



Full Mouth Rehabilitation with Immediate loading of Basal Implants – restoring not just teeth but good health & emotion

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ABSTRACT

Introduction :Full mouth rehabilitation is a procedure replacing missing teeth to achieve function as well as esthetics by not only giving the patient confidence with smile and function but also with good health. Rehabilitation of partially and completely edentulous patients with implant-supported prosthesis has become a widely accepted treatment option. Basal implant is one of the options for replacing few teeth to full mouth rehabilitation¹ as it gives long term predictability with excellent results. One of the most demanding aspects of such cases involves the development of sufficient restorative space, while simultaneously fulfilling aesthetic, occlusal and functional parameters essential to long-term success.

These basal implants engage the basal cortical portion of the jaw for primary stability. The conventional implant system involves loading of the implants after 4–6 months of placement. This procedure leaves the patient with no teeth or with a removable temporary prosthesis and therefore many patients do not choose this option. On the other hand, Implants placed in the basal bone, can be immediately loaded with teeth as this bone is very strong and never gets resorbed throughout the life. Since the cortical walls around the extraction site are stable at the time of extraction, placement of implants into fresh extraction sockets is more successful than placement after few months.

Case Report :In the present case report a 65 year old female reported with the chief complaint of multiple decayed upper front & back teeth and missing in lower front & left back tooth region which she wants to be removed and replaced immediately. After careful examination and treatment planning, extraction of all the infected teeth followed by immediate loading of basal implants was initiated. The teeth were extracted and the implants were placed into the extraction sockets and also in the missing region and patient's natural vertical dimension was also restored.

Conclusion:Basal implantology system utilizes the basal cortical portion of the jaw bones for retention of the dental implants which are uniquely designed

to be accommodated in the basal cortical bone areas. The basal bone provides excellent quality cortical bone for retention of these unique and highly advanced implants.

Keywords:Basal implants, Full mouth rehabilitation, Multiple teeth replacement, Gingival esthetics.

I. INTRODUCTION

Full mouth rehabilitation with dental implants can be the permanent option to achieve function and esthetics. It boosts not only the self confidence of the patients but also takes care of general health by providing adequate teeth for chewing. Though conventional implants are widely used for single tooth² replacement to full mouth rehabilitation, the waiting period for the procedure is long and primary stability happens with the crestal bone. And the procedure with conventional implant will require ridge augmentation or ridge preservation³ when there is no adequate alveolar bone. In contradictory Basal implants are used to replace the teeth in 3 to 4 days and taking support from basal bone where bone resorption doesn't happen. These implants are specially designed for gaining anchorage from basal cortical bone. Basal implant is a better option for immediate loading when compared to the conventional implant^{4,5} which requires long duration for osseointegration.

Basal implant follows the protocol of primary osseofixation followed by secondary osseointegration. Esthetic appearance with emerging profiles can also be achieved using basal implants for single and multiple teeth replacement immediately after the extraction without a longer period that's takes with conventional implant. And with basal implant bicortical engagement can be achieved with taking support from crestal and basal bone.

II. CASE REPORT

This is a 65 year old female reported with the chief complaint of multiple decayed upper front & back teeth and missing in lower front & left back tooth region which she wants to be removed and



replaced immediately. On extra oral examination, lips were competent with intraoral findings (Fig.no.2,3) of grossly decayed in relation to 11,12,21,22,38, root stump in relation to 16,17,18,25,27,28,36,37, deep dentinal caries in relation to 13,23,24 & dentinal caries in 15, missing in relation to 26,31,32,33,34, 35,41,42,43,44,45,46,47,48.

Radiographic examination was also done using Orthopantomogram (Fig.no.1). Thus the treatment plan was decided - Extraction of 18,17,16,15,14,13,12,11,21,22,23, 24,25,27,28,36,37,38 and Immediate loading ⁶ of 10 Basal Implants in the upper arch and 8 in the lower arch followed by measuring of vertical dimension and placement of implant supported hybrid dentures.

The shade selection was done in reference to the existing teeth prior to the extraction and the shade was noted as A2 using Vita classic shade guide. A routine blood examination was done for the patient and the results were found to be within normal limits. Atraumatic extraction of 18,17, 16,15,14,13,12,11,21,22, 23,24,25,27,28,36,37,38 done under local anesthesia and curettage was done

followed by copious irrigation with povidone-iodine, followed by preparation of the maxillary and mandibular bone up to 2nd cortical bone and Implant placement of sizes 3.6*17(03), 3.5*21(01), 3.5*15(05), 4.6*14(01) in the upper arch and 3.6*17(04), 3.6*12(02), 3.6*10(02) in the lower arch done. Suturing was done using non absorbable black braided silk suture. Dual stage impression taken with Heavy body hydrophilic Addition silicone and light body hydrophilic Addition silicone impression material. Bite registration and vertical dimensions were measured using modelling wax.

On the 2nd day after the implant placement, metal try-in was done in the patient's mouth and on the next day, all the implants were functionally loaded with both maxillary and mandibular cement-retained metal-ceramic hybrid denture with bilaterally balanced occlusion (Fig.no.4). Review checkup was done (Fig.no.5) after a week and suture removal done. Follow up was done after 6 months (Fig.no.6) and OPG was taken to check the implant stability and bone level which shows adequate bone support.



Figure No.1 Pre Op OPG



Figure No.2 Pre Op



Figure No.3 Pre Op



Figure No.4 Post-Op

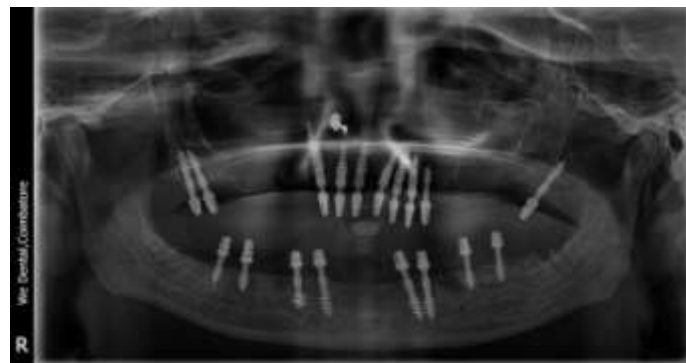


Figure No.5 Post-Op OPG

III. DISCUSSION

Basal implants are used for single and multiple teeth replacement. They follow the protocol of osseofixation followed by secondary osseointegration⁷. They can be placed immediately into the extraction socket and also in the healed site for the replacement of single and multiple missing teeth. Immediate loading of the basal implants⁸ can be done when they are placed in the dense cortical

bone, as they attain primary stability there. The splinting distributes the masticatory forces from the bone around the implants to other cortical areas as well. Ten implants were placed flaplessly in the maxillary jaw engaging the basal bone, using handgrip instruments. Out of ten implants, seven were placed in the maxillary anterior region engaging the nasal floor, as these were the recently extracted infected sockets and the remaining three were placed bilaterally in the tuberopterygoid



region in the maxillary arch with two implants on the right side and one on the left side. This region provides more stability than anchorage offered by any other part of the maxillary region⁹. The eight implants were placed in the mandibular arches. Review was done after a week and the suture was removed. Since the prognoses of the teeth were poor, the treatment plan was done accordingly.

Extraction of 18,17,16,15,14,13,12,11,21,22,23, 24,25,27,28,36,37,38 was done followed by that the basal implants were placed engaging the 2nd cortical bone and suturing was done¹⁰. After 6 months, OPG was taken and there was notable improvement in the bone healing around the basal implants (Fig.no.6).



Figure No.6 Review OPG

IV. CONCLUSION

Basal implants can be used to support single and multiple unit restorations in the upper and lower jaws. They can be placed in the extraction sockets and also in the healed bone. They are designed in such a way that allows placement in the bone which is deficient in height and width. The technique of basal implantology solves all problems connected with conventional implantology.

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