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# IMPLANTS IN MANDIBULAR ANTERIOR: A CASE REPORT

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**ABSTRACT**

Nowadays,with the use of implants, quality of dental patient's life have improved. Endosseous dental implants are one of the modality of tooth replacement that are commonly practice in dentistry. This article describes a case report of step-by-step procedure in which missing mandibular anterior teeth were restored with dental implant after proper preoperative diagnosis and treatment planning.This might help the beginners to plan and practice implant in an easy way but with a general knowledge of the possible complications of placing implant at the mandibular anterior region.

**KEYWORDS:** Implant, Anterior Implant Placement, Mandibular Implant.

## INTRODUCTION

The original Brånemark protocol advocated implant installation in two stages (Brånemark et al, 1977).[1] It was postulated that an implant needed an extended healing time of three months in the mandible and six months in the maxilla (Adell et al, 1981).[2] Successful implant placement requires several factors. Placing implant in mandibular region in planned site required enough bone volume of sufficient density to enable an implant of the appropriate size to be placed in a desirable position and orientation. A major problem encountered while placing implants in the anterior region is the absence of adequate alveolar bone width which might have result from trauma, periodontal disease, endodontic infection, post-extraction ridge defects, disuse atrophy. With implants being an ever more popular treatment modality, the author presents case studies detailing with implant usages.

## MATERIALS AND METHODS

A 60-year-old male patient reported to the PD Dental Health Care and Research centre, Imphal West Manipur with a missing lower mandibular lateral and central incisors (tooth number 41,31,32) (Fig 1). The tooth had been extracted six months prior due to mobility. Patient was healthy and had no systemic conditions.After a carefull evaluation both clinically and radiologically (intra oral periapical radiograph and OPG). Diagnostic study models were made and used to carry out ridge mapping and the height of available bone and the size of implant for placement were determined. There was adequate alveolar bone, absence of pathology. So, it was decided to place endosseous implant. Patient was informed about the treatment planned.

**Surgical procedure:** After administering appropriate antibiotic and analgesic, induction of local anaesthesia was carried out using xylocaine 2 %with adrenaline 1;200,000. Flap was reflected and the drilling sequence was carried out (Fig 2). Primary stability was checked and the implant site were prepared and 2 Adin (Touareg $^{TM}$) dental implant were inserted (3.5 Diameter and 8 Length) were inserted in the site of 32 and 41, initially with an adapter attached to a special contra-angle at slow revolutions, and then by hands using tap wrench and ratchet wrench (Fig 3). The insert torque was 45 Ncm.The cover screw were placed and sutures were placed. (Fig 4 and Fig 5).

**Fig. 1: Preoperative photograph.**

**Fig. 2: Surgical procedure.**

**Fig. 3: Rachet torque applied.**

**Fig. 4: Healing screw placed.**

**Fig. 5: Suture placed.**

**Post surgical:** Post IOPA after the implant placement was found to be satisfactory.Post operative instructions were given to the patient, and were asked to report after 1 week. Sutures were removed after 7 days and the patient received temporary acrylic crown bonded to the adjacent teeth with fibre-reinforced composite on the same day. The patient was informed about importances of maintaining the oral hygiene and using of the implant restoration. Recalled and reviewed of the patient was done periodically and evaluated clinically and radiographically. After three months, second surgery was performed and the gingival formers (Fig 6) were placed for two weeks. Abutments were placed (Fig 7) and an impression was made using open tray impression technique and a definitive prosthesis were placed (Fig8).

**Fig. 6: Gingival former placed.**

**Fig. 7: Abutment placed.**

**Fig. 8: Postoperative photograph.**

## RESULT

The patient shows no clinical or radiologic complications after the periodic clinical monitoring after loading.

## DISCUSSION

Implant surgery in mandibular anterior region may turn from an easy minor surgery into a complicated one for the surgeon, due to inadequate knowledge of the anatomy of the surgical area or ignorance toward the required surgical protocol (Kusum CK et al,2015).[3] The incisive canal and nerve perforation should be considered as a complication of implant surgery in the mandibular anterior area. In the mandibular anterior lingual region, blood vessel are considered to be of 1-2 mm diameter and it has been estimated in the study conducted by Flanagan that 400 ml of blood could be drained from a blood vessel of 1-2 mm intravascular diameter in 30 min (Flanagan D.2003).[4] In addition, since the mandible and the superficial layer of deep cervical fascia provide restriction to the hematoma anteriorly, the sublingual and the submandibular hematoma extend superiorly and posteriorly displacing the tongue and the floor of mouth to obstruct the airway (Pigadas N, 2009)[5] (Dubois L, 2010)[6] (Felisati G,2012).[7] Cases with delayed postoperative hemorrhage have also been reported, which could be linked to the compensatory vasodilatation of the offended vessel due to gradual absorption of epinephrine, loss of clot and presumptive bleeding (Krenkel C, 1985)[8] (Mason ME,1990)[9] (Bruggenkate CM,1993).[10] The exploration of hematoma in this region is very technique sensitive because of engorgement of the tissues and the nature of injured arteries to retract into deeper tissues. Trauma to mandibular incisive canal can lead to severe bleeding. It is one of the limiting factor for deciding the length of the

implant apart from the mental anterior loop when placing implants in the anterior region. This fact is often ignored as a panoramic radiograph can detect only 2.7% of mandibular incisive canal where as its occurrence has been shown in 95% of cases (Romanos GE, 2012).

Clinician should recognize and exclude aetiological factors leading to complications. Proper presurgery planning, timely diagnosis and treatment are the key to avoid complications.

## CONCLUSION

With initial implant stability, proper tissue management and correct use of the available implant components, a predictable aesthetic result can be produced. This article reports a simple conventional case report of placing a anterior manibular implant restoration in an easy and simple way to promote future use of implants and bring awarness and preparness about possibily of complication that might faced during the placement of implants.

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