



GBR POCKET TECHNIQUE

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GBR is a predictable technique in vertical bone defects treatment. A tension-free wound closure is a key factor to achieve the success of bone graft because it minimizes flap dehiscence and graft exposure. The GBR technique usually requires the exposure of a large skeletal area and therefore an extended crestal incision with large vertical release incisions. Moreover, it can often require a second surgical access to take a portion of autologous bone. An extended wound, however, involves long healing times, the presence of a high number of stitches, a high traumatic condition and a selection of the patient who must be extremely collaborative following the post-operative instructions. This work presents the GBR Pocket Technique, a novel surgical approach that generates from the need to reduce the invasiveness of the traditional procedures through:

- a minimal surgical wound thanks to a single incision and a shorter healing time
- a single area of grafting and bone harvesting through the use of a tunnel surgical scraper
- a contraction of the risk of failure of soft tissue healing.

The great advantage of the pocket technique is to avoid the crestal and distal relief incisions, through a "U" 7-8 mm access made distally to the last tooth next the grafting area. The flap is elevated first lingually up to the mylohyoid line and then buccally, the periosteum is released without any vertical incision, in this way a pocket is created and the blood supply to the surgical area is mostly preserved.

Figures 1 to 16.



Fig. 1

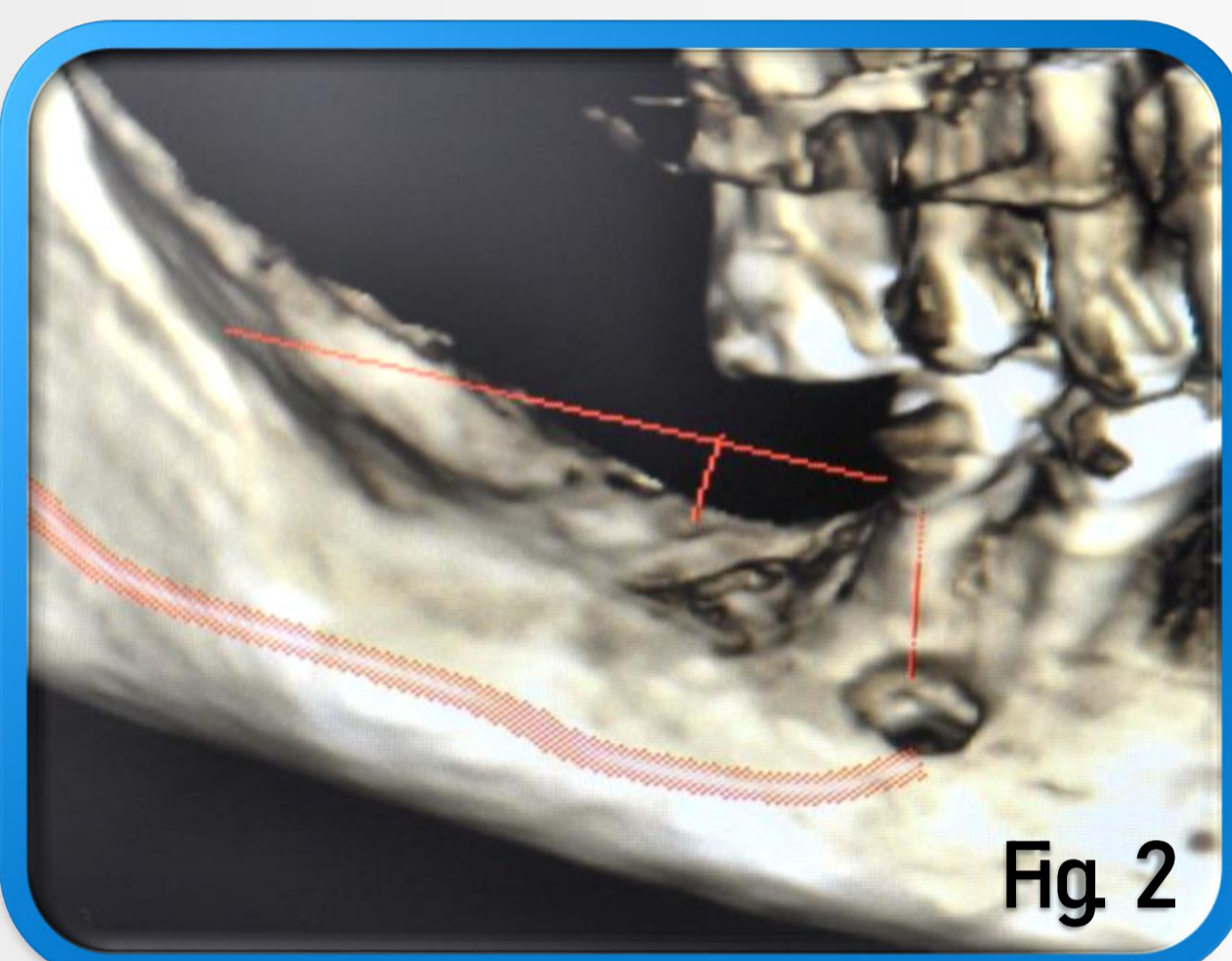


Fig. 2

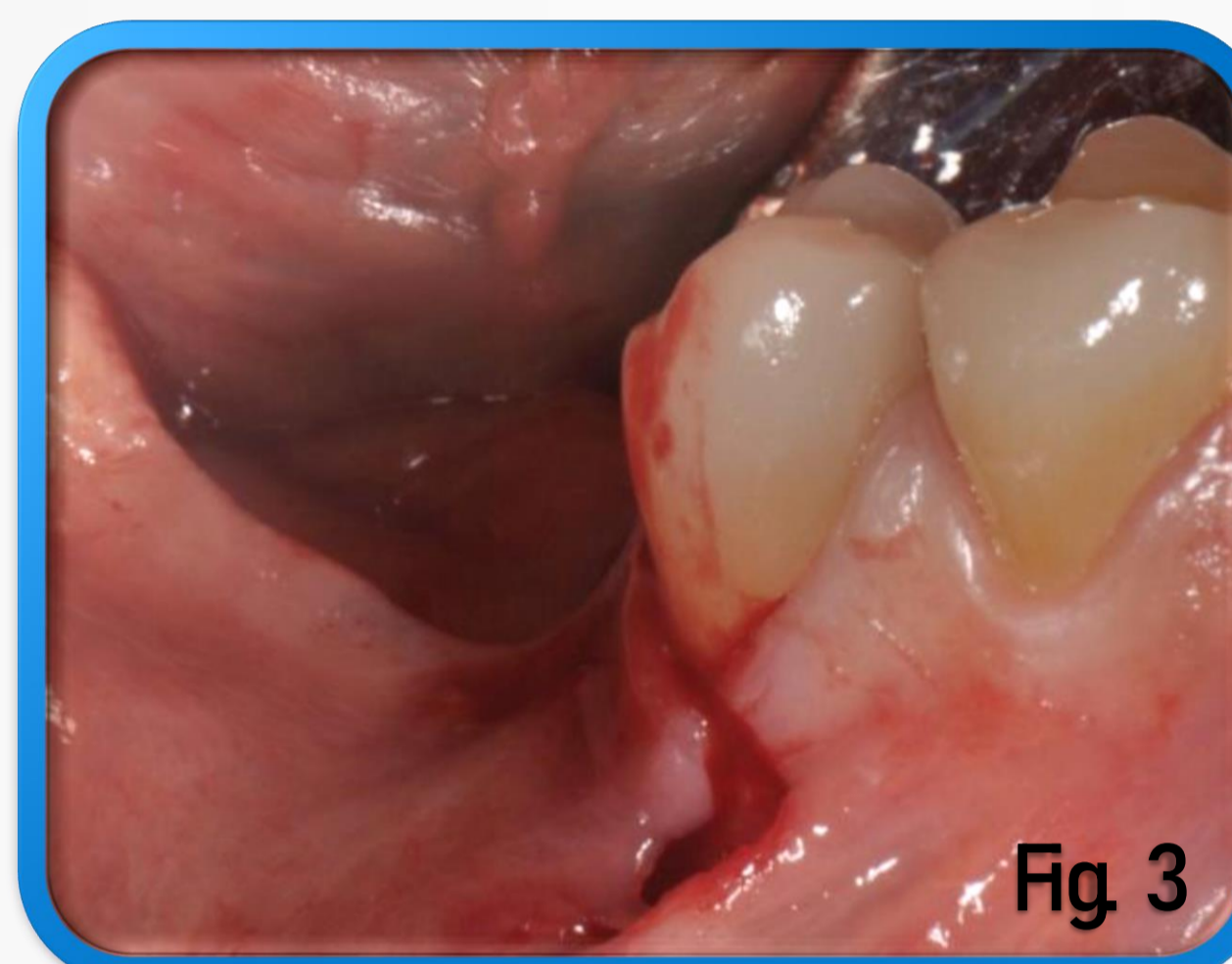


Fig. 3

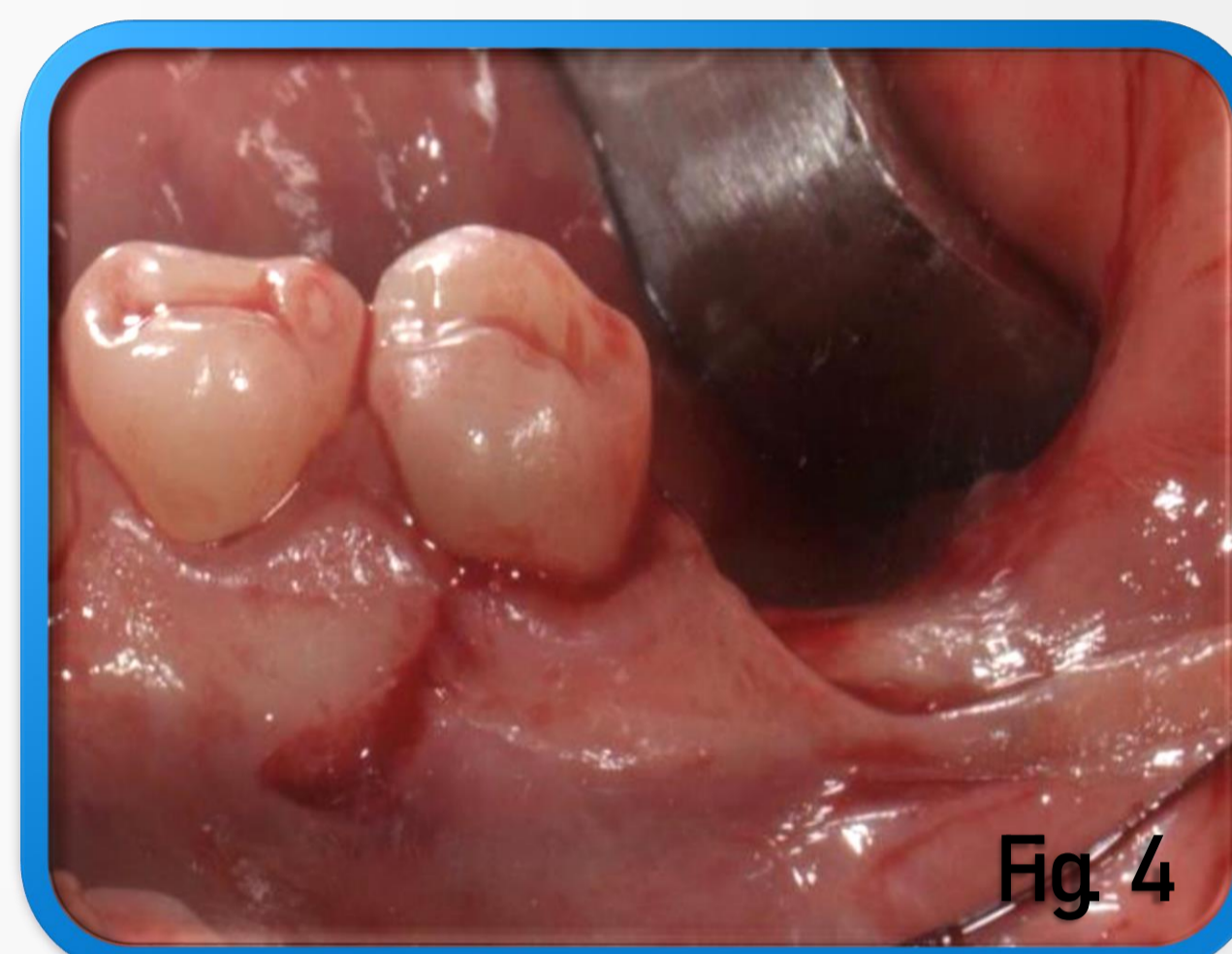


Fig. 4

Fig. 1-2 Pre-surgery clinical and radiographic situation: an horizontal and vertical bone loss can be easily detected.

Fig. 3-4 Mini-invasive flap design according to the pocket (buccally and lingually).

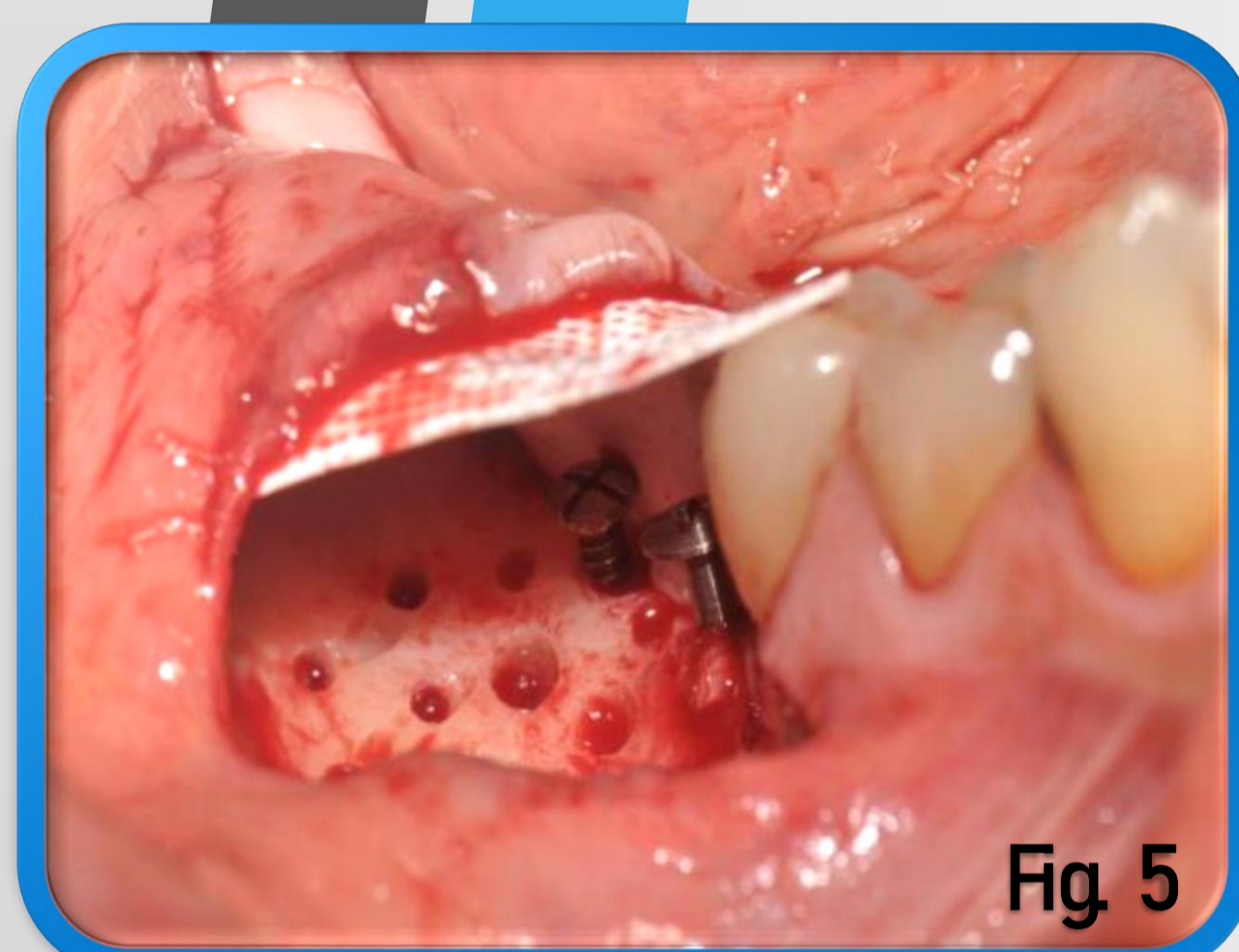


Fig. 5

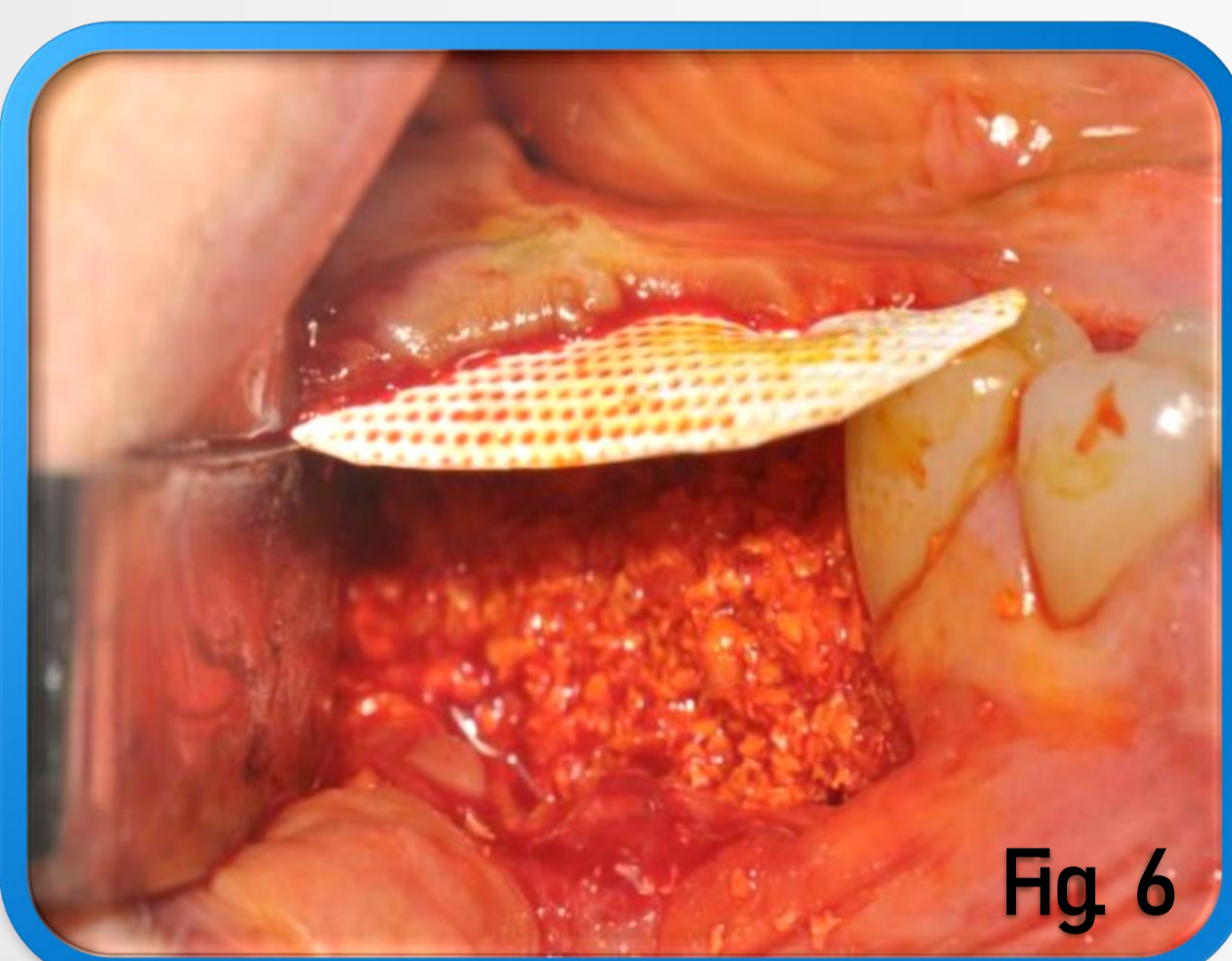


Fig. 6

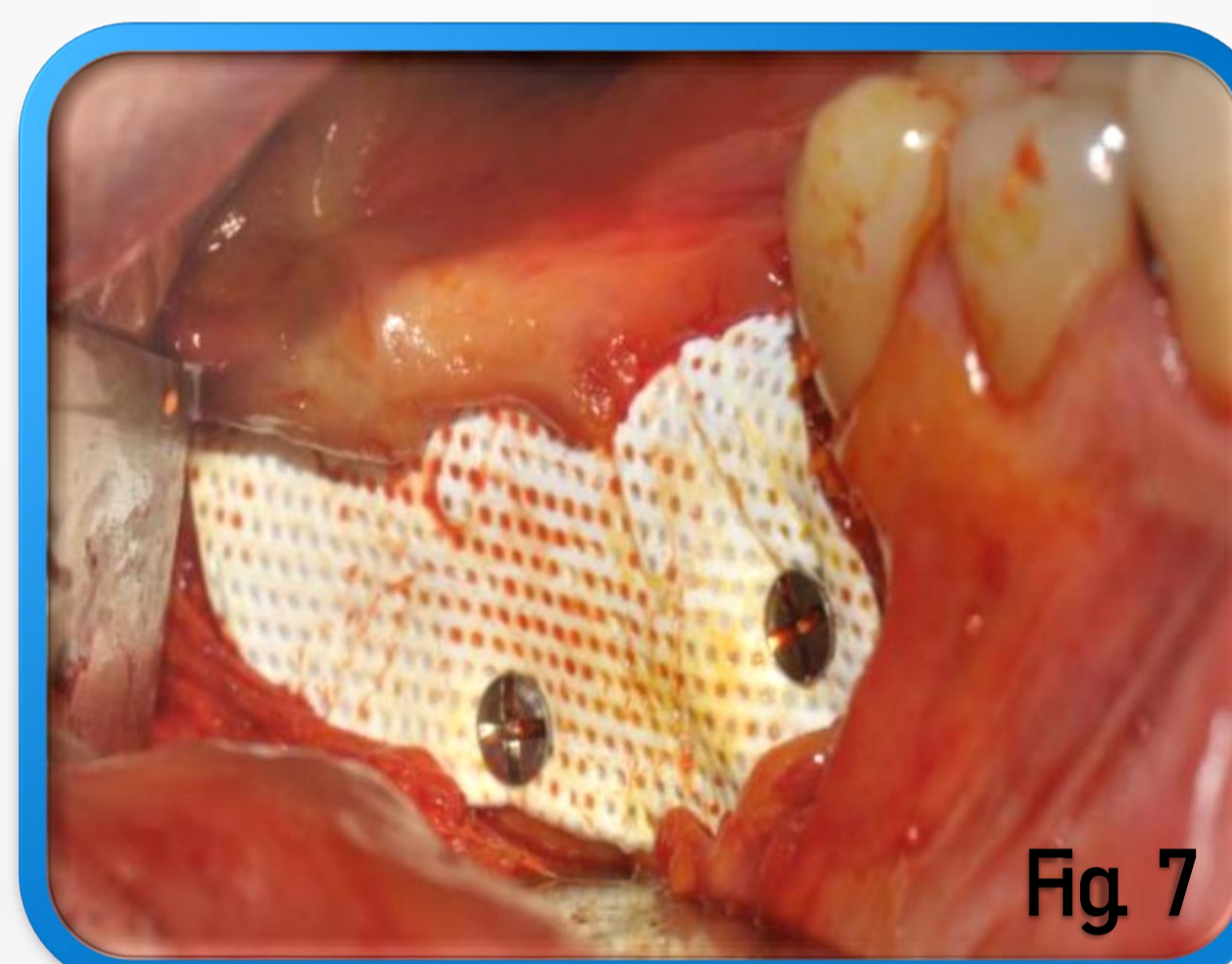


Fig. 7

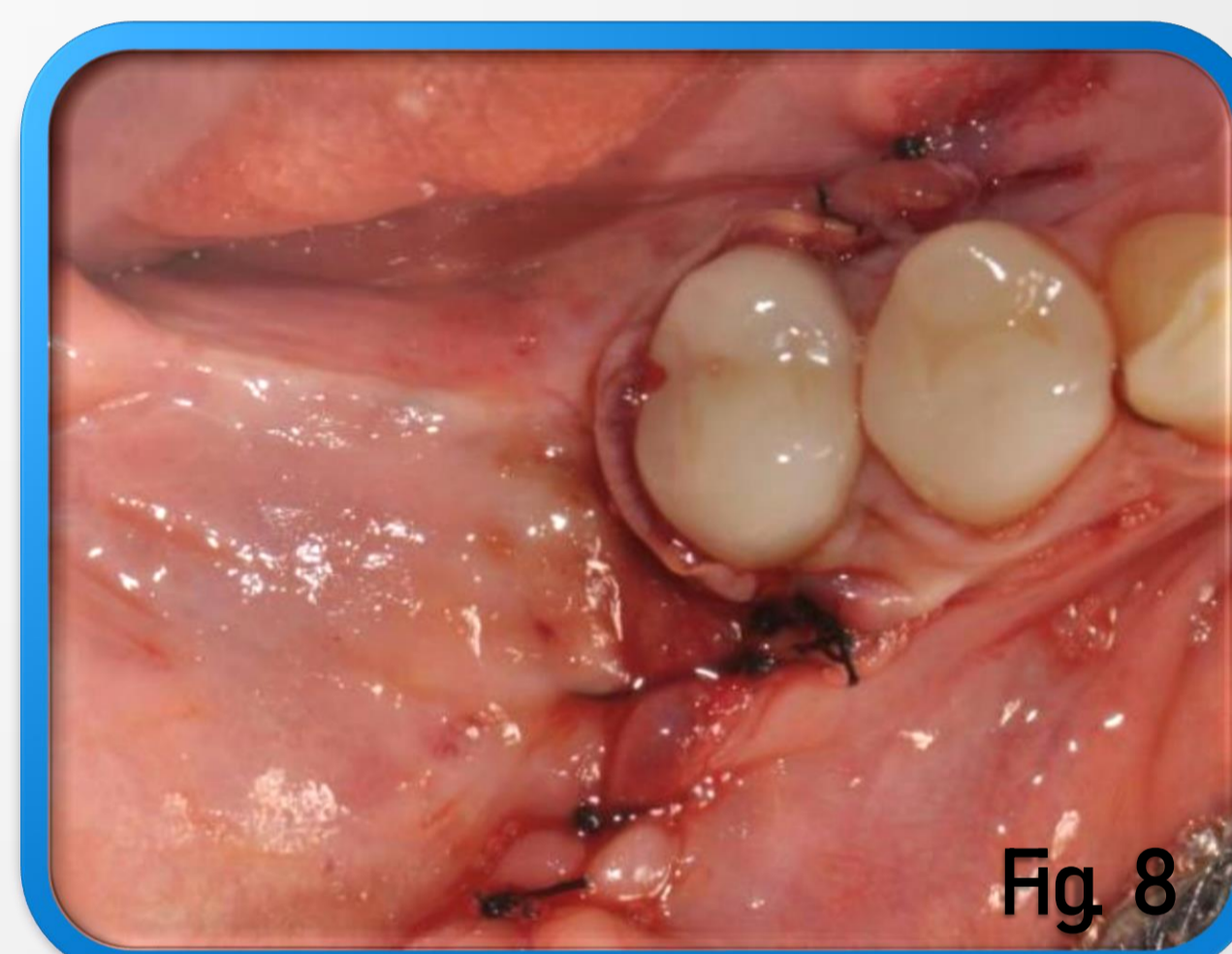


Fig. 8

Fig. 5-6 Bone perforation, Cytoplast Ti-reinforced membrane lingual fixing, autologous/heterologous bone mixture graft.

Fig. 7-8 The cytoplast membrane is fixed buccally and the flap is sutured.

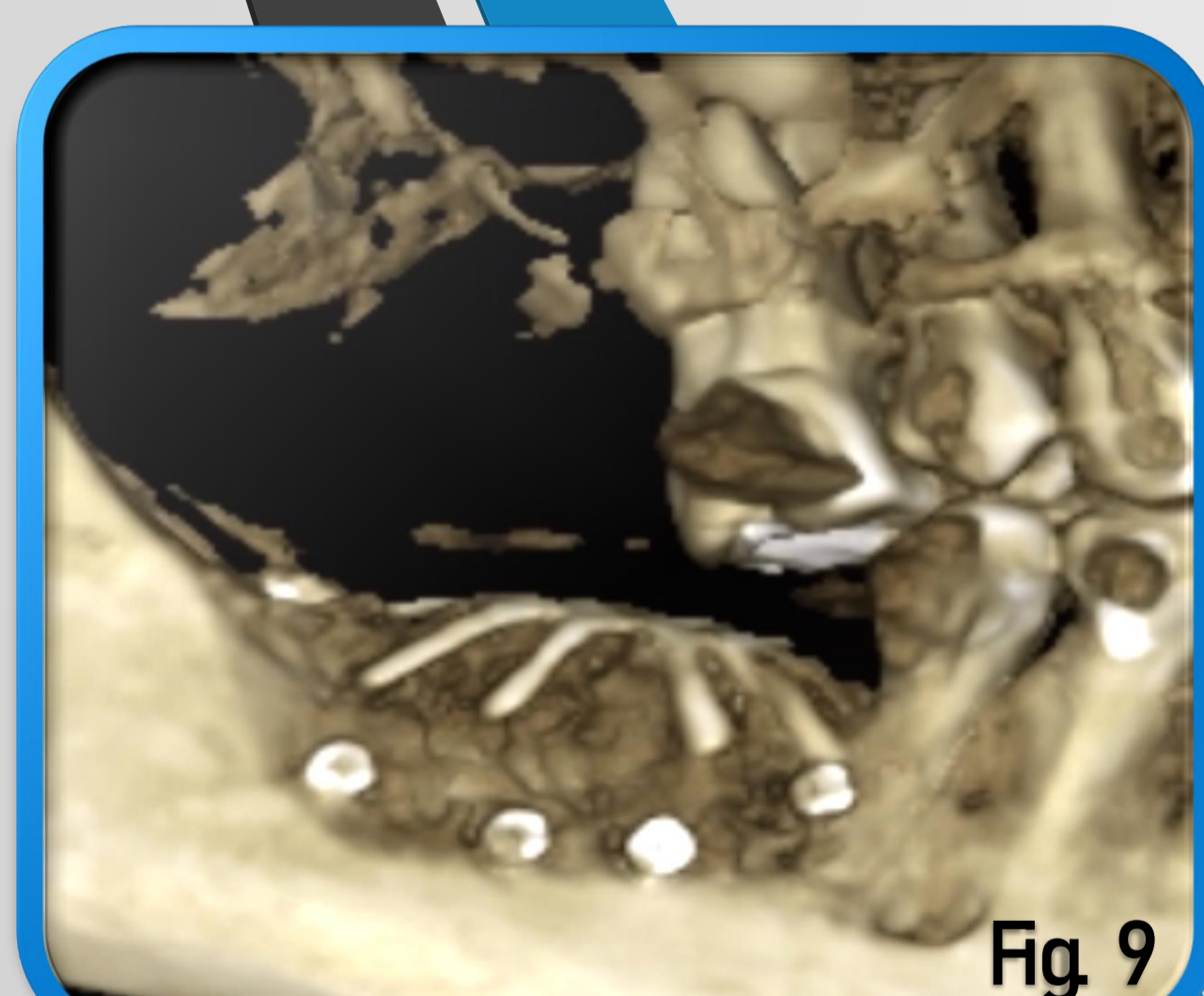


Fig. 9

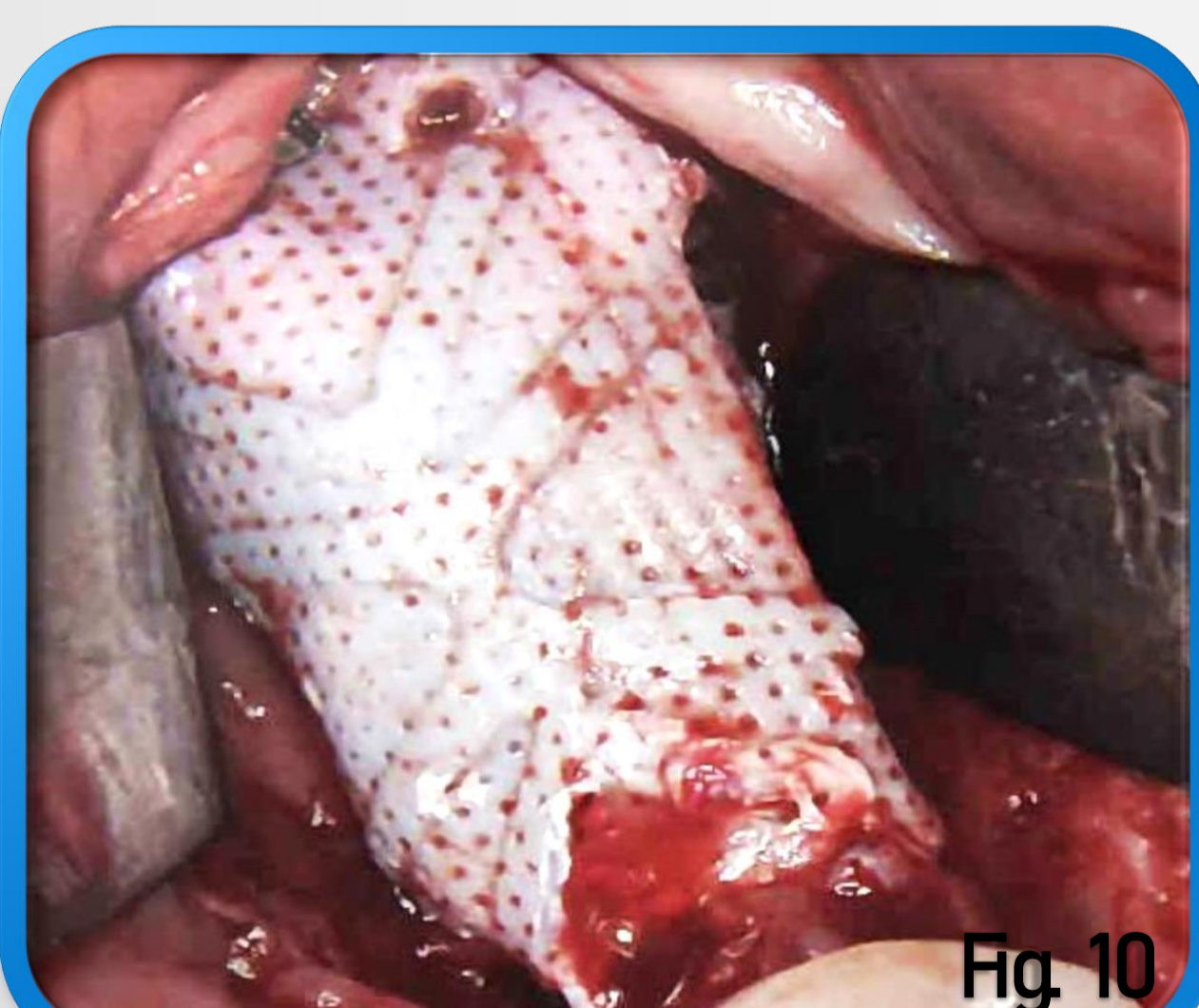


Fig. 10

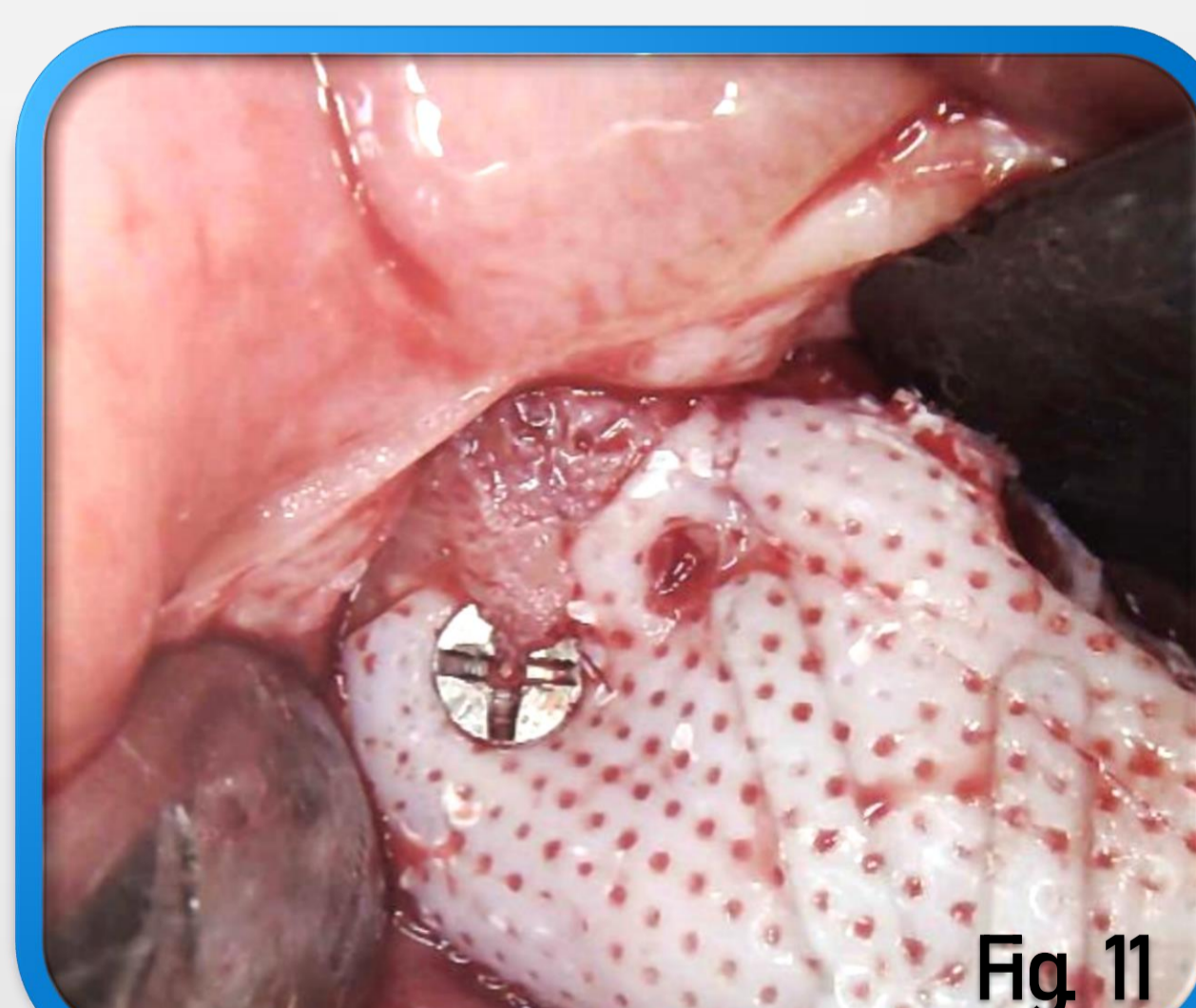


Fig. 11

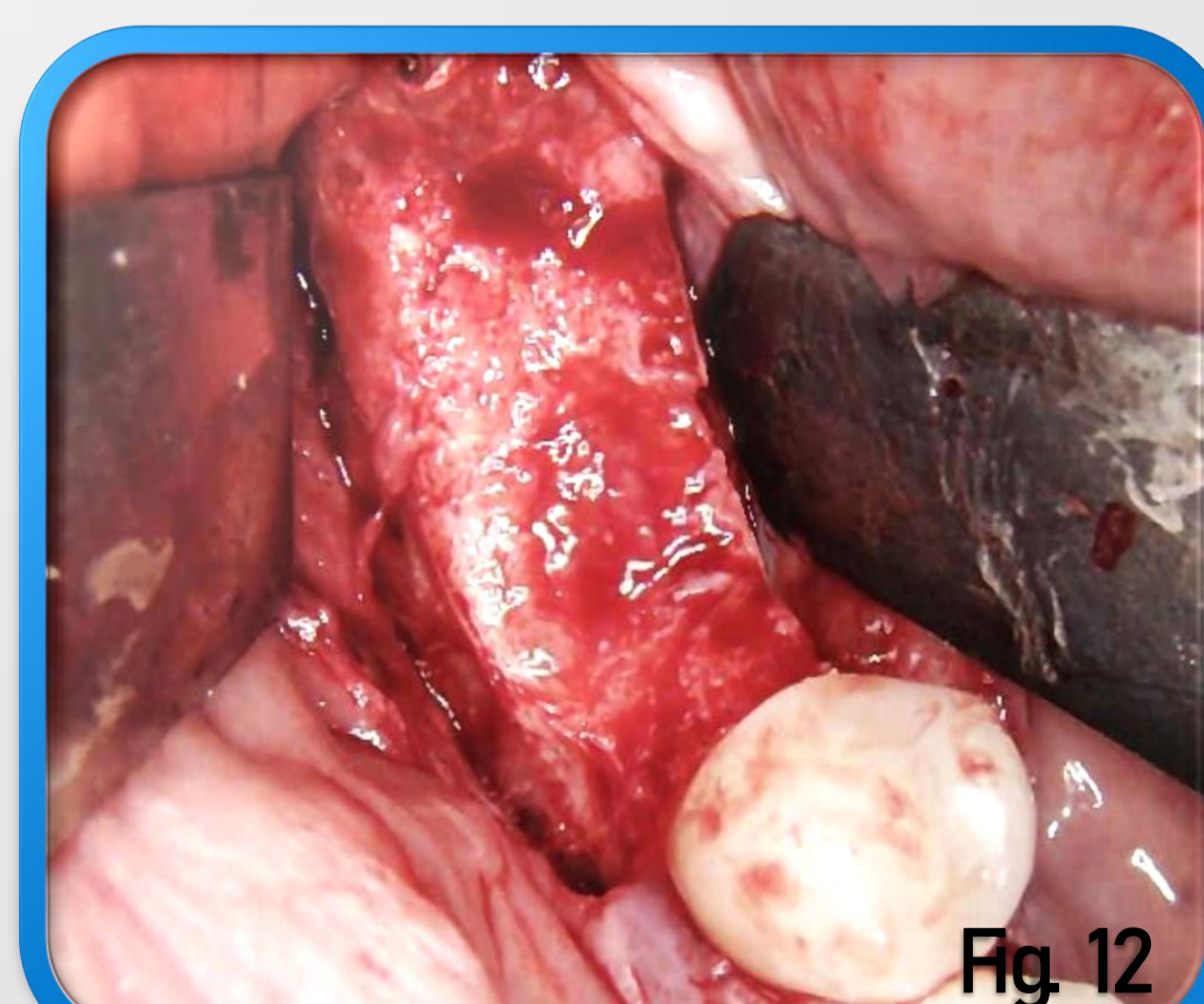


Fig. 12

Fig. 9-10 Clinical and radiographic situation 6 months after surgery, single incision flap.

Fig. 11-12 Bone overgrowth on membrane and membrane removal.

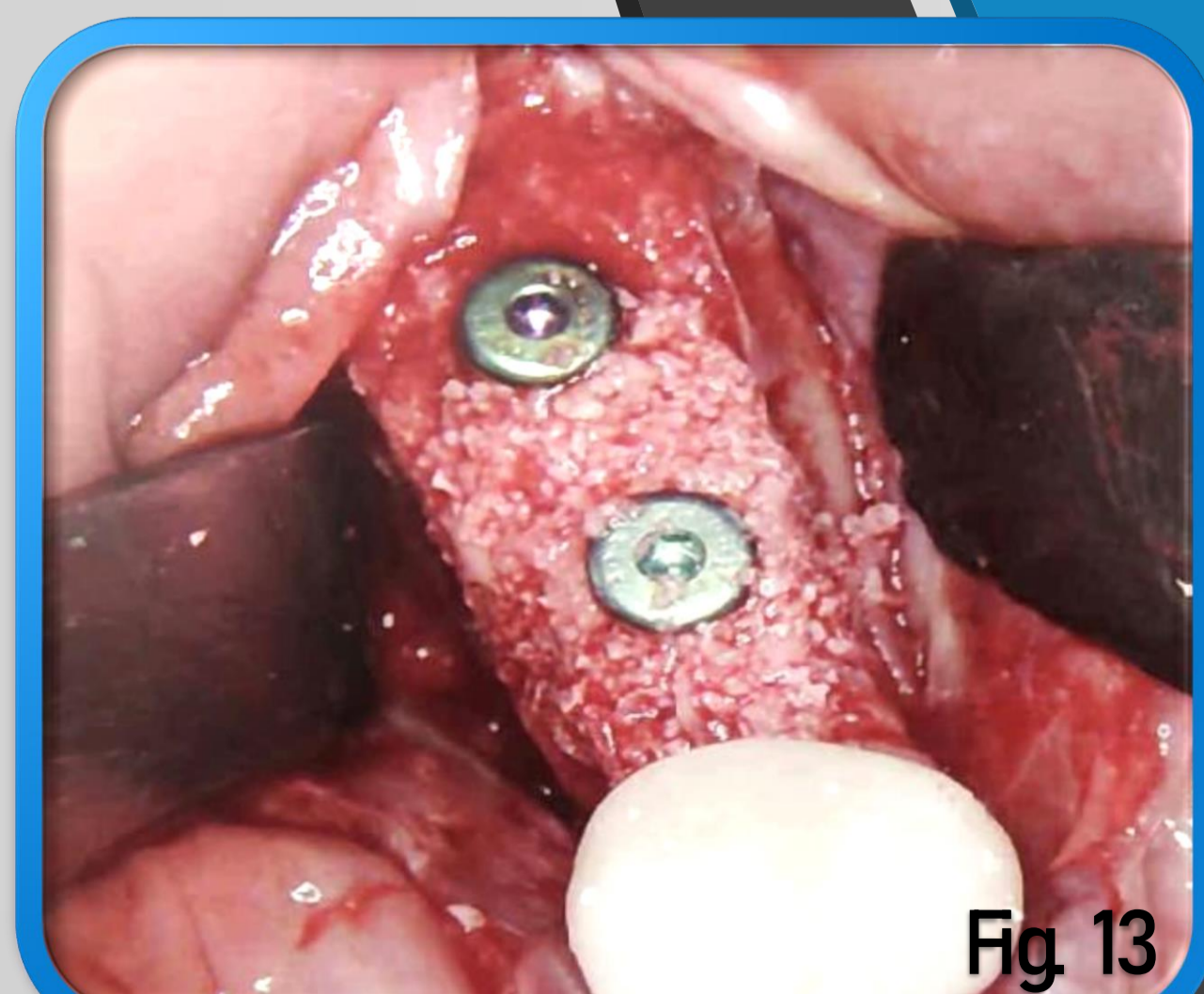


Fig. 13

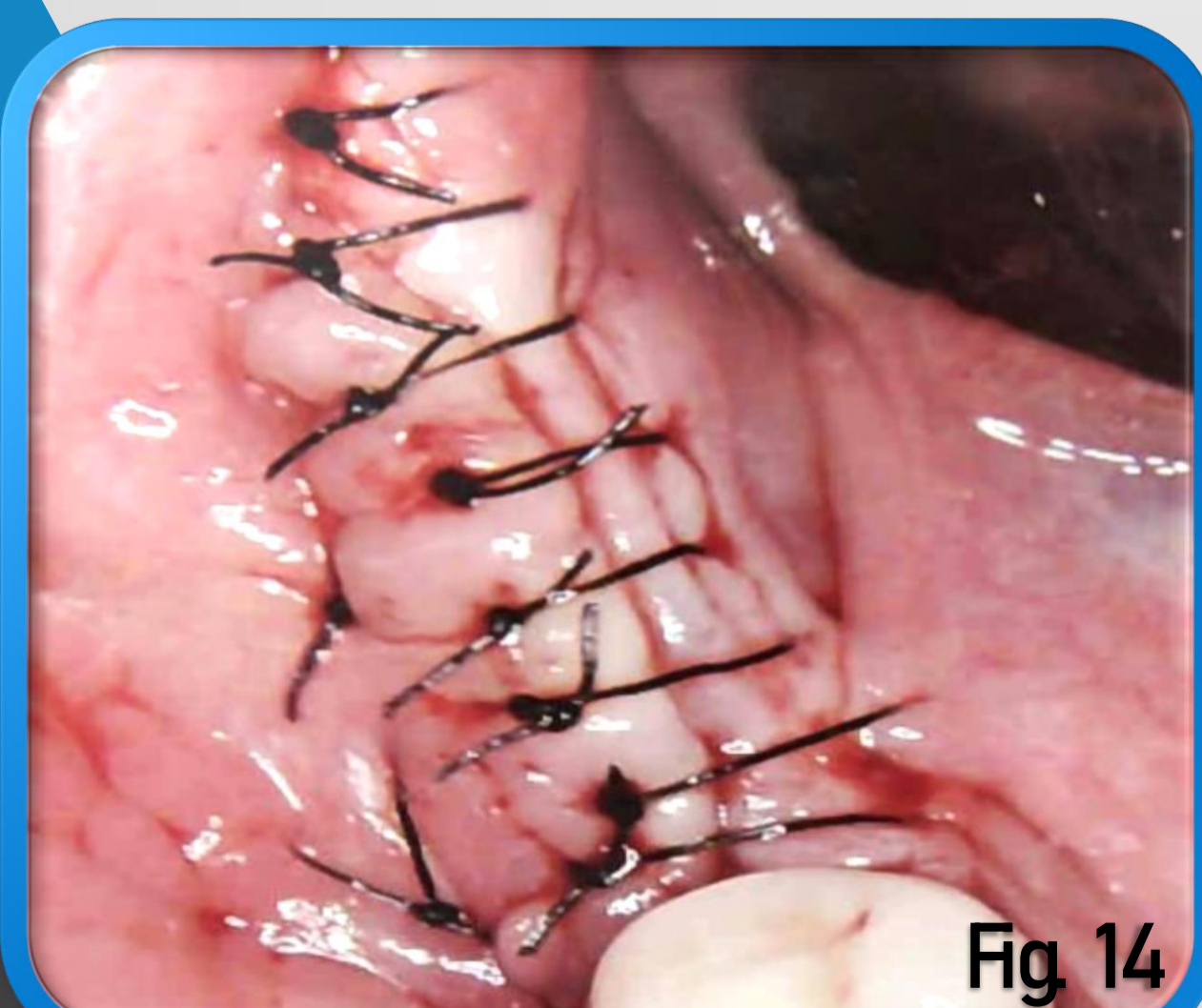


Fig. 14

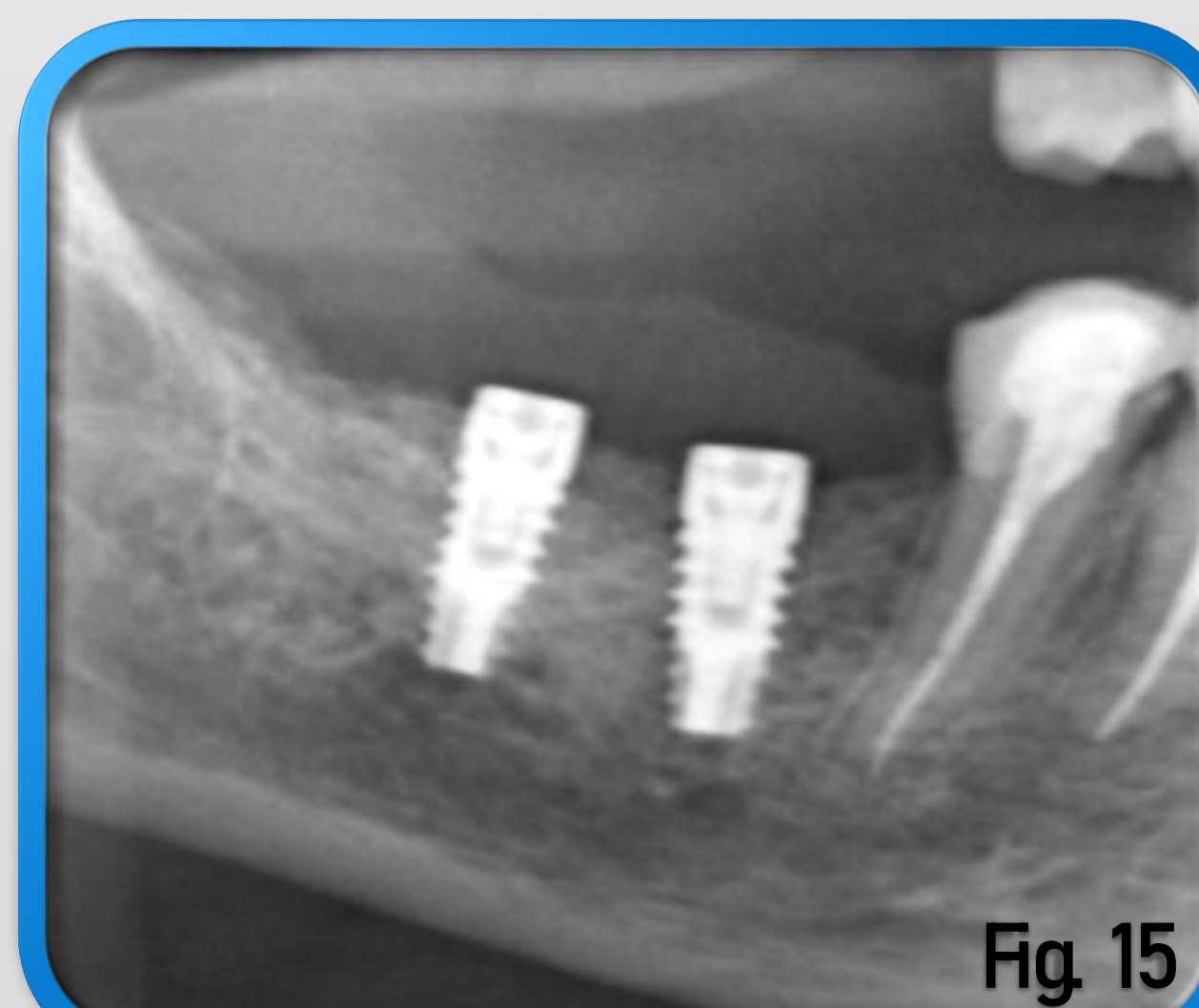


Fig. 15

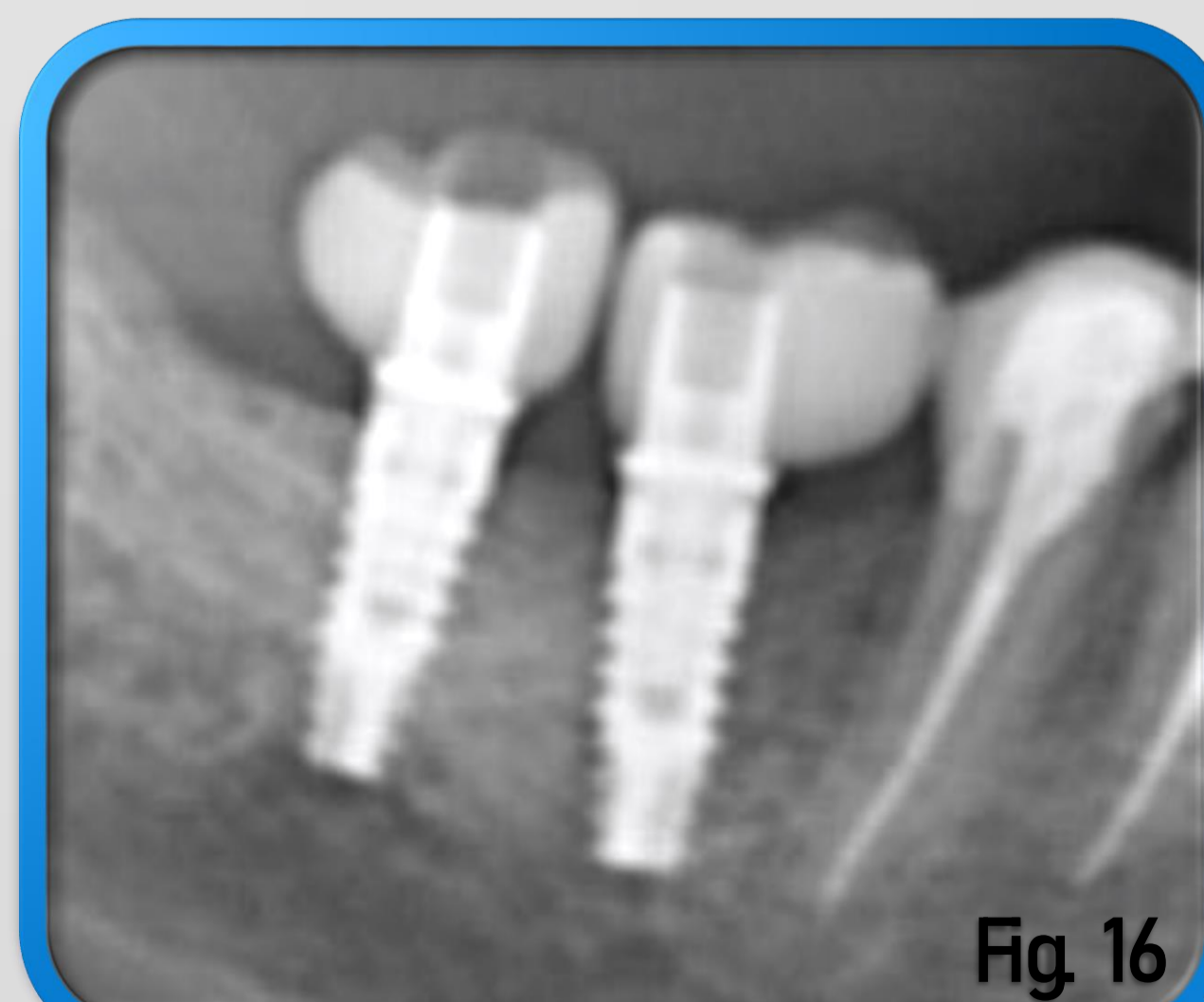


Fig. 16

Fig. 13-14 Implant placement and suture.

Fig. 15-16 Final radiographic evaluation and 1 year follow up.

The advantages of this technique are the preservation of blood circulation and the biomechanical properties of soft tissue which allow to avoid an excessively thin or stretched wound flap and consequently risk of flap necrosis, dehiscence and graft exposure. This technique also reduces mucosal healing times and the number of stitches used even if it takes longer surgical time.