

# Only Collagen Membrane as Grafting Material in Osteotome Sinus Floor Elevation with Root Form Dental Implant by piezosurgery-Two Cases Studies

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## Abstract

Piezosurgery is one of the more safety technique to prevent the perforation of sinus membrane during dental implantation with crestal osteotome or lateral window opening.

Absorbable collagen membrane have been found as a good barrier material to enhance bone fill in the GBR.

Autogenous graft, various allograft and alloplastic graft materials have been placed into the sinus with or without collagen membrane to correct the bony height more common and have favorable results. But sinus perforation and the infection ( foreign body reaction ) of the leaked grafting materials are bordering the surgeons frequently.

Only few studies mention the absorbable collagen membrane as the only grafting material in sinus elevation. Absorbable collagen membrane has good biocompatibility and less foreign body reaction appearance, it's delay absorption may provide longer time for the new bone growing around the dental implant in the sinus cavity.

A male patient's left upper 2nd premolar and 1st molar, and a female left 2nd premolar area had insufficient height of alveolar bone(4.4-6.8mm) and had received dental implant therapy by crestal osteotome technique with piezosurgery. A piece of collagen foam (Gelform) and 3-4 pieces(7.5-10 and 10-15mm) absorbable collagen membrane as grafting material was push into sinus as a spacer to elevate the sinus membrane.

Small perforation was found during the surgical procedure and sinusitis sign(nasal congestion) was found on the female patient after surgery.

Homogenous radio-opaque image with found surround the tip of dental implants which were free standing in the sinus just after the surgery. Two or more millimeters bone height gain like was estimated from the periapical and dental CT image.

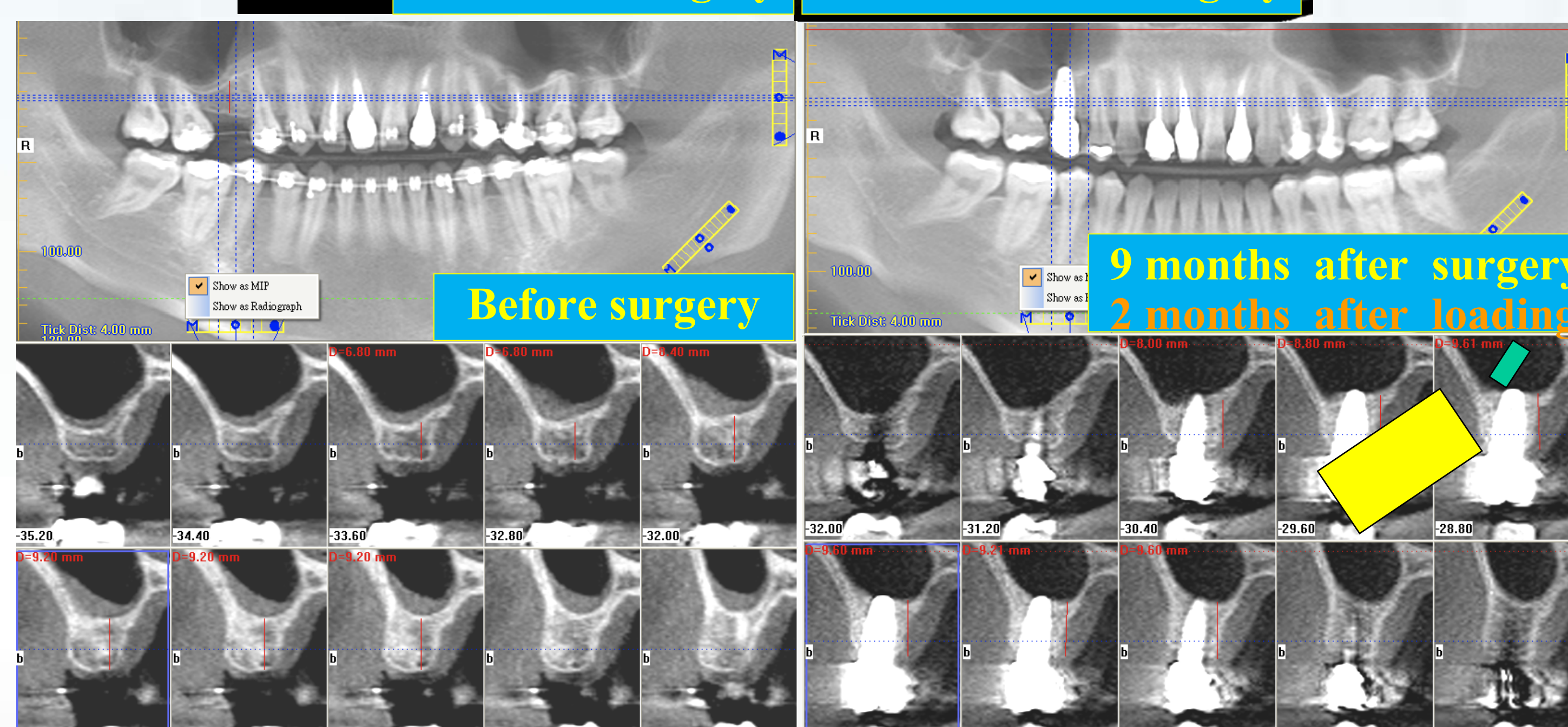
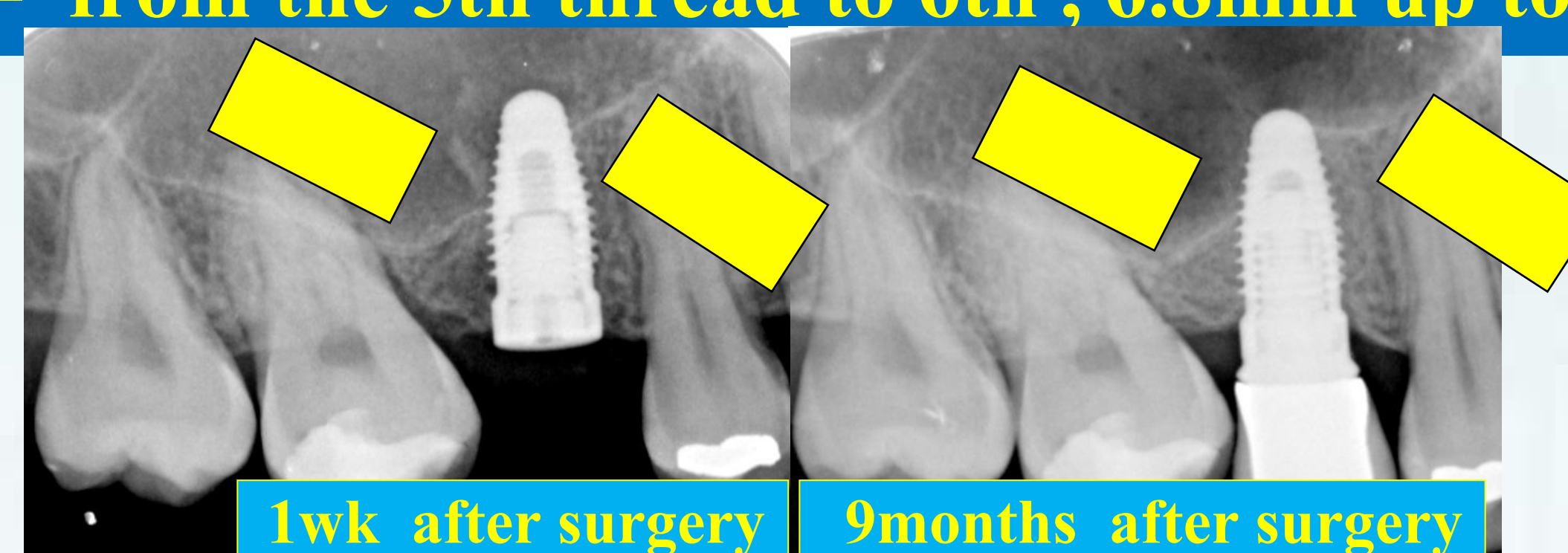
Although complication presented after the osteotome sinus elevation, initial result was acceptable. Longer time follow up could help to evaluate the quantity and quality of the only collagen membrane grafting in sinus elevation.

### Case I

32 yrs old Female, 2nd premolar, 5.0-11mm Camlog-root line fixture

Bone grew up:

Mesial side- from the last 2 thread up to the top level of the fixture  
 Distal side - from the 5th thread to 6th, 6.8mm up to 9.6mm



### Case II

47 yrs old Male, 2nd premolar and 1st molar, 5.0-11mm Camlog-root line fixtures

Bone grew up:

2nd premolar- from the 8th thread up to over the top level of the fixture, 8.0 up to 10mm.  
 1st molar- from the 5th thread up to the top level of the fixture, 4.4 to 8.4

