



TONGUE SANITIZATION

For an effective deep
cleaning of the tongue



Scientific Publications

From a cardiovascular, muscular and postural point of view, sport is a healthy activity. However, when practiced as competitive sports, it poses a series of health risks for the apparatus which are not directly connected to the sporting activity – such as the oral cavity. Particularly when athletes practice so-called contact sports, traumatic, dento-maxillo-facial pathologies can and must be avoided through preventative measures.

Coordination of home and professional treatments in patients practicing competitive sports

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Presentation of the clinical case

The patient (m, 50 years old) is in apparent good health. He complains about the loosening of a gold-ceramic crown for which the rehabilitative treatment was performed in another dental practice. The medical history reveals that the patient is in the best of health and shows no sign of systemic disease. However, his lifestyle puts excessive pressure on the masticatory apparatus. The patient practices several types of sport on a competitive level and believes that he is maintaining a lifestyle which is physically healthy. Upon initial examination, the fracture of the crown on an implant TBR 3.5 x 13 mm as well as the corresponding loss of the prosthetic crown nine years after fitting are immediately apparent. The patient had worn facets on all dental elements (pic. 1). In the course of discussion with the dental hygienist, the patient reports that sporadic check-ups have been conducted at his dentist, and that he clenches his teeth powerfully and repeatedly. Additionally, at Thai boxing training sessions,

he is subject to strong hits in the face and often uses a silicon mouthpiece when diving for underwater fishing. Furthermore, he suffers from nocturnal bruxism, which further impairs the clinical picture.

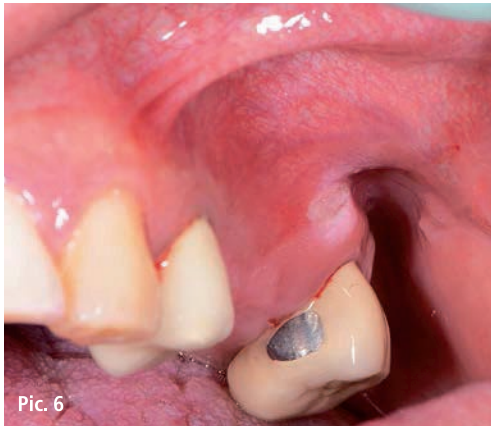
Materials and methods

A thorough examination was performed with the aid of an intra-oral camera (Acteon SoproCare™). Thanks

to special filters, the camera makes it possible to quickly and accurately detect the areas of demineralization and infection and show them to the patient in real-time. In this way, the patient is able to get directly involved and see the damage for themselves. On the other hand, in perio mode, the same camera displays the bacterial biofilm, tartar and gum inflammations in the lingual and vestibular areas of the lower incisors (pic. 2 - 3).



Pic. 1: Clinical situation. – Pic. 2 and 3: Picture with the intra-oral camera (Acteon SoproCare™) in perio mode. – Pic. 4 and 5: Images in daylight mode.



Pic. 6: Major aphtha.

The pictures obtained from the fluorescence analysis are placed on top of the anatomical images to produce an image of the tissue that is immediately and easily comprehensible for the patient and which would not be visible using simple white light. The radiated tissue is depicted with a simple and easily comprehensible color palette. In daylight mode with white light and a 100x zoom, a significant amount of plaque was evident on the lingual surface of the lower incisors (pic. 4) and the loss of tooth substance on the biting surface of the incisors visible (pic. 5). Additionally, a major aphtha (pic. 6) could be seen on the mucogingival border of tooth 26. In caries mode, the system can reveal carious areas around the enamel / dentine border from as early as stage 1 (System ICDAS II), which were not detected with the patient. As the camera images could be shown in real-time, the patient was made aware of the risks caused by stress to

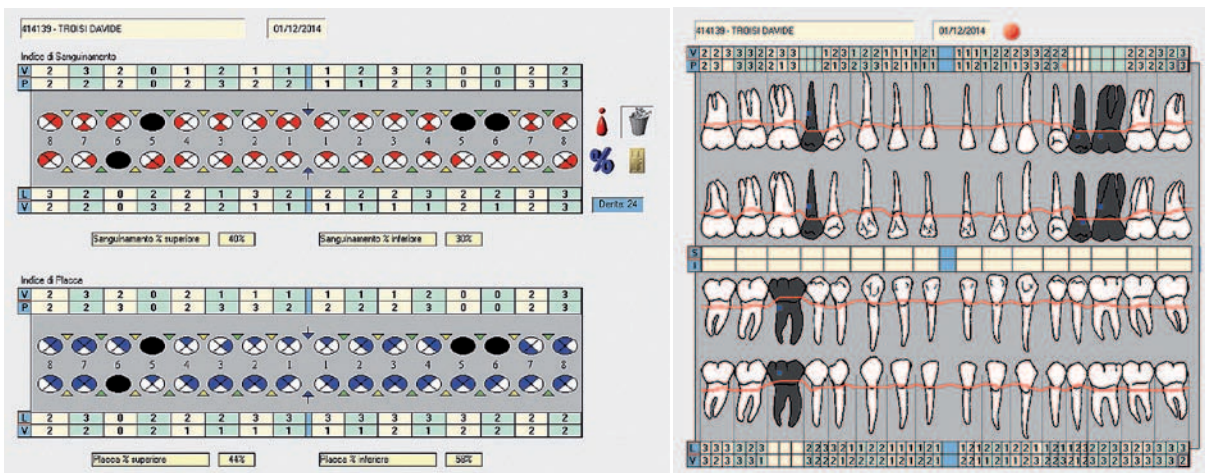
the masticatory apparatus as well as the risk of insufficient plaque control and was directly shown the areas requiring conservative, periodontal and implantological treatment. Procedures for home and professional oral hygiene were recommended and then agreed with the patient. After seeing the damage to the oral cavity for himself, the patient was in complete agreement with the suggestion to follow the procedures recommended by the dentist.

Decontamination

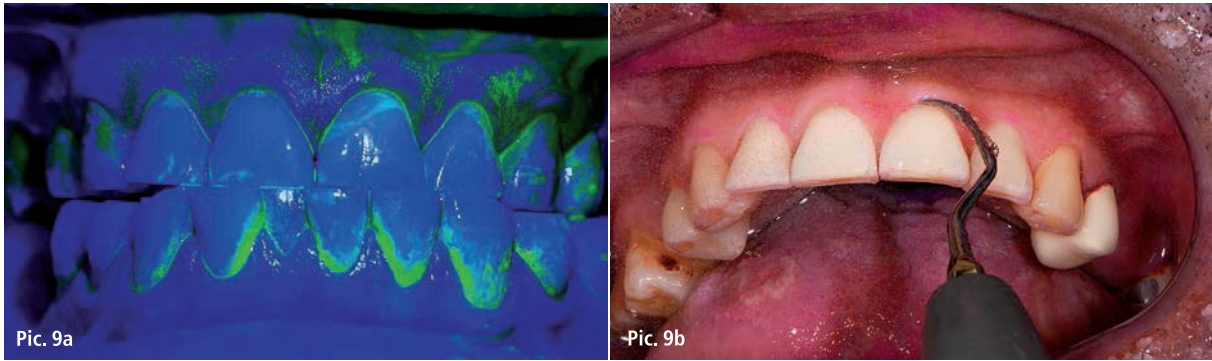
The collection and recording of the clinical data (pic. 7 and 8) was followed by plaque removal during which an airflow device for dental prophylaxis with dual function was used (Air-N-Go easy; SUPRA: supragingival application with carbonate or natrium carbonate, and PERIO: for subgingival application with glycin and appropriate attachments). In this particular case, the device was used on the SUPRA setting for supragingival polishing and cleaning. Using a plaque remover (Newton P5 XS B.Led Acteon Satelec) with plaque detection system, (pic. 9a), ultrasonic scaling was conducted which enables the user a minimally invasive procedure and simultaneously a precise recording of the toxins and tartar to be

removed. After the FLAG liquid was added to the 300 ml container, the surfaces were decontaminated in a targeted manner with the aid of the blue light of the Newtron Slim B.Led handpiece, which was operated with a standard attachment (pic. 9b). With white light, the LED ring of the plaque remover enabled optimum lighting of the areas requiring treatment in the retromolar area. Subsequently, a tongue sanitizer (TS1 Tongue Sanitizer, TSpro) for professional tongue cleansing was attached to the saliva ejector for use. Using a gel, the reverse side of the sanitizer is moved gently over the tongue. The tongue sanitizer is then turned around and soft ribs suction the bacterial biofilm from the surface of the tongue (pic. 10a and b).

After the periodontal debridement, a protective varnish containing fluoride (Fluor Protector S, Ivoclar Vivadent) was applied, whereby a thin and even layer was applied to the demineralized tooth surfaces (pic. 11a und b). For the treatment of various aphthae in the oral cavity caused by the snorkel mouthpiece, the use of a mouthwash (Fertomcidina U, Theriaca) based on iodine and salicylic acid with bactericidal and anti-inflammatory effect was recommended which is dabbed on for five days, three times a day for 30 seconds after rinsing twice a day with the 50 percent diluted product. At a later check-up, the healing status of the aphthae tissue was checked and the patient reported that he would like a teeth whitening treat-



Pic. 7 and 8: Patient form.



Pic. 9a: System for plaque detection. – Pic. 9b: Periodontal debridement with Newtron Slim B.Led handpiece.

ment to be conducted as soon as the initial phase of preparation of the oral cavity has been completed and before the implant treatment is continued.

Surgical phase

A decision was made to extract the broken implant with a bore milling with a diameter of 4 mm and to replace it with a new implant three months later (pic. 12–15).

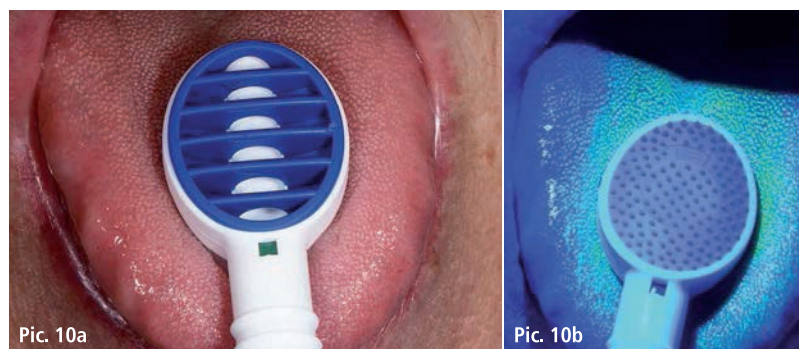
Procedure in the domestic environment – tailoring

To motivate the patient to efficiently control bacterial plaque, he was treated using the brushing method defined as "individual and accompanied tailoring" (Nardi et al., 2014). Prior to treatment, we used a plaque indicator with fluorescein to get an impression of the bacterial biofilm in the oral cavity. After careful assessment of the tissue biotype, we determined diastema and observed the manual skill of the patient. As intended with the tailoring procedure, a hand toothbrush (GUM Technique Pro, Sunstar) was recommended which guarantees efficient plaque control in the interdental spaces through its extremely pointed, cylindrical and angled bristles. We recommended to the patient that he improve plaque control in the interdental spaces by using the interdental brushes (GUM Travler) and, together with the patient, selected the appropriate size for the attachments of the brushes to be used (pic. 16). We recommended that the

patient use disposable dental tissues (Digital Brush) for oral hygiene on the go at training and a toothpaste (EP Enamel plus, Micerium) with low abrasion value (25 RDA). We also recommended to the patient that he only use whitening toothpastes on rare occasions.

Procedure in the domestic environment – whitening

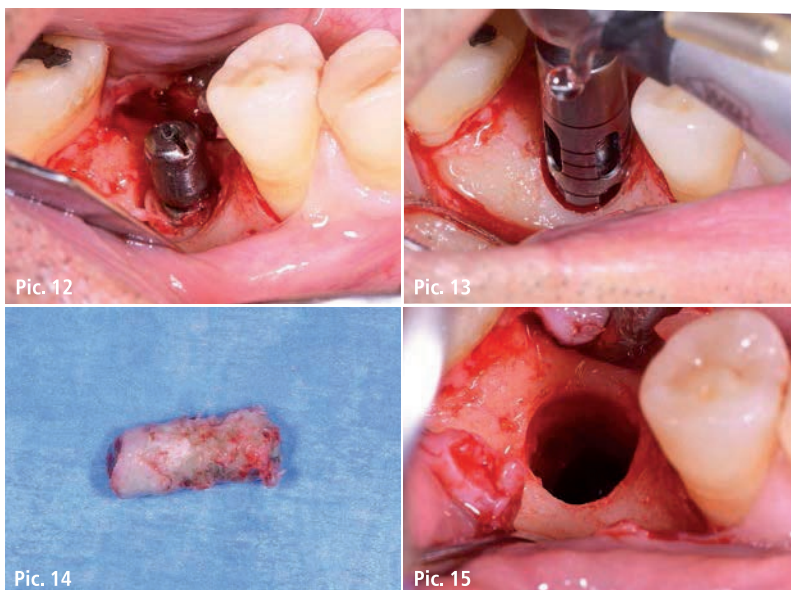
We recommended a whitening treatment (Ena White 2.0) to the patient and advised him to conduct this in the mornings and evenings



Pic. 10a and b: Professional tongue cleanser TS1 Tongue Sanitizer during application.



Pic. 11a: Application of protective varnish containing fluoride. – Pic. 11b: Application of Fluor Protector S (Ivodar Vivadent) gel.



Pic. 12: Fitting of the TBR healing screw which determined the correct position and angle for the bore milling. – Pic. 13: Use of the bore milling up to a length of 13 mm. – Pic. 14: Extracted implant with the fully intact bone which surround the implant. – Pic. 15: The post-extraction area.

after brushing his teeth over the period of 20 days and to subsequently rinse his toothbrush with water. When the patient became aware of how easy the system was to use, he immediately agreed to the treatment, which we were able to show him using a brochure.

Conclusion

We saw the patient again 15 days after treatment. The video camera was used during the examination in order to show the patient the improvement resulting from the domestic plaque control in real-time. The



Pic. 16: Better plaque control in the interdental spaces using interdental brushes. - Pic. 17: Handover of the mouthguard (Pro Guard).

patient stated his satisfaction with the achievement of the desired aesthetic results and with the whitening conducted at home as well as with the improved oral hygiene thanks to the selected brushing technique we support ("tailoring procedure"). The patient also became aware of the risks caused by his sporting activities. Again, the patient's attention was drawn to the importance of relaxation through stretching the masticatory muscles.

After a close postural examination on the posturometric and stabilometric platform Lizard Ultimate, the patient received a bite mouthguard and thus a device with a protective function, in that it protects the teeth from impact, as well as a bite function, which improves performance through its muscular, postural and articular effect (pic. 17).

In addition to the appointments for the rehabilitative therapy plan with the implantologist, the patient was included in a plan for regular professional check-ups for oral hygiene which enables the dental hygienist to conduct clinical practices which counteract the stress through competitive sports and ensure a healthy, functional and aesthetic smile. The technique of the whitening procedure conducted at home (Ena White 2.0) is an effective instrument to stimulate compliance with the procedure for domestic dental care and gets the patient used to paying closer attention to regular check-ups which provide the dentist with the opportunity to check the patient regularly and examine the status of the oral cavity health. It also enables the dental hygienist to correct unfavorable lifestyle habits to ensure a beautiful and healthy smile.

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TS1 Tongue Vacuum Cleaner

The TS1 Tongue Vacuum Cleaner is a high-quality product, produced in Germany in accordance with ISO 9001.



patent pending

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Go straight to the application video here:



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