Immediate Placement of Anterior Implants: A Clinical Note with Four Year Follow Up

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ABSTRACT

Background: Implants get popular not only between the dentist but also among the patient and is a treatment option for many problems. Immediate implants concept was introduced to cross the time gap between extraction and implant placement and ensure successful results that were confirmed by many of studies and reports.

Case presentation: This case reports the immediate placement rehabilitation with the use of immediate implants in maxillary incisor teeth and four year follow up.

Conclusion: This case was successfully managed with the immediate implant.

KEY WORDS

implant, immediate, maxillary, incisors, osseointegration, follow up, aesthetics, prosthesis

INTRODUCTION

Planning of implant therapy in the anterior maxilla is an advanced complex procedure. Comprehensive preoperative planning and precise surgical execution based on a restorative driven approach is needed. Advantages provided by the implant supported prosthesis as compared to the other conventional treatment options are improved esthetics, improved hygiene accessibility, osseous preservation and reduced future maintenance. Immediate implant placement, defined as, "the placement of dental implant immediately into fresh extraction socket site after tooth extraction, has been considered a predictable and acceptable procedure". Implants original treatment protocol includes the time gap between the extraction of the tooth and implant placement surgery so as to allow the bone to remodel and heal completely before the implant placement. On the other hand, in immediate implant placement, dental implant is immediately placed into the extraction socket so as to take advantage of the healing potential of the bone. Different studies reported 93.5% survival rate of immediately placed implants for 5-year period. This case reports the immediate placement rehabilitation with the use of immediate implants in maxillary incisor teeth and four year follow up.

CASE PRESENTATION

Twenty year old patient came to the clinic suffering from pain and mobility in the two maxillary central incisors. After collecting data and taking history, it was found that the patient had trauma in these teeth 4 years ago and did root canal treatment in these teeth and one year she suffered periodical lesions and received apexectomy. Two weeks ago, she suffered pain and feeling of mobility. After X-ray examination, root canal treated teeth with amputated half of the roots and radiolucent areas around the roots (Figure 1A). The patient approved the extraction and immediate implants placement as an ideal treatment plan. Using peristome to cut the periodontal tissues around the teeth and simple extraction procedures were followed to preserve the socket bone and to increase the primary stability. Curettage of the sockets was performed and corpus irrigation using hot saline for 3 minutes. Neobiotech IS II active implants system (Neobiotech USA. Inc.) sizes 4.5*11.5 for tooth 11 and 4.5*11.5 for tooth 12 were implanted after using smaller diameter drill to reshape the socket and to allow the implants to compress the cancellous bone to ensure adequate primary stability (Figure 1B). Oral hygiene interaction was written to the patient and follow up visits were scheduled every 3 weeks and interim denture was used for aesthetic purposes. After 5 months, the patients received the last follow up and prosthetic phase started using healing abutment to shape the soft tissue around the implants and after one week the abutments were inserted and open tray impression technique was taken and porcelain fused to metal crown were fabricated as final restoration for the implant replaced tooth 12 while the implant replaced tooth 11 used as an abutment for fixed implant-tooth supported porcelain fused to metal bridge (Figure 1C and Figure 2). After 4 years of clinical service the patient came for follow up visit and panoramic X-ray was taken to evaluate the implants condition as shown in Figure 1D.

DISCUSSION

Different researches in regard to Implant are very much popular and different verities of Implants are used for prosthetic rehabilitation. According to this case, immediate placement theory achieved immediate treatment option and got the benefits of bone healing in osteointegration and decreased the treatment plan period. Tooth position and shape, form and biotype of the periodontium and position of osseous crest are the main factors which play the major role in determining of
observed in many studies that were confirmed with follow up periods extend up to 5 years. Very high rate of success has popularized the concept of “Immediate implants”. Reduced number of surgical appointments, reduction of time of edentulism, prevention of bone loss and preservation of soft tissue architecture are the major advantages\textsuperscript{17,18}. Rosenquist et al.\textsuperscript{19} have reported successful outcomes related to immediate implantation at chronically infected sites.

**CONCLUSION**

This case was successfully managed, patient also is a contributor in the successful immediate implant process by following up the hygienic roles. The immediate implants are optional option for the problems of aesthetics areas. It helps to reduce the resorption process of alveolar bone, treatment time and help to restore aesthetics and function with high success rate and minimal bone resorption or pocketing.

**REFERENCES**


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**Figure 1.** A. Preoperative OPG, B. Immediately after implants placements, C. 5 months after implants placements and D. 4 years after implants loading and function.

**Figure 2.** Step by step photographs.