

## **Case 4 : Extraction, immediate ridge preservation using xenograft bone and resorbable collagen membrane**

### **Patient Characteristics**

This case is a 27-year-old female who presented with bone loss and the resorption of buccal plate of the alveolus in the maxillary anterior (Fig.2). In a pre-operative radiograph, it was observed of external root resorption and periapical radiolucency (Fig. 1). The patient had a history of root resection with bone graft operated by a local clinic in April 2013.

From a pre-operative inspection, it was required of an extraction at #22 tooth and an immediate ridge preservation prior to an implant placement.

### **Treatment**

An atraumatic extraction at #22 tooth and mesial vertical incision at #23 were performed (Fig.3). As a wide bone defect at root apex of #22 tooth was observed, a complete debridement of inflammation tissues and residual bones was performed.

Xenograft bones were applied in the socket and bone defect in the buccal plate (Fig.4). Then T-Gen is applied as it can completely cover the entire site (Fig.5). Primary closure was achieved as a tension-free flap closure using 4-0 and 6-0 monosyn sutures (Fig.6). At 1 week of post operation with suture removal, it was observed of a soft tissue healing without any inflammatory sign.

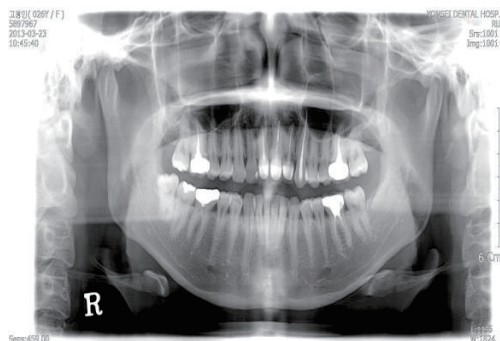
### **Results**

At 1-month of post-operation, soft tissue in the extraction was esthetically healed and recovered (Fig.7). And at 4-months of post-operation, it was observed that successful bone regeneration had been made and the surgical re-entry procedure could be performed. Before the re-entry procedure, the post-extraction site was covered and protected by a dental prosthesis and was temporarily fixed by a glue. Through the result from the treatment, it was able to advance to the implant placement without any further treatment.

### **Summary**

It is important to operate the ridge preservation procedure in post-extraction site in time, as it affects to horizontal and vertical ridge alteration. For this purpose, a simultaneous application of a collagen membrane (T-Gen) with GBR can support a timely and prompt stabilization in the site, as it gives an excellent adaptation during the operation due to its flexibility and tear resistance. Also it can provide a dramatic regeneration of gingival without any immune and sensitivity reaction.

As a supportive management for the extraction socket and bone loss defect, the resorbable collagen membrane (T-Gen) provides a successful solution to the treatment.



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



**Fig.2.** . Pre-operative clinical view



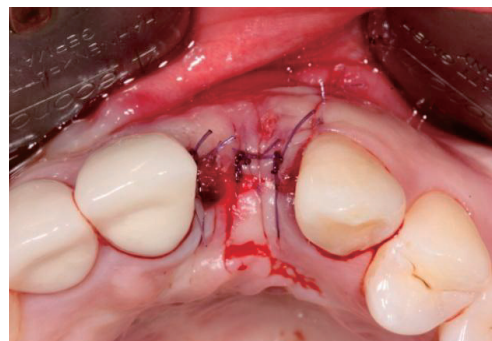
**Fig.3.** Buccal bony defect



**Fig.4.** The defects were filled with xenograft bone (Bio-Oss®).



**Fig.5.** Entire site was covered with T-Gen.



**Fig.6.** A tension-free flap closure is created with 4-0 monosyn sutures.



**Fig.7.** After 4 months, good bony healing of defect.