



Crestal Approach Sinus Lift-Indirect Sinus Lift-A Case Report

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ABSTRACT:

Aim: The main benefit of a one-stage crestal technique to maxillary sinus elevation is less morbidity. The capacity to maintain high primary implant stability in a severely atrophied ridge, on the other hand, is a major worry. The goal of this study is to compare and measure the success rate of implants implanted during crestal approach sinus lift in patients with RAB of less than 4 mm and RAB of more than 4 mm.

Background: Due to maxillary sinus pneumatization, placing endosseous implants in a posterior edentulous maxilla is typically a difficult procedure in implant dentistry. Various sinus augmentation methods with high success rates have been employed to prepare these locations for implant insertion. Knowledge of the anatomy of the maxillary sinus aids not only in correct preoperative treatment planning but also in avoiding potential issues during the sinus augmentation operation. This topic is attracting an increasing number of papers, with the majority of them providing findings indicating that patients with atrophic maxillae who require implant treatment can benefit significantly from sinus augmentation. This article describes use of LAS KIT for maxillary sinus elevation and augmentation, including indirect technique.



Conclusion: LAS-KIT is one of the most advantageous and minimally invasive technique with promising results.

1. BACKGROUND

Implant placement in a damaged posterior maxilla is more difficult and important due to the quality and amount of accessible bone for functional chewing and speech. The presence of the maxillary sinus floor above the maxillary alveolar bone following extraction limits implant placement and complicates successful osseointegration of the implant because the implant perforates the sinus lining.¹ As a result, numerous treatments and procedures for raising the sinus floor and lining to achieve extra height and primary stability for the implantation of root form implants are available. The lateral window approaches and are the most commonly used two strategies for sinus floor elevation. The sinus lift surgery and subantral augmentation treatment were conducted and developed in the mid 1970's to increase the amount of bone in the atrophic maxilla creastal bone approaches.² The most popular approach for maxillary sinus floor raising through a lateral window was first shown by tatum in 1977 and reported by boyne and james in 1980. This bone augmentation procedure when compared to minimally invasive procedures, it is a time-consuming, intrusive, and expensive treatment. Summers, in 1994, devised the osteotomy sinus floor elevation (osfe), a less invasive treatment for sinus floor elevation with rapid implant implantation.³ The cranial approach was used more frequently than the lateral window method, which was followed by an osteotome for elevation of the membrane and sinus floor, as well as rapid implant implantation. At the same time, the mayor of corruption may not be appointed.

This operation is less intrusive than the lateral window approach, takes less time, causes less stress to the underlying structures, has fewer post-operative complications is less and prognosis of the treatment is similar to the usual conventional technique.

CASE DESCRIPTION

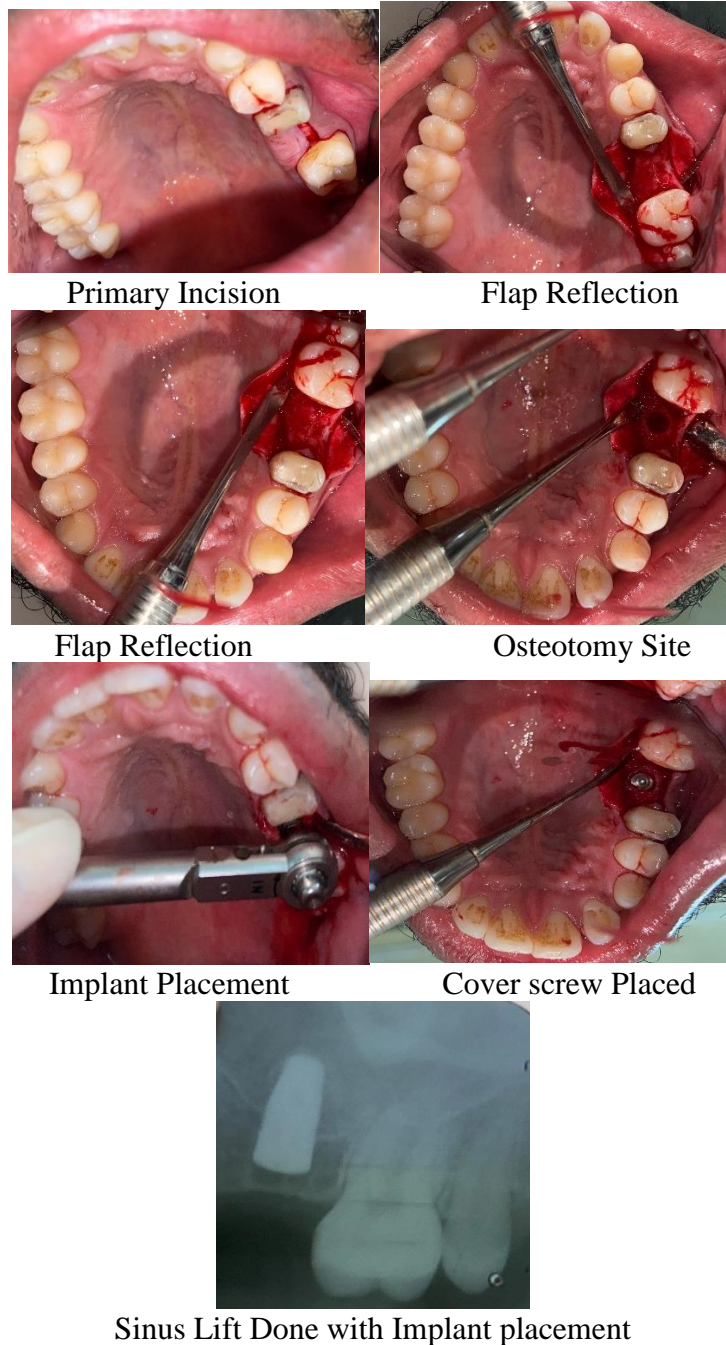
A 26-year-old male patient reported to the department of periodontology with the chief complaint of missing teeth with 26 since 1 year.

The patient was given all the treatment options and the patient opted for implant. The patient was advised CBCT and the bone level was 4mm which was insufficient for implant placement, hence indirect sinus lift with simultaneous implant placement was planed. The patients case history was recorded and pre-operative radiographs and clinical pictures were taken along with alginate impressions to make a diagnostic cast.

The patient's consent was taken and administration of local anaesthesia was done with 1:1,00,000 epinephrine. The subjective symptoms were checked. The incisions started with crestal incision from distal, aspect of 25 till the mesial aspect of 27. Full thickness flaps were reflected on the buccal and the palatal aspects. The bone was curetted to remove granulation tissue tag and checked for any bone defects. The initial drill was done pilot drill till 4mm. The sinus lift kit used was CAS-KIT (crestal approach sinus lift). The second drill was of 2.0 with a stopper of 6mm. The third drill was of 2.8 mm with a stopper of 7mm. The fourth drill was done with 3.5mm with a stopper of 8mm. The fourth drill was done with 3.8mm with a stopper of 10mm. After every drill the bone wall were checked with the probe and a stopper attached to it.

After the final drill the bone surface was checked, and novabone putty bone graft was injected into the osteotome site with novabone putty gun and a bone condenser was used to condense it. The implant of size 4.5mm/10mm was and cover-screw was placed. The flap was approximated and sutured using horizontal mattress suture. Immediate post-operative radiograph was taken.

The patient was given post-operative instructions and was prescribed antibiotic prophylaxis. The patient was advised to rinse his mouth twice daily with chlorhexidine mouthwash. The recall appointment was scheduled after 14 days.



2. DISCUSSION

Boyne and James reported elevation of the maxillary sinus floor in largely pneumatized sinus cavities in preparation for the placement of bladed implants fifteen years after Boyne and James reported elevation of the maxillary sinus floor in largely pneumatized sinus cavities in preparation for the placement of bladed implants.⁴⁻⁶ Because decreased bone height in the posterior maxilla limits implant

placement, the problem can be solved by elevating the maxillary sinus and achieving excess height for implant placement, allowing the implant to enter the space occupied by the sinus floor, resulting in ridged fixation and osteo integration. These authors offered two distinct approaches for accessing the sinus floor without compromising the sinus lining's integrity.^{1,3} The various two methods that are currently performed are lateral window approach and crestal approach, both of which have their own advantages



and disadvantages, either with or without the placement of the grafts. Here in this study, we are practising only the easy and recent approach of crestal approach, because the procedure is invasive, traumatic, and time consuming.⁷⁻⁹ The alveolar bone that is present in between the sinus floor root apex acts as a readymade graft and tents the sinus floor, creating enough space between the floor and the prepared site for the root form implants to enter the sinus cavity behind the bone. This procedure is widely used and has few postoperative complications. In direct sinus lifting surgery, a piezo instrument is used to create the window. Whereas in the crestal method, an osteotome is used to raise the sinus floor, the benefit of this process is that it avoids invasive surgery and allows for treatment in a single stage, allowing for exceptional primary stability in cases of sinus floor lifting followed by quick extraction.^{1,4,5} By compressing the sinus floor somewhat with an indirect method, osteotomies can condense the bone laterally dense interface is produced in between the sinus and the implant, which is more beneficial than drilling. Improving the initial bone contact with the implant. The schneiderian membrane is ruptured by the apparatus and implant, and the filling material might move into the sinus canal, causing sinusitis and other issues.¹⁰⁻¹³

CLINICAL SIGNIFICANCE

Indirect sinus lift is one of the techniques which has shown to give promising results for implant placement in areas with insufficient bone quantity as in posterior maxilla. Using this technique of additional height of 6mm could be achieved in the existing bone which eventually resulted in sufficient amount of bone for implant placement and final rehabilitation of maxilla.

3. CONCLUSION

The indirect sinus lift procedure through the crestal osteotome approach can greatly extend implant placement in the posterior maxilla that are atrophied with less height in between the sinus floor and the alveolar ridge, as the procedure is very easy and invasive, and the time consumption is less, and the apical bone itself acts as a bone graft and tents the sinus lining and crestal sufficient primary stability for the implant placement with less p it also enables for the effective treatment of a compromised posterior maxilla.^{14,15,16}

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