

MANAGEMENT OF RIGHT LOWER POSTERIOR EDENTULOUS AREA WITH BICON IMPLANT: A CASE REPORT

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Summary

Posterior edentulous area and implant supported restorations are two important aspects in dentistry. Posterior edentulous area can't be restored effectively with partial denture or conventional bridge work. The replacement of missing teeth with implant borne restorations in such conditions is gaining increasing popularity day by day. This case report describes the successful management of a posterior edentulous area using Bicon implant. The result was good, which further validate the use of this technique for suitable patient management.

Key words

Dental implant; Posterior edentulous area; Oral rehabilitation.

Introduction

The replacement of missing teeth with implant borne restorations has become a treatment modality accepted by the scientific community for fully and partially edentulous patients [1]. This breakthrough in oral rehabilitation was initiated by the discovery that dental implants, made of commercially pure titanium, can achieve anchorage in the jaw bone with direct bone-to-implant contact. This functional ankylosis is often referred to as osseointegration, and was first described by the two research groups of Branemark and Schroeder [2].

The mechanism of osseointegration was well described [3]. The original Branemark protocol requires implant to be inserted four to six months prior to loading and wearing of a temporary prosthesis in the mean time.

Case Report

A 34 years old male patient presented at the DKRC-Smile Design and Orthodontic Center, Chittagong for management of missing right lower

posterior teeth (i.e. 1st permanent premolar to 2nd permanent molar teeth) on November 2010. The teeth were extracted at several appointments during the last 2-3 years.

History of chief concern revealed that the teeth were carious and very painful. He did not take enough effort to save them rather extracted one after another. Following healing till date there was no history of pain or discomfort at the edentulous area. His medical history was clear. His previous dental history showed that he did not receive much treatment before mainly due to the fear of pain.

General examination revealed that he was conscious and alert. On extra oral examination, there were no abnormalities observed. Intra oral examination showed that his oral cavity was in a good condition apart from the chief concern. Soft tissues were normal. Other hard tissues were sound although some abrasion, attrition and a Porcelain Fuse to Metal (PFM) restoration on 33 was there. The abutment teeth on mesial side was also sound (Fig 1).



Fig 1 : Intra oral picture showing bilateral edentulous area in lower jaw

Extra oral Ortho Pantomo Gram (OPG) showed favorable bone height with approximately ten millimeters of the bone above the mandibular canal up to alveolar bone crest (Fig 2). The diagnosis of the edentulous area was Class-I Kennedy classification i.e. bilateral free end saddle.

There were several options discussed with the patient pertaining the management of the edentulous area. As agreed by the patient, the treatment of choice was an implant supported Fixed Partial Denture (FPD). Prior to implant

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placement, an acrylic surgical template was constructed. At the completion of the surgical template, two implants were inserted using the template as guide (Fig 3).

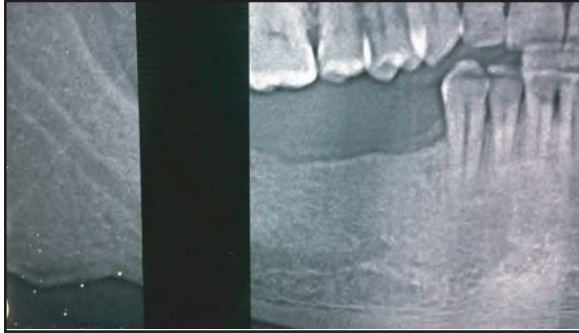


Fig 2 : OPG showing the adequate bone height with no pathologies

The selected implants size were 5.0 x 6mm integra-CP-3mm well and 6.0 x 5.7mm integra-CP implant-3.0mm well (bicon short dental implant, USA) for tooth no 36 and 37 respectively. The implant surface was Sandblasted Large Grit Acid etched (SLA) and they were manufactured from Ti 6Al 4V alloy.

Following the healing period of four months, a four unit Porcelain Bonded to Metal (PBM) FPD (Fig 4) was constructed and cemented with glass ionomer luting cement (Ketac_{TM} Cem Easymix, 3M ESPE, Germany). Follow up was done three monthly for one year then yearly. At the four-year recall, the implant and the FPD were in good condition (Fig 5).

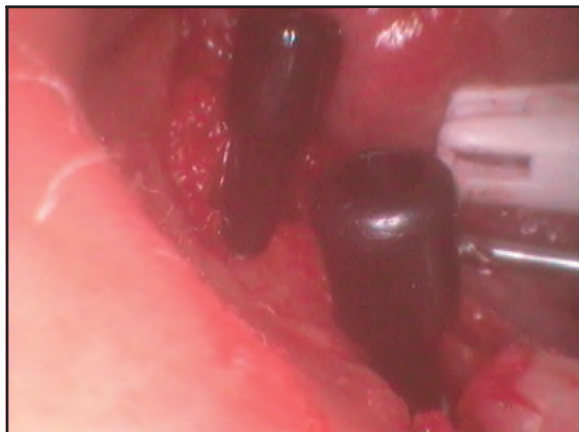


Fig 3 : Intra oral peri-apical radiograph showing placement of implants

Success was determined by the criteria established in the literature [4, 5]. There was no problems reported and the patient was very pleased with the result.

Discussion

Management of free end saddle can pose a challenge to practitioners. Several options are available with their own advantages and disadvantages [6]. In this case report, partial denture would require patient compliance. But the patient was intolerant to partial denture. Neither conventional bridge was an option as it would require abutment posteriorly nor cantilever bridge having a long span would compromise its prognosis. So, the choice of a conventional implant is made. Accordingly, taking the support from the inserted implants for tooth no 36, 37 and natural tooth no 34 a four unit FPD was constructed. Therefore, a two stages conventional implant was the only viable alternative in the management of the said edentulous area.



Fig 4 : Intra oral picture showing FPD with good aesthetic



Fig 5 : Four years follow up radiograph shows excellent osseointegration

Conclusion

Oral implantology is certainly a successful management of all stages of edentulousness that needs careful patient selection, selection of a particular system and expertise in techniques as well. Due to the high cost, extremely incompatible with easy insertion as routine outdoor clinical procedure and lack of experts it is still an elective procedure recommended for the patients who are incapable of wearing a removable partial denture.

But with the present pace of development and research in this field it can be predicted that every partial and edentulous patient is going to be a candidate for dental implants. Successful completion and follow up of this case strengthen the new paradigm of management of edentulous area with implant based restoration.

Disclosure

All the authors declared no competing interest.

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