later for the procedure. After this period, the patient returned with decreased symptomatology and surgery was performed with respect to 36 (Figure 1). Local anesthesia
was administered, and careful extraction was performed to avoid possible coronal and/or radicular fracture. Using a forcep, the tooth was held by hand on the crown and the roots were resected using high-speed handpiece. The tooth and socket was copiously irrigated using saline and betadine (Figure 2). Retro preparations were made using round bur to a depth of 3 mm using a high-speed handpiece. Mineral trioxide aggregate (MTA) Plus was then condensed into the preparations (Figure 3). The socket was gently curreted and the pathology was removed. The tooth was then irrigated with saline and replanted into socket (Figure 4). The procedure took 12 min. Acrylic splint was placed on both buccal and lingual side from second premolar to third molar for 3 weeks (Figure 5). The occlusion was adjusted on that tooth.

Post-operative instructions were given. The patient was advised not to spit and to take semi-solid food. 625 mg of augment in twice a day and 50 mg diclofenac sodium, 3 times a day for 3 days were given. At 3 weeks recall, the patient was asymptomatic. Acrylic splint was removed, and the tooth was not tender on percussion. There was slight reduction in periapical radiolucency. The patient was returned fora 9 months follow-up. There was a reduction in radiolucency. The patient was completely free of symptoms.

Case 2

A 45-year-old male reported to the Department of Conservative Dentistry and Endodontics, D. J. College of Dental Sciences and Research, Modinagar, Uttar Pradesh, India with a root canal treated 46 with a separated instrument in mesiobuccal canal (Figure 6). Periapical surgery was not indicated as the tooth was very near to the mandibular canal and hence there was danger of damage to the nerve.

The patient was informed of the risks and the benefits of this treatment and agreed to it.

The patient received antibiotics and anti-inflammatory medication (625 mg of augmentin twice a day, 300 mg setrogyl twice a day and 50 mg diclofenac sodium 3 times
a day for 3 days) and was instructed to return 72 h later for the procedure. After this period, the patient returned with decreased symptomatology and surgery was performed with respect to 36. Local anesthesia was administered and careful extraction was performed to avoid possible coronal and/or radicular fracture. Using a sterile gauze sponge, the tooth was held by hand on the crown and the roots were resected using high-speed handpiece. The tooth and socket was copiously irrigated using saline and betadine. Retro preparations were made using round bur using a high-speed handpiece and broken instrument was removed. MTA plus was then condensed into the preparations (Figure 7). The socket was gently irrigated. The tooth was then irrigated with saline and replanted into socket. The procedure took 23 min. Composite splint and periodontal pack were given on both buccal and lingual side from second premolar to second molar for 3 weeks (Figure 8). The occlusion was adjusted on that tooth.

Post-operative instructions were given. The patient was advised not to spit and to take semi-solid food. About 625 mg of augmentin twice a day and 50 mg diclofenac sodium 3 times a day for 3 days were given. Cold fermentation was recommended for 1 day and warm saline rinses after 1 day to be continued for 3 days. At 3 weeks recall, the patient was asymptomatic. Composite splint was removed and the tooth was not tender on percussion. The patient returned for a 6 months follow-up. He was asymptomatic, and there was a significant decrease in radiolucency. After 1 year, patient was completely free of symptoms. Percussion was negative and elicited a normal sound. The periapical film showed no evidence of root resorption (Figure 9).

**DISCUSSION**

Intentional reimplantation may be an option when surgical access is very limited or presents unacceptable risks. As reported by Kratchman, there are some advantages in performing intentional reimplantation when periapical...
surgery is refused. The procedure is typically less time consuming and invasive as compared to periapical surgery. He reported that indications included limited access, anatomical limitations, and perforations in areas not accessible to surgery, failed apical surgery and persistent chronic pain. There is less chance of damage of vital structures adjacent to the teeth. The tooth was outside the mouth approximately less than 15 min.5

The best reimplanttic prognosis is directly related to the amount of time the tooth is maintained extraorally during the procedure. From some reports, the potential for resorption in replanted teeth increases if they remain outside the mouth for more than 30 min.

CONCLUSION

In conclusion, intentional reimplantation is an effective treatment modality in treating cases that cannot be treated surgically. In this article, intentional reimplantation was done with respect to mandibular left first molars and patients were free of symptoms after 3 weeks.

REFERENCES