

CASE REPORT

IMMEDIATE IMPLANT PLACEMENT FOLLOWING TOOTH EXTRACTION - A CASE REPORT

Bajali Musa, Abdulgani Azzaldeen, Abu-Hussein M

ABSTRACT

Immediate dental implants are an attractive option to patients and dentists. This paper report the management of a fractured right permanent maxillary central incisor with extraction of the root followed by immediate implant placement with two years follow-up.

Key words: Endosseous Implant; Immediate placement; Maxillary Incisor

Introduction

Endosseous implant therapy is one of the developing field in dentistry. However, despite the high success rate of endosseous implant therapy, it has yet to achieve wide public acceptance and utilization.¹⁻³ Even though the original protocols suggest the placement of implants into healed edentulous ridges⁴ immediate and delayed immediate implants appear to be predictable treatment modalities, with survival rates comparable to implants in healed ridges.⁵ In 1989, Lazzara placed implants at the time of tooth extraction.⁶ The immediate placement of implants into extraction sockets without grafts or membranes seems to be a safe and predictable method. The main advantages of the method are the gain of time and thus bone volume. Less bone resorption precludes the formation of the buccal concavity so often seen after extractions and offers the possibility for placing the implant in an optimal position. The main disadvantage of the method is that it requires a more complicated soft tissue handling technique to obtain an esthetically satisfactory result.⁷ This paper report the management of a fractured right permanent maxillary central incisor with extraction of the root followed by immediate implant placement with two years follow-up.

Case Report

A 45 year old male patient was reported to the outpatient clinic with a chief complaint of fractured tooth following trauma. Intra oral examination revealed crown fracture of the right maxillary central incisor. Radiographic examination revealed adequate alveolar bone with absence of any periapical pathology. The fracture line was below the crest of alveolar bone. It was decided to extract the root piece and place endosseous implant immediately followed by a provisional restoration to preserve bone and soft tissue profile. Atraumatic extraction of the tooth followed by placement of a 4.1 mm x 14mm implant was planned. The procedure was explained to the patient and consent was taken. Local anesthesia was established by administering 2% Lignocaine with 1: 2,00,000 Adrenaline. Atraumatic extraction of the root of 11 was done with minimum expansion of the socket (Figure 1). The extraction socket was debrided with curettes. The drilling sequence was carried out without reflecting the flap to preserve the bone. After checking for primary stability, which was achieved by wrenching the implant into the bone beyond the apex of the socket (Figure 2), alloplast BIO-OSS was packed between the implant and labial socket wall. The cover screw was placed and interrupted sutures were placed. IOPA was taken to see the implant placement and was satisfactory. Postoperative instructions were

given and the patient was asked to report after first week. The sutures were removed on 7th postoperative day and temporary acrylic crown was bonded to the adjacent teeth with fiber-reinforced composite. The patient was recalled after four months for the prosthetic procedures and was given porcelain fused to metal crown over the implant. He was recalled for prophylaxis and follow up was carried out in every three months. The clinical and radiographic appearances at six months and one year showed good aesthetic result (Figure 3) and acceptable osseo-integration of the implant.

Discussion

Immediate implant placement has several advantages compared to the traditional procedure that provides a healing period of 6 to 12 months between the time of extraction and subsequent implant placement. The total treatment period is reduced, which is usually appreciated by the patient. In addition, bone resorption is reduced.⁷ Single-tooth implants have shown high success rates in both the anterior and the posterior regions of the maxilla and the mandible.^{1,8-10} Immediate post extraction implant placement has been done since the early years of the clinical application of implants with very good clinical outcomes.¹⁰⁻¹³ Risk factor for immediate implant placement are infection in the periodontal tissues and absence of an intact tooth socket. Even though clinical experiences shows good prognosis for this technique, long term clinical studies are necessary to prove the efficacy of the method and establish a stable clinical protocol.

Conclusion

In conclusion immediate placement of implants into extraction sockets without grafts is a safe method with good patient satisfaction and reduced time for esthetic rehabilitation.

Authors Affiliations

1. Bajali Musa DDS, PhD, Dean, Faculty of Dentistry, Al-Quds University, Jerusalem, Palestine, 2. Abdulgani Azzaldeen, DDS, MScD, MSc, D-PD, PhD, Professor, Department of Conservative Dentistry, Faculty of Dentistry, Al-Quds University, Jerusalem, Palestine, 3. Abu-Hussein Muhamad, DDS, MScD, MSc, DPD, Department of Pediatric Dentistry, Faculty of Dentistry, Al-Quds University, Jerusalem, Palestine.

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Figure 1. Extraction Socket, Figure 2. Implant placed in the socket, Figure 3. Permanent Prosthesis

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Address for Correspondence

Dr. Abu-Hussein M, DDS, MScD, MSC, DPD,
Department of Pediatric Dentistry,
Faculty of Dentistry,
Al-Quds University,
Jerusalem, Palestine.
Email: abuhusseinmuhamad@gmail.com

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