

## **Case 3 : Dehiscence defect treatment using xenograft bone and resorbable collagen membrane**

### **Patient Characteristics**

This case is a 52-year-old female who presented with dehiscence defect in the maxillary premolar. The patient was reported of no specific medical and dental history.

In a pre-operative radiograph, it was observed of insufficient bone volume for an implant placement and restoration (Fig.1). Moreover, a palatal defect at #24 tooth was observed at 1st implant placement (Fig.2). The defect size was measured as vertical 3.5mm and horizontal 4mm. For this reason, additional treatment is required in order to stabilize the implant placement.

### **Treatment**

GBR procedure at implant placement was applied to the defect. The size of an implant was measured as 4.3 mm x 8 mm. Xenograft bones were applied around the implant fixture of palatal side in order to cover and support completely (Fig.3). Then T-Gen is applied as it can completely cover the entire site (Fig.4). Primary closure was achieved as a tension-free flap closure using 4-0 monosyn sutures (Fig.5). At 1 week of post operation with suture removal, it was observed of a soft tissue healing without any inflammatory sign.

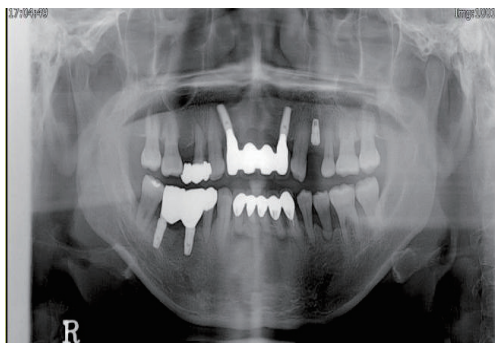
### **Results**

At 4-month of post-operation, soft tissue in the palatal side was healed, in the exposure of the site, it was observed that the successful bony healing and complete recovery of the dehiscence defect were achieved (Fig.6 and 7). As a sufficient bone volume in ridge height and width was achieved, it was allowed to advance to the healing abutments placement (Fig.8).

### **Summary**

In an application of bone graft to a dehiscence defect, a simultaneous application of a collagen membrane (T-Gen) supports a bone recovery enough to sustain the fixture. Moreover, the excellent adaptation of a membrane during operation due to its flexibility and tear resistance brings a stabilization of the defect and leads to successful healing. Also it can provide a dramatic regeneration of gingival without any postoperative infection or adverse reaction.

As a supportive management for the implant surgery in dehiscence defect, the resorbable collagen membrane (T-Gen) provides a successful solution to the treatment.



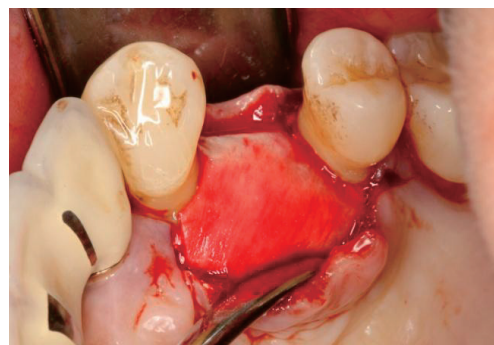
**Fig.1.** Pre-operative radiograph



**Fig.2.** Buccal dehiscence defect after implant placement



**Fig.3.** The defects were filled with xenograft bone (Bio-Oss®).



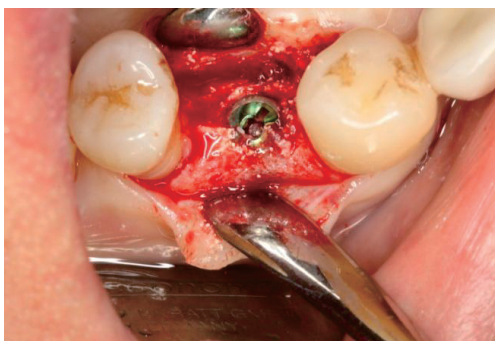
**Fig.4.** Entire site was covered with T-Gen.



**Fig.5.** A tension-free flap closure is created with 4-0 monosyn sutures.



**Fig.6.** Uneventful healing is observed at 4 month post-operation.



**Fig.7.** Re-opening after 4 months, good bony healing of defect.



**Fig.8.** Healing abutments were applied to the fixtures.