Minimally invasive sinus lift with iRaise™ and MBCP Gel

A healthy 56 year old man presented, wishing to replace missing teeth 25 and 26. Due to advanced maxillary atrophy (bone height 4-6 mm), a sinus lift was indicated. However, the patient desired minimal impact on his comfort and daily activity.

Pre-operative examination

CT image indicating 4.5 mm bone height at position 26

Surgery

Initial insertion
Following the preparation of an osteotomy to the sinus floor using a dedicated drill sequence, the iRaise Sinus Lift Implant is inserted.

The lateral opening in the implant can be observed. This opening leads to the implant apex through an internal channel, allowing the surgeon to insert fluids through the implant towards the sub-Schneiderian space.

Penetrating the sinus floor
The implant is rotated and advanced by an additional 1 mm, causing the implant apex to break through the residual cortex at the sinus floor.

The apex contacts the Schneiderian membrane, and the slight separation of the membrane from the sinus floor causes bleeding of the microvasculature which can be observed emerging from the opening.
Saline insertion and removal

A syringe containing saline solution is attached to the implant using a special connector.

Approximately 1 CC of saline is inserted through the implant, hydraulically elevating the Schneiderian membrane and separating it from the sinus floor.

Upon retrieving the saline, blood is observed in the saline, indicating separation of the membrane.

Inserting MBCP Gel bone graft

2 CC of MBCP Gel are inserted through the implant and into the sinus.

Subsequently, the case was finalized by removing the tube and inserting the implant fully into the osteotomy, followed by the placement of an additional conventional implant at location 25.

Follow-up to 8 Months

Immediate post-operative periapical X-ray

The X-ray shows the iRaise Sinus Lift Implant in the distal position 26 and a mesial conventional implant at location 25.

MBCP Gel can be observed as a white halo surrounding the implants.

Follow-up at 8 months

This image was taken 8 months post-operatively, on the day of the second-stage surgery.

Significant new bone formation can be observed around the implants, extending distally above tooth 27.

Clinical Notes

Notes on the minimally invasive procedure:

- The minimally invasive implantation technique was easy for the clinician to perform.
- Due to the minimal trauma, the patient reported full return to daily activities on the day after surgery.

Notes on the bone graft:

- The MBCP Gel was easy to handle in surgery.
- The radiographic results at 8 months show significant maturation and ossification.

References: