

# Dental Implant Prosthesis, A Savior For Natural Teeth: A Case Report

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## Abstract:

Dental Implants have been widely used for effective replacement of missing teeth with a greater survival rate for completely edentulous, partially edentulous and single tooth restorations.

There have been revolutionary changes with time in implants variable sizes, shapes, methods, positions of placements. A preoperative assessment holds an important role for evaluation of surrounding structures, vital nerves and vessels. Also the medical condition of the patient should be carefully determined.

The prosthetic phase is preceded by the assessment of emergence profile, angulation of implant and impact of occlusal forces on the implant.

Easy retrievability is the main advantage of screw retained crowns making it favourable for the clinicians.

Therefore to gain a combined advantage of retention and less chances of periimplantitis a screw retained prosthesis is advisable.

The case report demonstrates the placement of implant in mandibular left first molar region with conventional screw retained prosthesis.

**Key Words:** Dental Implant, mandibular molar, missing molar replacement, Screw cement retained prosthesis. (SCRCP)

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## I. Introduction

Dental Implant therapy has provide us with one of the most promising tooth replacement procedures.

Dental implants have become the most reliable and acceptable alternative for missing tooth. They are the nearest equivalent to natural tooth and therefore a useful addition in the management of patients who have missing teeth because of disease, trauma or developmental anomalies.

It provides masticatory functions, esthetics and restores the periodontal health of patient.

The treatment comprises of Surgical and Prosthetic Phase.

The first phase that is Surgical phase comprising of placing implant which is done by drilling the healthy bone and mimics the root of the tooth. The Prosthetic phase is followed after 3-4 months of the treatment depending on the case.

This case report highlights the implant placement in the mandibular left first molar region with screw retained prosthesis.

## II. Case report

A 23 year old Female patient reported to our private clinic with the chief complaint of difficulty while chewing on the lower left back teeth region of the jaw due to missing tooth and unpleasant aesthetics due to gap while smiling.

She had a H/O extraction with the tooth four months ago as it was cariously destructed and hence wanted a replacement with the same.

The patient was in good general health and she had no significant medical history. She was given all types of choices for the replacement of the tooth that is removable and fixed prosthesis both tooth and implant supported along with brief explanation of the pros and cons of the treatments. The patient decided to go for a fixed implant supported prosthesis as she was well aware about the significant results of the same.

### **III. Treatment plan**

Preoperative OPG was advised which revealed significant bone height and width with 36 region.

Intraoral scanning was done by Trios 3 shape Scanner to evaluate the occlusal height. CBCT was performed which gave an exact idea of the operatory site and its surrounding areas. The scan revealed that the bone type was D2 with bone height- 14.2mm and bone width- 5.9mm.

Implant size of 4.2x11.5mm was selected before the surgical procedure that patient was informed about the procedure and a written consent was taken.

#### ***Surgical Procedure***

Once the patient was seated on the operating chair, first extraoral then intraoral scrubbing with povidone iodine and then intraoral with 0.2% chlorhexidine digluconate mouthwash was done. The surgical site was anesthetized by local administration of 2% lignocaine hydrochloride with 1:80000 adrenaline by giving a regional block anesthetizing the inferior alveolar nerve and lingual block.

The anesthesia was confirmed by subjective and objective signs of the patient. A midcrestal incision was made at the edentulous space(fig1). The mucoperiosteal flap was reflected(fig2). The bone width was 5.9mm.

The first drill was made with lance drill with Adin Implant taper kit. A RVG was taken with parallel pin placed in drill socket to evaluate parallelism. Sequential drilling was done till 4.2x11.5mm and osteotomy was completed. The implant was placed. (fig 3)

An implant fixture was placed with an adequate torque of 30 Ncm. RVG was taken immediately after the placement (fig 4). and cover screw was placed. Interrupted sutures were given for flap closure with the help of silk 3.0 sutures (fig 5)

#### ***Post operative care***

Post operative medications were given. To promote wound healing and the patient was advised for warm saline gargles for initial 15 days. Post operative instructions were to avoid any undue stresses on the surgical site. After 15 days sutures were removed.

#### ***Second stage surgery***

After a healing period of 3 months the patient was recalled. RVG was taken to check the signs of osseointegration. In second stage cover screw was removed. Healing abutment was placed and patient was recalled after 15 days.

#### ***Prosthetic procedure***

After 15 days when healing of gingiva and implant was formed around the healing abutment was found satisfactory, impressions were planned. An open tray impression was made using putty and light body with an open tray impression coping in place. Implant analogue was attached (fig no 6) to the coping and impression was poured.

A screw retained metal ceramic crown was fabricated according to the selected shade of the adjacent teeth.

The final restoration was checked in place with RVG which showed perfect fit. The patient was satisfied by the results.

The prosthesis was screw retained the assembly was screwed intraorally. (fig no 7,8)



**FIG 1: Incision made**



**FIG 2: Flap raised**



**FIG 3: Placement of the Implant**



**FIG 4: RVG after placement**



**FIG 5: Suture placement**



**FIG 6: Open tray impression with putty and light body**



**Fig 7,8 : Final restoration**

#### **IV. Discussion**

Dental implants are a popular and effective way to replace missing teeth and development of used of implants is one of the biggest advances in dentistry in the last few decades. An ideal prosthesis for the stomatognathic system restores the normal contour, function, esthetics, comfort and speech. But with the complicated and challenging clinical situations encountered in general practice, an ideal replacement of lost tissues using conventional techniques may not always possible. Implant dentistry may achieve an ideal replacement of the lost tissues, regardless of the atrophy disease, or injury of the stomatognathic system. This has significantly increased the acceptance of osseointegrated implant supported prosthesis by the patients.

Alternate treatment options considered for this case were a removable partial denture which can contribute to alveolar bone loss, also it has very low satisfaction rate. Another option being fixed partial denture would have compromised adjacent tooth to a certain limit. Therefore the 23yr old young patient was an ideal case for implant with healthy bone and healing capacity.

#### **V. Conclusion**

Dental implant achieves restoration of function, esthetics and comfort of the patient. Replacement of missing teeth helps in preserving the natural contours of the gingiva, health of the bone and periodontium. This case report demonstrates placement of implant in healthy bone followed by screw retained metal ceramic prosthesis loading.

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