



IMPLANT PLACEMENT WITH INDIRECT SINUS FLOOR ELEVATION IN MAXILLA: A CASE REPORT

Dental Science

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ABSTRACT

Edentulous ridges come with a lot of challenges for placing implants. Especially in the maxilla where maxillary sinus and ridge resorption is often encountered. To enable implant placement in such cases procedures like Direct and Indirect sinus elevation is performed. This case report illustrates sinus elevation with Indirect technique in maxillary molar region with immediate implant placement.

KEYWORDS

Sinus Elevation, Implants, Indirect Technique

Introduction

Replacement of missing teeth has proved to be most integral part of oral cavity. Placement of fixed prosthesis like implants has revolutionized oral health care in the recent years. Placing implants in maxilla can sometimes be challenging owing to the deficient bone due to resorption. In that case there have been innovations like Direct and Indirect sinus lift procedures depending on the type of bone available. According to Misch the 8 mm subantral bone height is the limit for the indirect sinus augmentation technique whereas 5–8 mm bone height is indicated for 1-stage direct augmentation with implants, and cases with less than 5 mm bone height are indicated for the 2-stage direct augmentation technique¹.

This case report illustrates the rehabilitation of maxillary right premolar and molar with indirect sinus lift in the later.

Case report

A 28 year old male patient reported to the Department of Periodontics with a chief complaint of missing teeth in the upper right back of the jaw. On examination it was observed that 15 and 16 were missing. (Fig:1) The patient was explained about the various tooth replacement options such as RPD, FPD and Implants. The patient desired to go for implant. The patient was advised CBCT and blood investigations.



Figure:1 Preoperative picture

The CBCT was evaluated for bone width and height. The height was deficient in the 16 region and would require indirect sinus lift procedure. The patient was explained the procedure and consent was taken. The bone height in the region of 16 was 8mm hence a 2mm of sinus lift was indicated. The day for implant placement was planned. Under total aseptic environment the patient was administered local anesthesia in the desired region. Midcrestal incision was given and the flap reflected. On reflection first the pilot drill was used followed by the sequential drills upto 3.75mm in width in 15 region with copious sterile irrigation. An implant of size 3.75mm in width and 9.5mm in height was placed. Next drilling in 16 region was started and made sure that it is 1mm away from the sinus floor(Fig:2). After the last drill

expansion osteotomes were used. Light tapping with the mallet carefully collapsed the sinus floor into the sinus cavity elevating the schneiderian membrane (Fig:3).

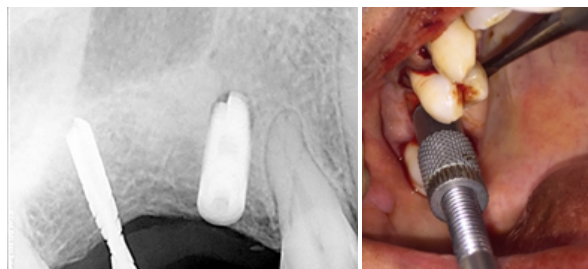


Figure:2 Premolar implant placed

Figure :3 Sinus elevation with osteotomes

DFDBA was then inserted with a carrier and implant placed of the dimension 4.2mm in width and 11mm in diameter(Fig:4). The surgical site was then sutured and the patient was prescribed antibiotics. After 7 days the sutures were removed.

After 5months the surgical site was reopened, RVG was taken and gingival former was placed. After a week when proper gingival contour was obtained the final porcelain fused metal crown was placed(Fig:5).

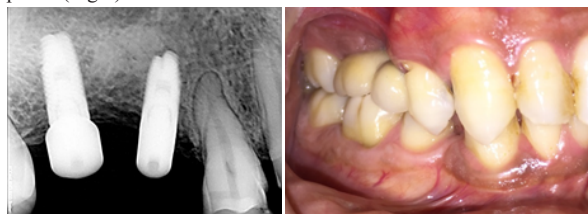


Figure:4 Implants placed with healing cap

Figure:5 PFM prosthesis fixed

Discussion

The maxilla is made of spongy bone hence placement of implant becomes challenging sometimes. Difficulties like inadequate bone height and width is very common in maxillary edentulous regions². But dentistry has advanced so much that such difficulties can be overcome and the patient can get the desired dentition. Implants being the choice of treatment these days, procedures like augmentation, ridge split and sinus lift come very useful. Sinus lift basically is of 2 types i.e. Indirect and Direct sinus lift. Direct sinus lift can be done by crestal and lateral wall approach³. In case minimal bone deficiency indirect sinus lift can be performed with the help of osteotomes.

In this case we have seen the Indirect sinus lift with crestal approach. The Schneiderian membrane is lifted with the help of osteotomes and mallet and bone graft is placed. It is the best technique to achieve 2-3mm of sinus elevation^{4,5}.

Conclusion

At times placing implants is difficult in maxillary region because of the density of the bone and also the bone height. In such cases sinus lift proves a good option. This case tells us how minimally invasive procedure is with no postoperative complications. The only limitation of this indirect technique is that it is a blind procedure.

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