



IMMEDIATE IMPLANT PLACEMENT: A CASE REPORT

Dental Science

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| Dr Mansi Pandey | Postgraduate student, Department of prosthodontics Kothiwal Dental College & research centre, Moradabad |
| Dr Romil Singhal* | Professor, Department of prosthodontics, Kothiwal Dental College and research centre, Moradabad *Corresponding Author |
| Dr Samarth Agarwal | Professor, Department of prosthodontics, Kothiwal Dental College and research centre, Moradabad |
| Dr Rachna Maheshwari | Reader, Department of prosthodontics, Kothiwal Dental College and research centre, Moradabad |
| Dr Rafi Fahim | Professor, Department of prosthodontics, Moradabad |
| Dr Beenish Javed | Postgraduate student, Department of prosthodontics, Kothiwal Dental College and research centre, Moradabad |

ABSTRACT

Immediate dental implant placement has become a popular alternative to conventional implant placement. This technique comprises the installation of implants immediately after tooth extraction, eliminating the necessity of having to wait for the alveoli to heal. There are a number of advantages to the aforementioned technique. If performed successfully, patients benefit from fewer surgical procedures and a faster permanent tooth solution.

KEYWORDS

implant, immediate implant, atraumatic extraction

INTRODUCTION

Immediate dental implant placement comprises the installation of implant(s) immediately after tooth extraction eliminating the necessity of having to wait for the alveoli to heal.¹ The main advantages of the procedure are reduction in the number of necessary surgical interventions and reduced treatment period, improved implant orientation during its installation, preservation of the tooth extraction area and improved esthetics of the surrounding soft tissues. High success rates have been documented following immediate implant installation in extraction sockets. The correct placing of immediate implants in relation to the alveoli bone walls is important for satisfactory results. Since bone tissue suffers constant remodeling, both vertically and horizontally during the healing process, all dimensions must be carefully taken into consideration for adequate implant positioning.^{2,3}

Case report:

A 38 years old male patient complained of food lodgment and difficulty in chewing food due to decayed and fractured tooth in the lower left back tooth region of the jaw for 4-5 months. Patient had undergone root canal treatment for the same tooth 6 years back which was followed by an amalgam restoration. Patient decided to seek treatment for the tooth 5 months back when he noticed that the filling got dislodged along with a large chunk of tooth in the lower left back tooth region. The concerned tooth was grade 1 mobile but there was no associated pain or sensitivity. The patient was given a detailed explanation concerning the present state and all treatment plan options and the proposed procedure which included atraumatic extraction of 35 followed by immediate implant placement.

The diagnostic casts (fig 1) revealed sufficient mesiodistal and buccolingual width for implant placement. Radiographic investigation was done and the orthopantomogram (fig 2) revealed no periapical pathology irt 35. An implant of dimension 4.2 by 13mm was planned as mesiodistal space of 7mm, bucco-lingual space of 7mm and an apico-coronal space of 16mm was observed from casts and radiographic investigations.



Figure 1: Orthopantomogram

Atraumatic extraction was carried out irt 35 to preserve the buccal plate. After sequential osteotomies (fig 3-5), implant of dimension 4.2 by 13mm was placed into the extraction site. Following this, synthetic nanocrystalline hydroxyapatite bone graft (sybograf) was placed (fig 6) alongwith resorbable membrane (periocol) (fig 7). The site was sutured and antibiotics and analgesics were prescribed for five days. The patient was recalled after 10 days for suture removal. At this stage, healing process was assessed and the site was evaluated for inflammation, supuration or pain.



Figure 2: implant in place
Figure 3: healing abutment in place

Peri-implant bone was subsequently evaluated through periapical radiographs and osteointegration was achieved after 4 months. Following this, second stage surgery was carried out and healing abutment was placed and the patient was recalled after 15 days for evaluation of soft tissue healing around the per mucosal attachment. After achievement of proper emergence profile, a closed tray impression was taken and a porcelain fused to metal prosthesis was fabricated.

CONCLUSIONS

Immediate implant placement technique offers promising results provided that a proper treatment approach has been used. When the aforementioned considerations are properly monitored and managed, immediate implants can provide good results with the added bonus of reducing the number of surgeries and the overall time needed for treatment to conclude.

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