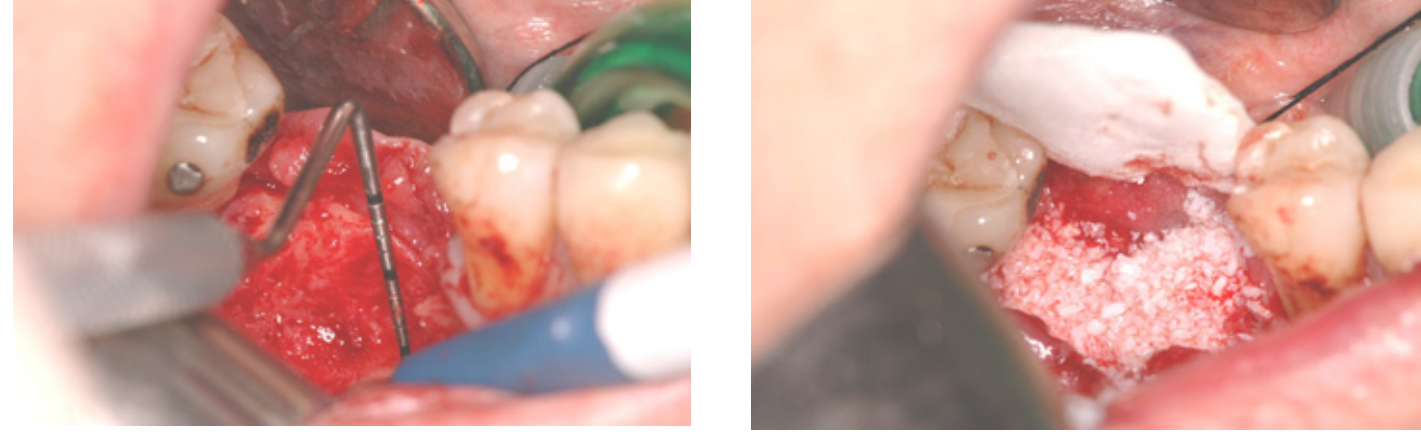


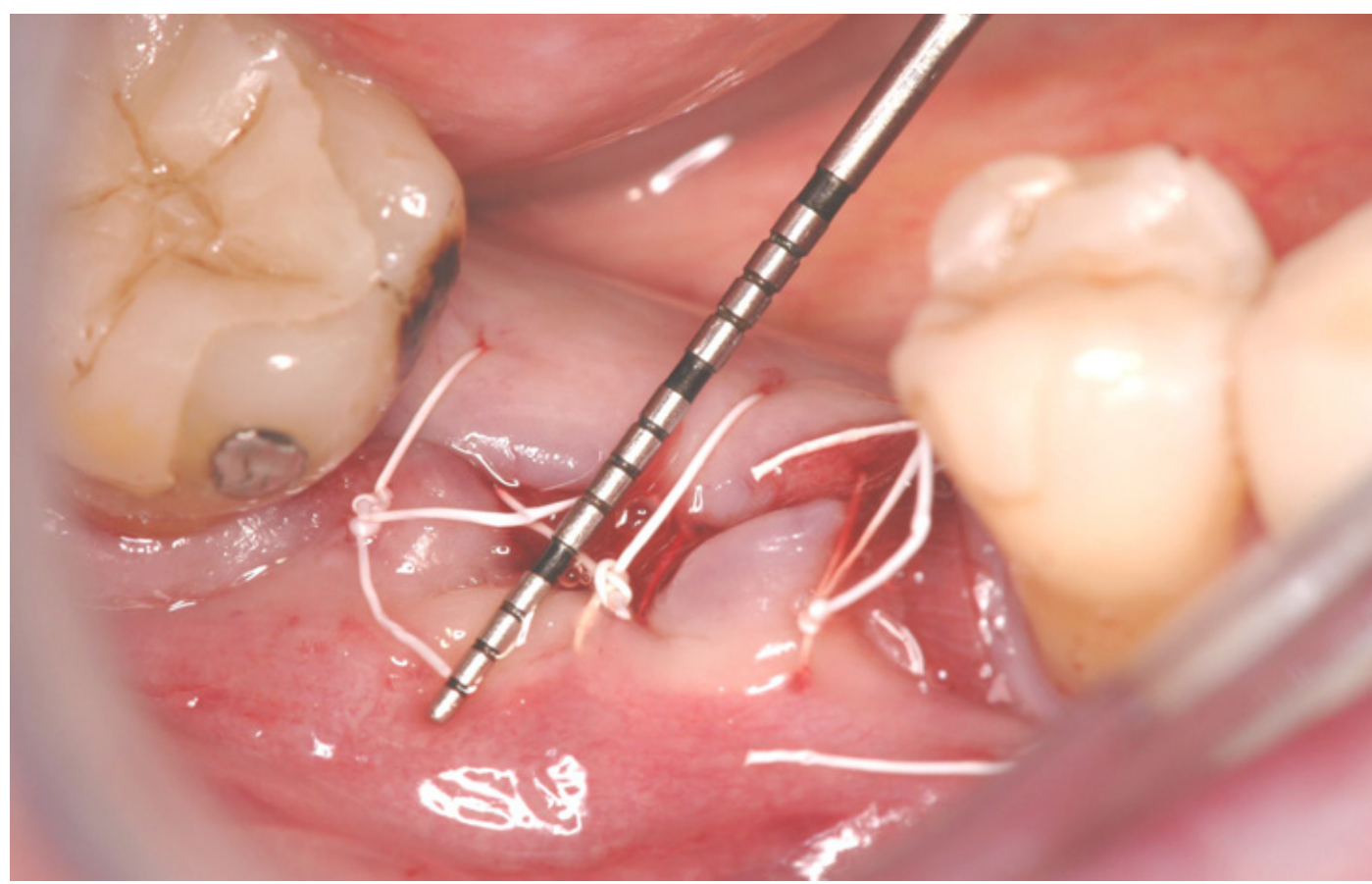
Early build-up in 4.6-4.7 area : observations about the flap design



Healing 4 weeks after extraction 4.6

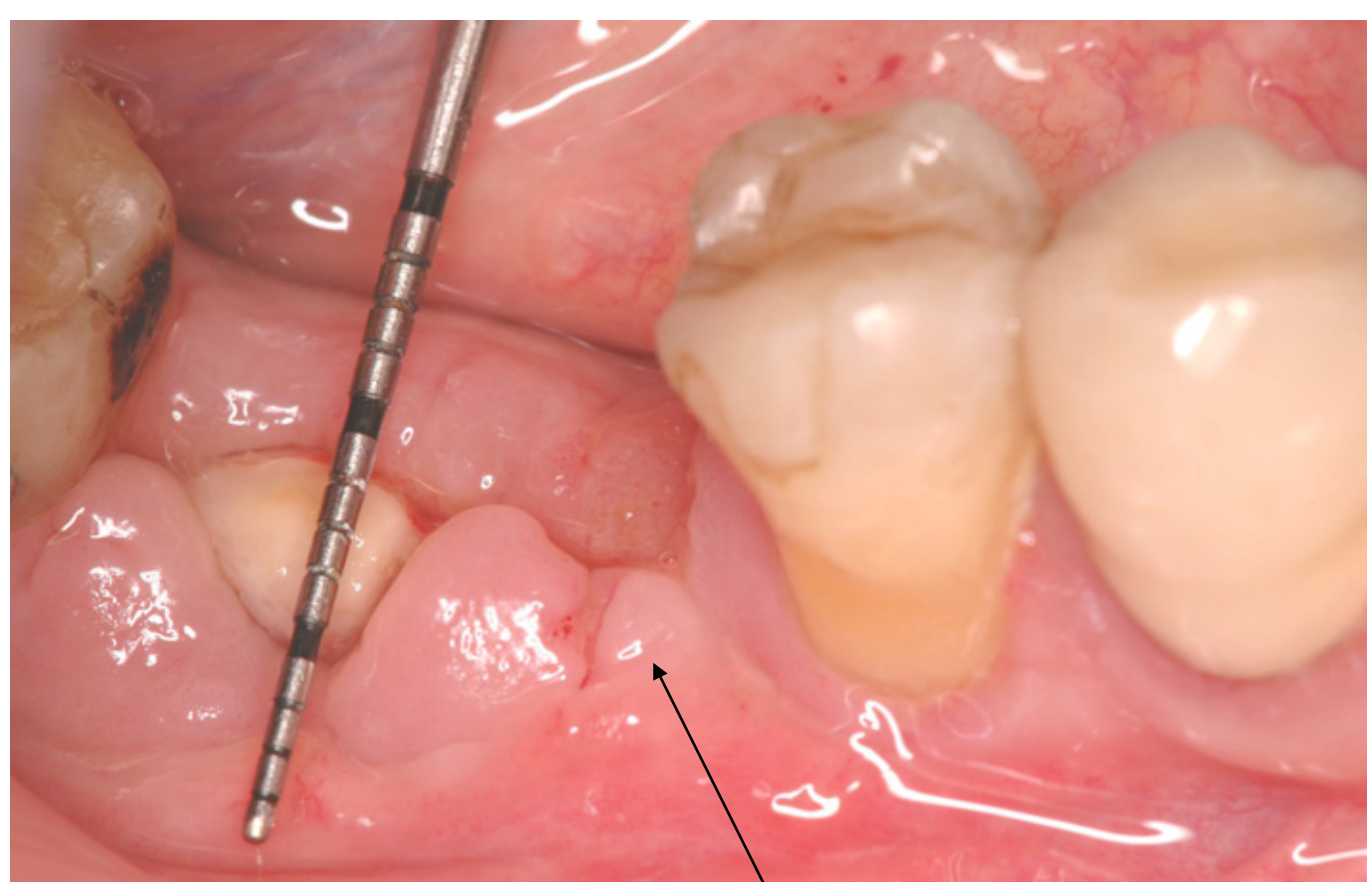


Biomaterials in 4.6 cavity and 4.7 mesial pocket after 4 weeks from extraction

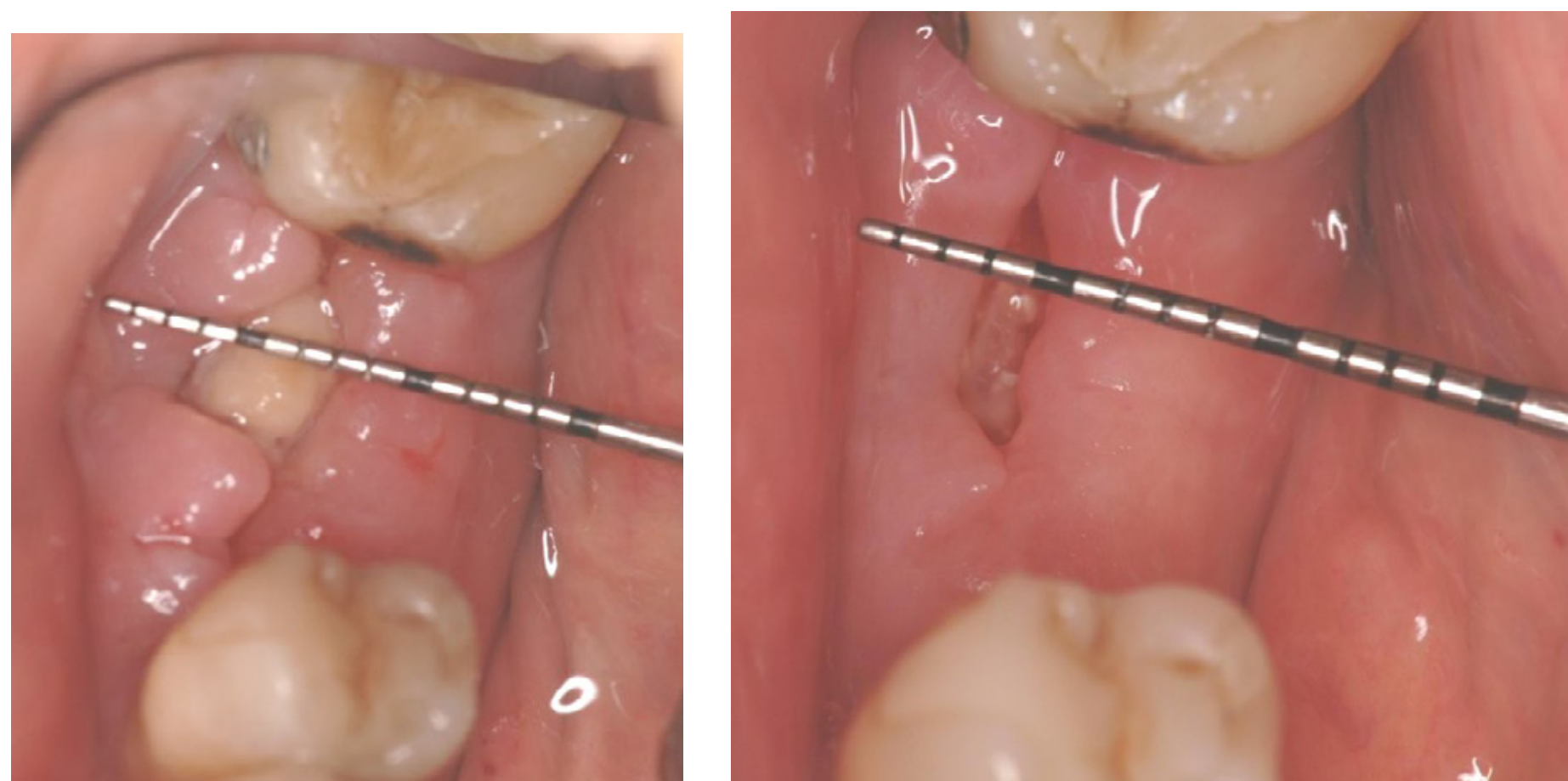


Secondary intention healing

4.6 flap design : 4.5 distal papilla is preserved, 4.7 mesial papilla is cut, not periosteal incision
Different geometry of Mucograft exposed 4.6 area: mesial rectangular area 2mm x 10mm and distal star area 4mm x 5mm



4.6 mesial area is covered after 7 days (papilla 4.5 preserved)



4.6 distal area is covered after 1 month (papilla 4.7 cut)



After 10 months

Objectives

The objectives of the “early build-up technique” are to simplify the hard tissue augmentation procedure and to reduce discomfort for the patient. The biological approach is to augment simultaneously bone and keratinized gingiva in the early phase of the post-extractive healing process.

Methods

The surgical procedure provides for the avulsion of 4.6 because of abscess. Four weeks after the extraction, the augmentation procedure of 4.6 area and periodontal regeneration of the mesial pocket of 4.7 are carried out using current biomaterials only. The volume of Bio-oss, Mucograft included, exceeds the volume of original alveolus in order to provide for resorption of bone substitutes. The flap only in keratinized gingiva is designed in such a way as to make the exposed surface of the matrix resemble a post-extractive alveolus in 4.6 area (mesial papilla of 4.7 is cut, distal papilla of 4.5 is preserved). Bacterial wound proliferation is controlled with one week antibiotic therapy, clorexidine mouthwashes and application of hyaluronic acid.



Results

Soft tissue results : the exposed surface of Mucograft is covered after 7 days in mesial 4.6 and after 1 month in 4.6 distal area. The different timing of wound healing is conditioned by the different geometry of exposed area.

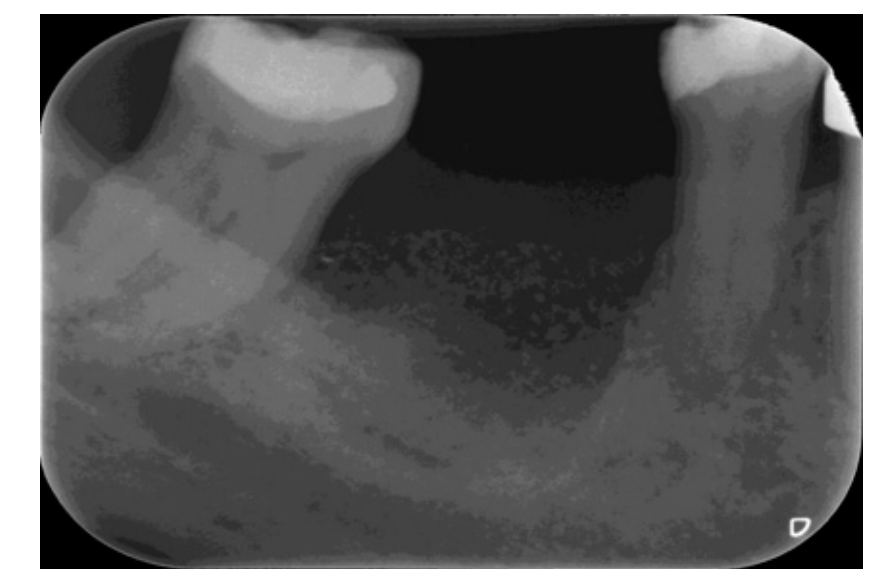
Hard tissue augmentation. The greatest linear horizontal and vertical bone gain are detected by cone-beam computed tomography after 1 year of early build-up technique.



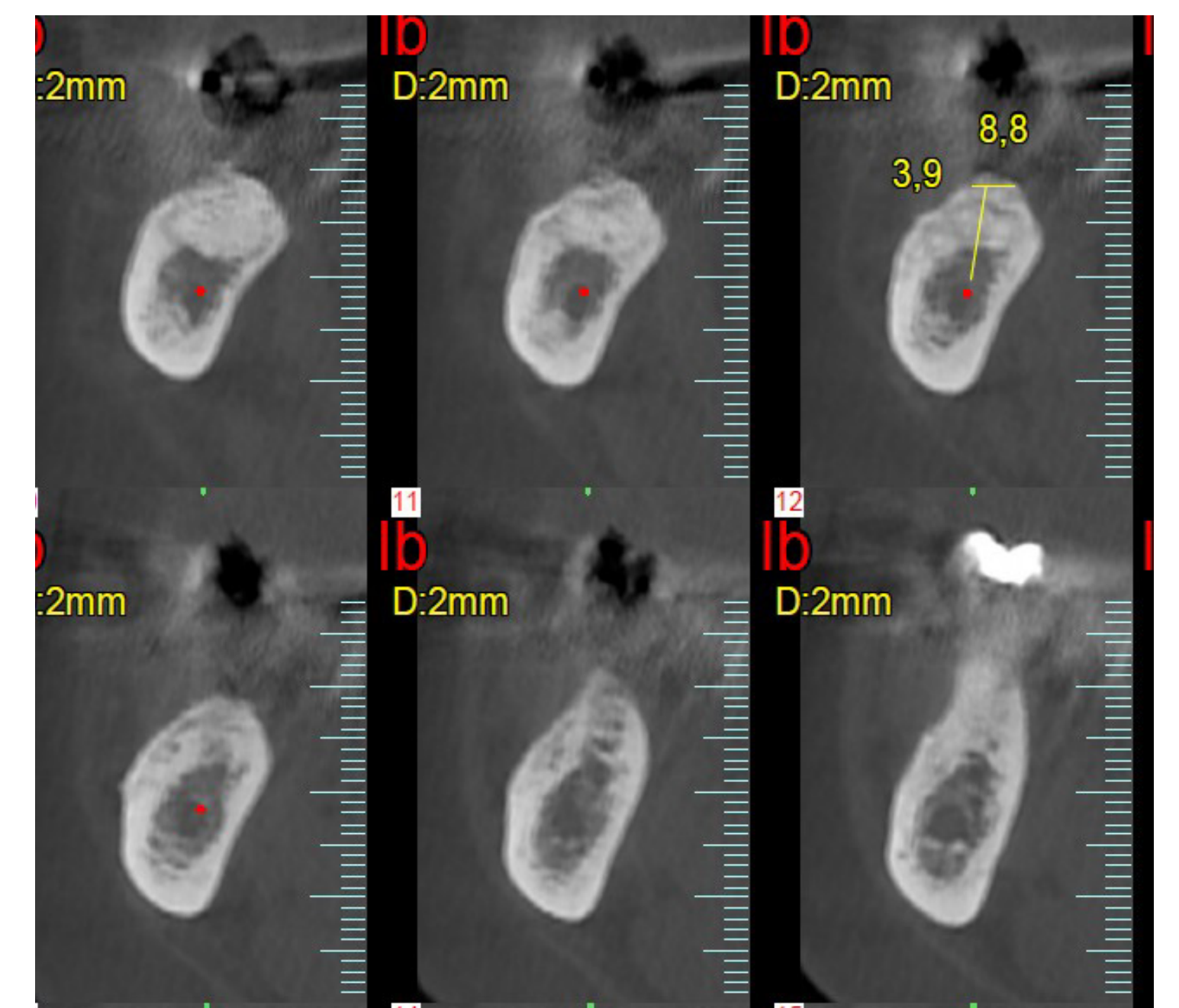
Intra-operative evaluation of regenerative procedure results: absence of cortical cap in 4.6 site, 3.3 Straumann NNC Roxolid implant insertion in 4.6 area with 2 mm of bone in both sides vestibular/lingual, residual pocket in 4.7 mesial periodontal area after removal of biomaterials



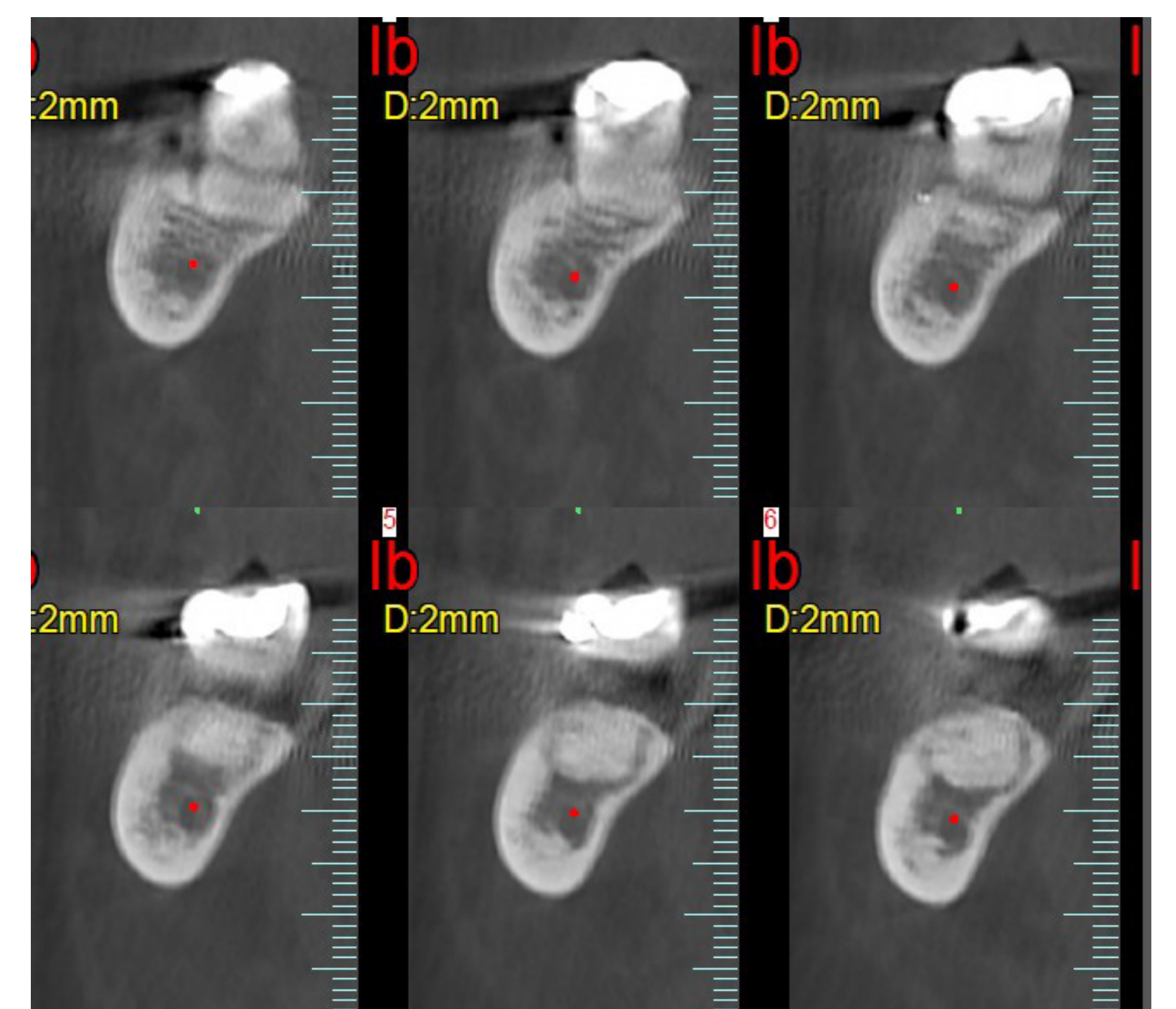
4.6 abscess



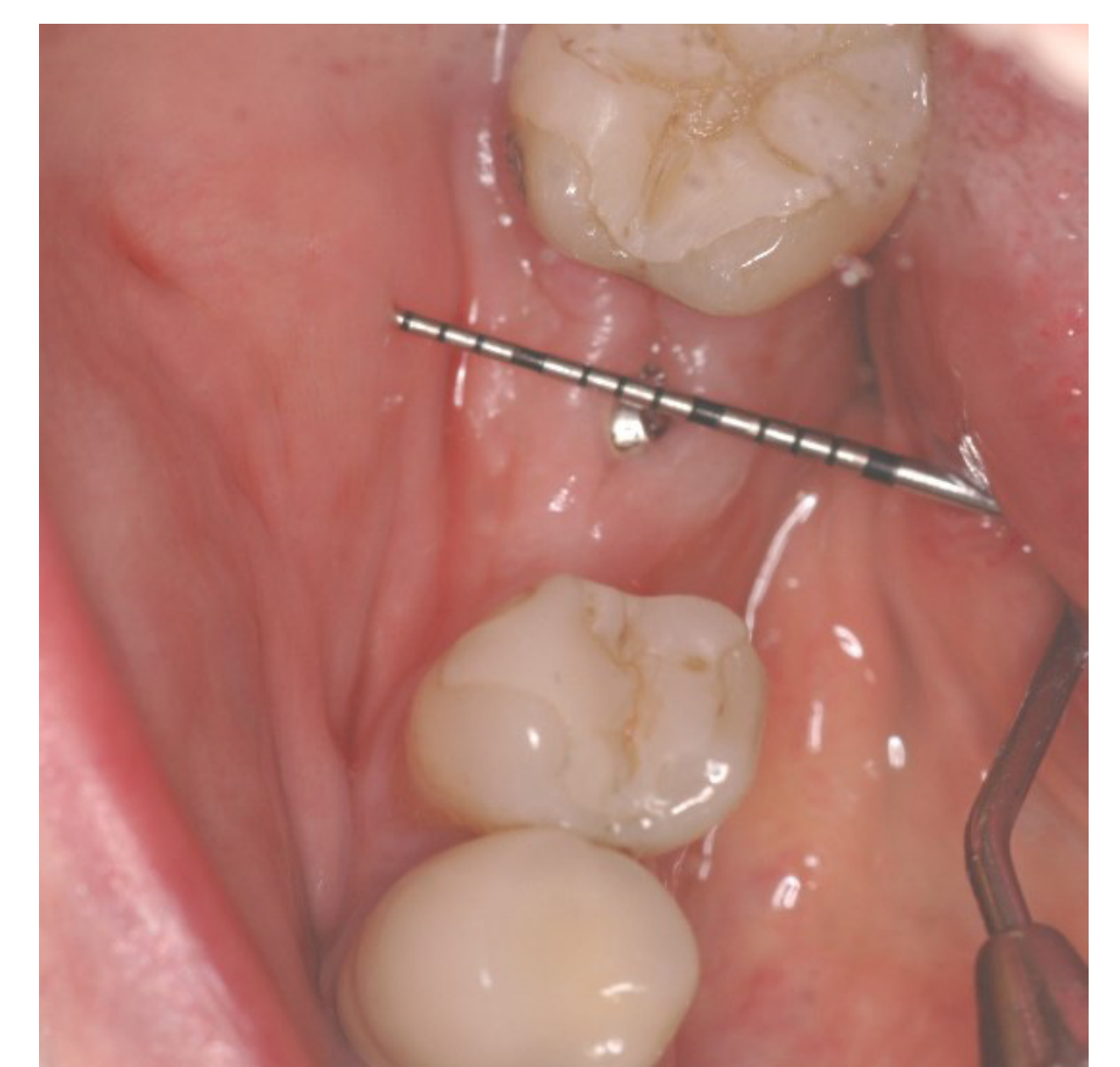
Early build-up after 1 week



4.5-4.6 area after 1 year



4.6-4.7 area after 1 year



After 4 weeks from implant surgery

Conclusions

Like the ridge preservation technique, wound healing with current biomaterials exposed is also possible without problems after 4 weeks from extraction. Bone volume and keratinized gingiva of the 4.6 area are augmented with a unique surgery, enough to plain implant surgery.

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