

CLINIC FOCUS



Laser Erbium:YAG and borderline periodontology: Should we give up on the septa?

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The reason that patients suffering from periodontitis consult us very often differs from our analysis of their major needs. Like so many others, this patient came to the dental surgery for aesthetic reasons. She was vaguely aware of a problem between 11 and 12, but never had she imagined that these two teeth were condemned.

This type of delicate situation is frequent in our specialty, and the dilemma of whether to extract or to keep the teeth depends on so many equally important factors.

Obviously, our strategy will be guided by the prognosis, but sometimes, as perfectly illustrated by this patient, we feel that the patient is extremely motivated to fight for her teeth. Moreover, this patient's definition of aesthetic is very different from ours. Time must be taken to understand what our patients imagine behind these general words.

In addition, only one tooth had a periodontal ligament, only one tooth had a gum attachment.



Fig. 1: Initial situation



Fig. 2: The periodontal probe is indispensable. The subtotal loss of the septum is identified, measured, x-rayed and shown to the patient to inform her, make her aware and begin to explain to her the causes/consequences/risks



Fig. 3: The removal of the prostheses is indispensable: poorly adapted, infiltrated, unsatisfactory as regards occlusion, and of course not aesthetic.



Fig. 4: After elevation of the full flap and passage of the ultrasounds, all the granulation tissue is removed by Erbiu:YAG laser. Work at a distance and with irrigation allows total removal, while respecting the healthy tissues. The laser is then used to decontaminate the contaminated root surfaces.



Fig. 5: At the end of the preparation, the laser again serves to carry out the bone trimming at 3 mm: controlled crown lengthening. Biology is the keyword. An extemporaneous temporary bridge is prepared and cemented into place, leaving a space. This allows total cleaning of the surplus temporary cement before filling in/sutures.



Fig. 6: BIOBank (allograft bone) mixed with blood is introduced into the osseous defect between the roots, then 2 palatal bone grafts of buried connective tissue are inserted, one vestibular, the other transpapillary.



Fig. 7: End of the first treatment session, tissue repositioning, mucous thickening, and temporary aesthetic appearance.



Fig. 8: 2 months later, we can see the tissue stability and the global harmony. The patient is satisfied and that goes in the sense of what "she" calls aesthetic. The absence of papilla 11/12 does not disturb her. For now, 11/12 are under observation; she knows that in case of adverse development, we will have to extract them.



Fig. 9: Retroalveolar x-rays, pre-operative and at 5 months, before preparation of the customary prostheses.



Fig. 10: Occlusal view of the healed septum on the day of insertion of the prostheses.

It is precisely this unique aspect, going beyond the psychological notion of attachment to the tooth, if the patient can assimilate the lower predictability of a conservative treatment in these circumstances, that so frequently leads us to try and save what is beyond salvage.

This requires maximum means, a clinical and technical investment equal to the challenge.

Contrary to many preconceived ideas, the results obtained were frequently beyond my own expectations.

Our patient, age 61, understood the clear reservations expressed in the discussions presenting the different treatment options.

The solution presented as most reliable was extraction of 11/12, bone graft, then implants...

However, the need for a global treatment solving the occlusal and periodontal problems led me to undertake a total treatment of the 2 arches simultaneously.

The probable course of the first (long) session was explained to her: removal of all the prostheses in the upper jaw, decontamination flap, ultrasound and laser surfacing of all the teeth, harmonization of the necks, preparation of the teeth.

“The solution presented as most reliable was extraction of 11/12, bone graft, then implants...”



Fig. 11: The 2 arches were treated individually with perfectly fitting ProCera CAD/CAM all-ceramic crowns.



Fig. 12: Appearance on the day of inserting in the upper jaw.



Fig. 13: Tissue maturation 2 years later. It can be observed that the 11/12 papilla has continued to grow.

The intraoperative reassessment, to decide whether to conserve or extract 11/12 was explicit, as was the very probable need for biomaterials and grafts.

The patient must understand that this is an art, that we are led to take decisions during the surgery.

This must be discussed in advance. When we take the time to explain before, when we take photographs before/during, after... this strengthens the bond of trust, improves the patient's involvement, and encourages perpetual motivation.

The strict comparison of the before/after of our treatments should be systematic to validate our clinical perceptions.

Time will be the judge of our treatments, both as regards our actions, and the level of motivation that we have succeeded in creating and maintaining in all our patients.

Our patients who suffer from periodontitis are the most difficult to manage given the very numerous factors and the great risk of relapse.

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Fig. 14: Comparison of the 11/12 septum before surgery, then 2 months and 2 years later.



Figs. 15



and 16: Strict comparison of before/after