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Case Report

IMMEDIATE IMPLANTATION IN ANTERIOR MAXILLA – A CASE REPORT

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ABSTRACT

Esthetic implant therapy in the anterior maxilla is dependent on multiple factors including the lip drape, the implant position and the available peri-implant soft tissue to name a few. The latter two factors become increasingly important in a patient with a high lip line where a fraction of a millimeter can spell success or disaster. This is further confounded by the fate of the extraction socket. The shift in paradigm from FPDs to implants has placed special emphasis on the management of the extraction wound and timing of implant placement.

With immediate implants becoming increasingly predictable as the parameters for successful treatment get better defined each day, and with the considerable reduction in treatment time and increased patient compliance, its relevance in the current context of implant dentistry is ever increasing. Here, report a case of immediate implantation in the maxillary central incisor region and discuss the various factors that predicate success.

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INTRODUCTION

Implant by definition “means any object or material, such as an alloplastic substance or other tissue, which is partial or completely inserted into the body for therapeutic, diagnostic, prosthetic, or experimental purpose. The placement of a dental implant in an extraction socket at the time of extraction or explantation is known as immediate implant placement.

The extraction can be due to caries, periodontally compromised tooth, infection, trauma. Immediate placement of oral implants has been reported as a beneficial treatment protocol in implant dentistry that increases the comfort of the patient. In 1965 Branemark placed the first endosteal titanium implant successfully into healed tooth socket. The protocol of placing implants was into the healed teeth sockets until 1989 when Lazzara placed implants at the time of tooth extraction. In the past few years numerous studies showed that immediate implant placement after tooth extraction is a an acceptable, predictable and reliable treatment protocol.

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success or disaster. This is further confounded by the fate of the extraction socket. The shift in paradigm from FPDs to implants has placed special emphasis on the management of the extraction wound and timing of implant placement.

With immediate implants becoming increasingly predictable as the parameters for successful treatment get better defined each day, and with the considerable reduction in treatment time and increased patient compliance, its relevance in the current context of implant dentistry is ever increasing. Here, report a case of immediate implantation in the maxillary central incisor region and discuss the various factors that predicate success.

CASE REPORT

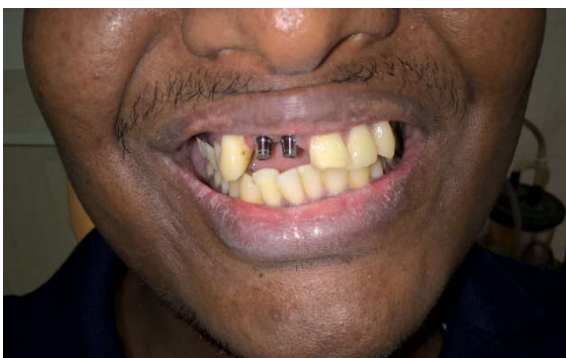
A 30 years old male patient in good health, reported with loss of teeth of maxillary right central incisor. There was history of trauma sustained 1 month ago in road traffic accident. An introral radiograph reveals fracture 11, 12. There was no periapical lesion or periodontal bone loss appreciable on the X-ray nor any soft tissue edema clinically. The mobility was attributed to the fracture and extraction followed by an attempt at immediate implantation was planned after obtaining the appropriate consent.

Under local anaesthesia the tooth was removed with extra caution to ensure the labial plate of bone was not traumatized.

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And the implant was placed. The immediate postoperative period was uneventful and the patient returned after 4 months for the definitive implant restoration. The soft tissue around the pontic was healthy, with no signs of inflammation nor recession. The radiograph at this stage revealed nothing untoward. At 1 year follow-up, after functional restoration, the periimplant soft tissue was healthy, with no signs of inflammation.



DISCUSSION

One needs to know the indications and contraindications for immediate implant placement. Block and Kent, 1991 summarized⁽¹⁾ the indications as

1. Traumatic loss of teeth with a small amount of bone loss
2. Tooth lost because of gross decay without purulent exudates or cellulitis
3. Inability to complete endodontic therapy
4. Presence of severe periodontal bone loss without purulent exudates
5. Adequate soft tissue health to obtain primary wound closure.

The contraindications are

1. Presence of purulent exudates at the time of extraction
2. Adjacent soft tissue cellulitis and granulation tissue
3. Lack of an adequate bone apical to the socket
4. Adverse location of the mandibular neurovascular bundle, maxillary sinus and nasal cavity
5. Poor anatomical configuration of remaining bone.

Ever since Lazzara² reported on the surgical advantages of immediate implant placement, it has become an increasingly popular treatment modality particularly with teeth of poor prognosis in an otherwise healthy setting of the anterior maxilla. The potential benefits include maintaining the integrity of the labial plate of bone and if adequately temporized, maintaining the volume and position of the soft tissues³.

In the 2008 Cochrane review on immediate implants, Esposito and his coworkers observed that immediate and immediate delayed implants may offer some advantages over conventional delayed implants in terms of patient satisfaction and esthetic outcome possibly by preserving alveolar bone⁴. Discussing the protocol for immediate implant placement into extraction sockets, Schwartz and Chausa⁵ concluded that:

1. Immediate implants have a high-rate of survival, ranging from 93.9 to 100%.
2. Implants must be placed 3 to 5 mm beyond the apex to achieve maximum stability.
3. Implants must be placed as close to the alveolar crest as possible (0 to 3 mm).
4. There is no consensus regarding gap filling or the best grafting material.
5. The use of a membrane does not imply better results; on the contrary, membrane exposure may cause complications.
6. The absolute need for primary closure is to be established.

In the preceding case report, all conditions were favorable and the guidelines could be followed to the letter. The use of a graft material for gap filling was a matter of personal preference, rather than a specific indication.

CONCLUSION

Immediate implants are increasingly predictable and as illustrated in this case, with all parameters being favourable to success, can provide esthetically superior results at least in the short-term follow-up period. More Randomized control trials

on large numbers of implants will be needed to establish the long-term esthetic predictability of this treatment modality.

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