GBT in periodontitis treatment

Guided Biofilm Therapy: Safe even in challenging cases – interview with Heidi Zisterer, dental hygienist

EMS Guided Biofilm Therapy (GBT) is now a keystone of dental prevention. GBT is also being successfully used in non-surgical periodontitis therapy. Dental hygienist Heidi Zisterer, White Line Dentistry, was able to apply GBT successfully to resolve a difficult case. She received the Dental Hygiene Practitioner Award for her documentation of the case at the 25th annual conference of the German Society of Dental Hygienists (DGDH).

Ms. Zisterer, this summer you received the Dental Hygiene Practitioner Award conferred for the first time by the DGDH and DG Paro for your case history. Congratulations! Why did you submit this particular case?
Heidi Zisterer: The terms of the award specified a serious and unusual case. My patient met this requirement. The 52-year-old patient presented to our practice in September 2023 with pain. She had last visited her dentist back in 1983, as she had an extreme fear of dental treatment. The greatest challenge was to convince the patient to undergo the comprehensive treatment. Someone who has not been to a dentist for more than 40 years will need a great deal of treatment.

What other challenges did the patient's case history pose apart from the dental phobia?
Zisterer: One challenge was that she had a severe allergic reaction to some anesthetics. She had suffered a cardiac arrest during surgery seven years ago! We had no idea how she would react to the local anesthetic during dental treatment. Another problem was that she was extremely reluctant to take any medication. And she suffered from hypotension.

To what extent did you have to and were able to take these factors into consideration?
Zisterer: I was worried that her blood pressure could spiral out of control if we injected an anesthetic during the periodontitis treatment. In addition, I knew from the start that I wouldn't be using any adjuvants for this patient, as she would have rejected them. Therefore, it was clear that the pockets would have to heal without supportive measures and that GBT, i.e., my treatment, and her oral hygiene would have to be sufficient. So I said to her that it would be "50 percent up to me and 50 percent up to you", and we were successful.

What was the position of the non-surgical periodontitis therapy in the treatment plan?
Zisterer: In complex cases we follow a staged plan. In this case, we started with the extraction of two teeth, 17 and 18. This was followed by the non-surgical periodontitis therapy and then the filling therapy.

Extractions always require anesthetics. How did the dentist handle that?
Zisterer: That went well. We had a general practitioner from our medical clinic on hand for the extractions. As a precaution she placed an access in case the patient suffered an adverse reaction.

The teeth were extracted under local anesthesia. During the procedure we saw that the patient had no problems with the local anesthetic *Ubistesin 1/200,000*.

What is your general procedure for non-surgical periodontitis therapy according to the GBT protocol?
Zisterer: We start with an assessment of oral health and the medical history. I apply cream to the patient's lips before I start the treatment. I ask the patient to rinse out their mouth and I disclose the teeth. I have the seated patient look into the mirror and explain that coatings that have been adhering to the teeth for more than 24 hours are darker in color and the lighter colors indicate fresh coatings. Then I start by removing biofilm, discolorations and slightly mineralized dental calculus with the *Airflow*. I always start with the *Plus Powder* and then, only if necessary, switch to the more abrasive *Classic Comfort Powder.*

How do you go about subgingival removal of biofilm?
Zisterer: Where the pockets are up to 4 millimeters deep, I work with the *Airflow* handpiece with *Plus Powder*. I clean pockets that are 4 to 9 millimeters deep with the *PERIOFLOW® Nozzle*. When I spray into the pocket with the nozzle, it forms a small cavity that gives me a clear view into the pocket.

How do you remove hard dental calculus in one AIT session?
Zisterer: The calculus is primarily removed with the EMS *PS* instrument. Finally, I probe the subgingival regions of the tooth surfaces with an explorer probe to check that it is all completely cleaned.

Did you have to adjust the treatment plan in this case?
Zisterer: In general, in our practice we do two pretreatment sessions – the initial therapy – before starting the anti-infective therapy (AIT). However, this was not possible with my patient because her teeth were too sensitive and her fear was too great. I had to stop the initial therapy because she would have needed local anesthesia. At this stage I changed the treatment plan completely: I combined the initial therapy with the AIT with treatment quadrant by quadrant to reduce the stress on the patient as much as possible. I also scheduled much more time per session than usual.

Did your plan run smoothly or were there additional surprises?
Zisterer: The patient was terrified at the second session. It may just have been a bad day for her. She was trembling and in tears during the treatment. I called the dentist into the room. We took her blood pressure and it was quite high at 144/77. We soothed the patient and removed her winter boots. We did this because she felt that her thick socks in the boots were constricting her blood vessels. I also included our trainee in the treatment. Her job was to hold the patient's hand and assist me with the suction.

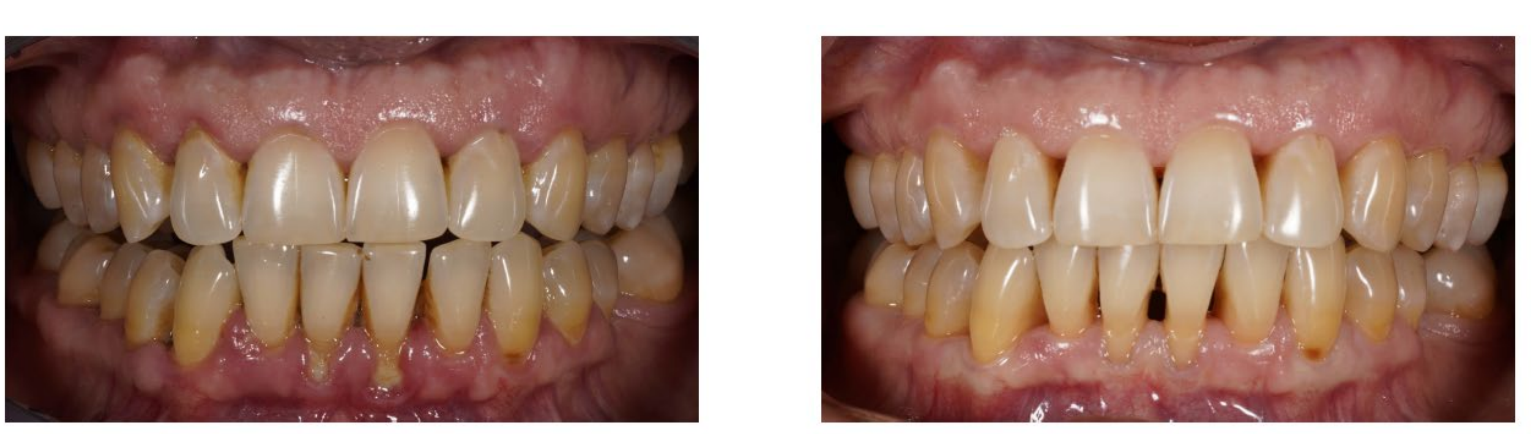
Photos: Zisterer

Dental hygienist Heidi Zisterer with her happy patient holding the Dental Hygienist Practitioner Award. The dental hygienist works in the team at the GBT-certified White Line Dentistry practice in Tuningen (Black Forest, Germany). For six years now, GBT has been established as part of the prevention and non-surgical periodontitis therapy at the practice.

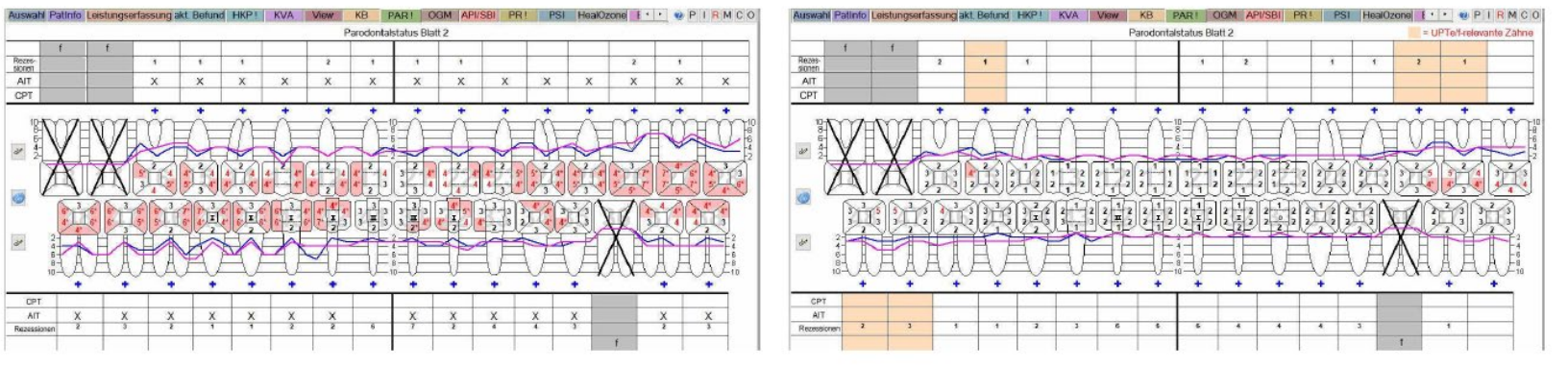
Does the GBT protocol give you confidence when dealing with challenging patients?
Zisterer: Always! I know that the GBT protocol works with absolute certainty. You don't need to deviate from the procedure, and I am used to the routine. Patients also notice that the treatment is always performed in the same way and that I'm calm and confident when doing so. This feeling is transferred to the patient.

Was the treatment goal achieved with your special patient?
Zisterer: The pockets could be reduced in such a way that only a few residual pockets of 4-5 mm probing depth still remained. But we can deal with this in supportive periodontal therapy (SPT). In supportive periodontal therapy sessions I prefer to use the EMS *PS* instrument for the residual pockets. This allows me to manage the remaining pockets easily over the two years of follow-up care.

Does the patient come to you regularly in the practice now?
Zisterer: There was a gap of three months after the AIT. I was already wondering: would the patient really come for the supportive periodontal therapy? She did come back. When I saw her – well-groomed and with make-up and lipstick – I knew that her teeth and gingiva would be in good condition. And she really showed me the best mouth that I have seen after AIT. She now comes every three months and she has been to me three times now!



Before/after: Patient, 52 years old: clinical situation at initial presentation (left) and after treatment (right). At initial presentation: PSI code 4/4/4/4; pus discharge 21, 12; loose teeth 32–44, grade I and II; BOP 49.42 percent. API/SBI 100 percent. Various types of coatings.



Before/after: Periodontal status before and after the non-surgical treatment. The patient does not have diabetes and is a non-smoker. The bone loss index is less than 1 percent. Diagnosis: Stage III, Grade B, generalized.