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Discussion: Periodontics and periodontal prosthesis

Carlo Marinello

I get the feeling that currently, the antibiotic wave is growing again, so what impact do antibiotics have in conventional conservative periodontal treatment?

Mario Aimetti

I think there are some rational points to support antibiotic therapy, but only in generalized aggressive periodontitis, not in chronic periodontitis, because in this kind of patient there is a particular microflora, but above all there are some problems in the host response. For this reason at my department at university we started to study these particular types of patients. So far we have seen that there are some interesting changes from the microbial point of view, especially in deep pockets.

Carlo Marinello

Actually more and more groups, in Europe especially, are coming up saying that you should also use antibiotics for simple chronic periodontitis. In the past, we only concentrated on microbiology, and today we also concentrate on the host response. There is a hypothesis that maybe the host response can be improved by using antibiotics. At the moment there are at least two schools, one is Würzburg, the other is Geneva, that consider using antibiotics for chronic periodontitis.

Mario Aimetti

Up till now there has been a lack of knowledge about host response, so we just work on the microbial point of view. It's impossible to think about administrating antibiotics for some weeks. In my opinion, we can try to treat chronic periodontitis with antibiotics by changing strategies, such as in full mouth disinfection or full mouth scaling and root planing. We are discussing the opportunity to follow this kind of research.

Carlo Marinello

What kind of concept are you personally doing mostly in your clinic?

Mario Aimetti

Usually, I use conventional stage debridement when I treat chronic periodontitis. I prefer to use full mouth disinfection plus antibiotic therapy when I need to treat aggressive periodontitis or something that I think is aggressive parodontitis.

Carlo Marinello

Maybe we have to remind our colleagues that by prescribing antibiotics, there are also side effects, such as resistance forming. The other aspect is that in our clinical field, the concentration of the antibiotics in the sulcus is so reduced that the effect that we get is really minimal. Therefore, we have to balance this aspect somewhat. Let's ask the surgeon the same question: Are you using antibiotics in all surgeries?

Roberto Pontoriero

Scientifically, there is no evidence that antibiotic administration will improve the outcome of surgery. In fact the results of the studies without and with antibiotics didn't show any difference. So personally I prescribe antibiotics, because I feel more protected.

Tidu Mankoo

I recognize that this is purely anedoctal but there seems to be a difference sometimes in the postsurgical healing period if you prescribe antibiotics or not. Any time we do any kind of graft we have less complication if we prescribe antibiotics.

Nitzan Bichacho

Doctor Malament is prescribing a course of antibiotics one week prior to any impression taking. He claims that it somehow improves the whole process, especially when it come to the gingival fluid.

Roberto Pontoriero

For sure Kenny Malament found something different clinically or measuring the quality and quantity of the sulcular fluid. Of course, if you give somebody a week of antibiotics something changes. Is this really something that you need to give?

Carlo Marinello

My response to Kenny was that you get the same result if you rinse one week with Chlorhexidine, and you have less side effects over the course of the treatment.

Giano Ricci

When using of a combination of metronidazole and amoxicillin, do we have patients who complain about side effects? How do you control these side effects?

Mario Aimetti

This is the main problem of this kind of therapy. Usually when we prescribe these drugs, we are prescribing also some drugs to prevent gastroenteric complications. Recently, some groups published on the use of Azithromycin with good results. I don't have experience with this kind of treatment but indeed this is a very strong therapy and not all patients can complete it.

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John Orloff

A new trend is coming up with probiotics, which is another way of interfering with the patient and with the bacteria in the pockets. What are your thoughts about that?

Nitzan Bichacho

Wherever we prescribe antibiotics we also prescribe an adjunctive with different types of probiotics so that the macrobiota are more balanced, especially in the digestive system. The probiotics are taken in between the antibiotics, three to four hours before or after the administration of antibiotics. Then the complaints of some side effects, such as intestinal side effects are reduced dramatically. But this is adjunctive to the antibiotics – it's not a therapy by itself.

Carlo Marinello

You showed on one side, surgery and the other side, debridement of the tooth surfaces. Is hand instrumentation out? You mentioned several times that you are using ultrasonics. What is your feeling using the one instrument or the other, looking also at the side effects you may get?

Mario Aimetti

I think that in the treatment of the periodontal disease, the better way is to use both ultrasonic and hand instrumentation. If you accept the concept that at the bottom of the pocket you always have fibers weakly attached to the root surface. Probably it would be better to use ultrasonic devices as the first step. But it is essential to use both of them to have the best results.

Carlo Marinello

You mentioned a very important aspect. By using hand instruments, there is a danger of destroying these inflamed fibers. We also have two different root shapes on furcated molars and single rooted teeth. What about this difference?

Mario Aimetti

The root morphology plays a pivot role in your clinical decision on which instrument to use. In furcations it is not all ways possible to use hand instrumentation because it's a very small area. You can have anatomical reasons that can drive you to use one instrument or the other, but from the clinical point of view. I think it is better to use both of them.

Carlo Marinello

You showed us that microscopy may be an interesting option for the future. Only recently it has been shown that you can go directly inside the pocket with your instrument, assisted by video. Is there any research showing that you may be more effective with microscopy?

Mario Aimetti

We began to use microscopes because we wanted to perform guided tissue regeneration without raising a flap. We have used amelogenes and pulp cells to obtain a new attachment apparatus without performing any surgery. How-

ever I don't think microscopy is useful for non-surgical treatment in general practice.

Tidu Mankoo

I've been using the microscope for non-surgical treatment and I found clinically that it definitely helps me to see much better into the pocket and to visualize the calculus. For the last two, three years we have been using it. Clinically speaking, I think it's very useful.

Alberto Fonzar

I've been using the microscope for about 20 years. It's useful for sure but you shouldn't compare the microscope with the naked eye, but rather the microscope with four or five times magnification. I would say you can also really perform a good job without the microscope in 90% of clinical situations.

Carlo Marinello

I totally agree. In endodontics we know for sure that we get better results. I wonder why we don't have them in periodontics.

Roberto Pontoriero

I have a microscope, I don't use it in resective surgery because I have to have an overview of the larger area. If you have a very limited field to work with, such as a furcation area, then you can use the microscope.

Carlo Marinello

I got the feeling that you are doing full flaps buccally and orally. Did you change the concept? Are you also using other flaps, are you perhaps going only from the buccal side if there is no need to lengthen the abutment? So is there only one way or different ways?

Roberto Pontoriero

There is never only one way. If I have periodontal defects, they are mostly interproximal. I cannot or I don't even want to avoid raising the palatal flap, because if the defect calls for resective surgery, I want to end up leaving the buccal flap at the crest, the palatal flap at the crest and nothing over the interproximal bone convexity, so that I can avoid the occurrence of soft tissue craters after the healing process. If I leave the palatal flap without touching it or if it's not possible to be precise so I make errors and I put the flap over, nothing dramatic happens. But you can see every time you don't have a proper flap position that the healing will take longer, and by this I mean the process of maturation because what happens is that you have this part at the crest, this palatal part over the crest, so this has to reseat. So you may have a soft tissue crater, which is difficult for the patient to clean. If he does not clean it then you have plaque so then you have inflammation, so you hamper everything, you know, not just the healing but the process of maturation, the timing for finalization.

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Iñaki Gamborena

I would like to know your opinion of the use of Glycina, just to better clean the defects.

Roberto Pontoriero

I don't use Glycina, I read the literature about that. Sometimes it can be useful to use it to have a smoother surface, but I don't have experience directly with this kind of product.

Carlo Marinello

You have to ask the patients how they feel about it. Many of them get hypersensitivity and this is the big problem. The literature is going very positively because it's supported by the company, but the patients don't like it so much. They are developing, by the way, a new powder that is less aggressive, and that is solvent in water.

Galip Gürel

Do you use hard tissue lasers in your surgical approach for crown lengthening procedures?

Roberto Pontoriero

Lasers? I don't have any experience.

Roberto Pontoriero

When you do resective surgery you have to be invasive, it is an invasive procedure. If you have to do crown lengthening, you have to remove bone. If you want a millimeter of crown lengthening for the rest of the patient's life, you have to remove 1 mm of supporting bone. If you remove it with the laser and this works better in your hands, then it's fine!

Giano Ricci

When you want to level the gingival margins in a prosthetic case, do you have to remove not only the buccal, but also the interproximal bone?

Roberto Pontoriero

It depends, if it is a healthy case, before finding the bone you find the attachment, the super crestal attachment. If you want to level two or three teeth, to correct asymmetry of less than a millimeter you do an internal bevel gingivectomy and then you remove a half-millimeter of attachment just buccally. If the discrepancy is small, if you are within a millimeter you can do it by removing the attachment even when touching the crestal bone. This means that you have to go on the interproximal resection. The fact is that you have to remove the attachment. The attachment genetically goes between 0.9 to 0.8 mm; in a thin tissue on the buccal you have the attachment of 0.9 mm before finding the crestal bone. But in the interproximal you always have a couple of millimeters from the CJ. Right? If you need to take out a millimeter to balance the symmetry you can do it without touching the bone interproximal but you have to touch part of the attachment.

Kony Meyenberg

In many of these cases the basic problem is to see the dimension position and

shape of the tooth. So one lateral might be in a completely different position and might have a completely different root morphology compared to the other one. So first we need to analyze what is really the cause of these asymmetries. In many instances we find that the only appropriate approach is to use an orthodontic therapy to place the roots in a perfect position.

Roberto Pontoriero

If I well understood, you move first the tooth in the right position and then you do crown lengthening.

Rafi Romano

I think that many times, even when you have periodontal problems, these may be caused by the wrong position of the tooth and by the inability of the patient to clean. First we need to analyze where the tooth should be, before we start doing this.

Carlo Marinello

So are we assuming that the maxilla is absolutely symmetrical? However, we can have this situation where we have a correct tooth position, and an asymmetrical gingival level. It's dependent on other effects, for example, tooth brushing, so it's not always the position of the tooth. We are just discussing the technical procedure.

Otto Zuhr

Coming back to periodontally diseased patients, I would be interested in understanding what role today resective periodontal therapy plays, and second if you go for resective periodontal surgery, how is your concept in contouring the bone? Is this still the idea to create, let's say a physiologic anatomy, on a more apical level or has this changed over time? How often do you use it?

Roberto Pontoriero

Every time I have a patient that has to have periodontal surgery because of either suprabony or shallow intrabony defects, the rules of engagement are never changed.

Marc Hürzeler

So do you ever do conservative treatment or access flap procedure?

Roberto Pontoriero

Access flap procedure the way I showed you.

Marc Hürzeler

What are you doing in the posterior area?

Roberto Pontoriero

In the posterior area, where there is no problem of esthetics and I believe there could be progression of disease, I carry out resective therapy. If you are conservative, especially in the posterior area, you may have an area of soft tissue craters. Every time the patient has to clean soft tissue craters he can't clean with the floss or the brush.

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Marc Hürzeler

This is a very hot topic. Why do you treat your patient differently? You said in a discussion that you treat your patient very, very conservatively and then, if you need to do prosthodontics on these teeth, you completely change your perio concept, you said: now I do resective. That's the question.

Tidu Mankoo

What is the indication for resective versus regenerative, when would you choose this, when would you choose that?

Roberto Pontoriero

In few words, when you have a deep isolated intrabony defect, if according to your treatment plan according to the morphology of the defect you want to use a surgical approach, that approach can be only a reconstructive approach. When you have shallow infrabony or shallow suprabony defect at this point for sure the reconstructive approach is a no-nonsense approach. There are two options. One is after non-surgical therapy, to go to the next step, which is: open the flap; clean the roots; and replace the flaps where they were. The other option is to remove the defects, and reshape the bone in order to achieve the correction of the defect to arrive at the proper tissue morphology.

Nitzan Bichacho

I would like to ask from a practical clinical point of view, if you decide that a certain tooth might be a good candidate for regenerative procedure, would you rather move it orthodontically before and make the defect smaller and shallower, or is it better to leave it as it is and then treat it when you have better access to the defect?

Roberto Pontoriero

In a patient that has a deep intrabony defect, this means that deep down the pocket has inflammation, which you don't want to have during orthodontic treatment. So I would go for surgery beforehand.

Tidu Mankoo

Sometimes after the initial active therapy we carry out orthodontics and we see what apparently looks like spontaneous resolution of lesions after the orthodontic treatment. Could you comment on that please?

Roberto Pontoriero

From a scientific point of view wherever teeth are being moved towards the defect radiographically, it appears beautiful, and the defect may disappear. You take the post ortho radiographs after the phase of stabilization and radiographically they look great, but it has been shown decades ago by Polson and Nyman studies on dogs where they intentionally moved roots towards the defects, on the radiographs the defect disappeared, but on the biopsy the defect was there. If you just make an extrusive movement you may level out the defect, but the attachment loss remains the same. We basically have

to stick to the concept that moving a tooth towards a defect will just make the defect narrow but it won't change the problem.

Egon Euwe

I agree that the more accessibility you have, the easier it is to clean the deeper parts of the defect, but in the surgical phase, I prefer to have a wide papilla to preserve or to cover completely the regenerated area. So if there is a space problem, it's better to solve it with orthodontic therapy: even a small diastema gives a most favorable situation.

Roberto Pontoriero

I would never try an orthodontic movement to increase the size of the defect just because that would effect me into cleaning better the deeper part.

Debora Bilaboa

If you do a regeneration how long would you have to wait before doing any orthodontic treatment?

Alberto Fonzar

There has been a recent publication where they immediately perform a regeneration procedure and then they start two weeks later to move the teeth, and first results seem not to be bad, but if you speak with other clinicians they will tell you that this is not appropriate because the blood clot is absolutely not stable.

Rafi Romano

There is an article published by Dr Landsberg, Prof Bichacho and myself about the time of starting moving a tooth after regeneration of the bone and the tissue and we started 5 weeks, and I don't know if scientifically it is supported, but there is the feeling that I am treating a hot tissue where all the cells are active, then orthodontics gets more results.

Roberto Pontoriero

When I was doing my PhD program, I had to go through bone biology. It is true that if you insert a tensile strength during bone healing at the phase of bundle bone, or osteoid tissue formation, you can increase cell activity. These are studies that come out from orthopedic literature. You may have faster healing and a faster transformation from osteoid to lamellar bone compared to no stretching. But the thing is that this shouldn't be done during the coagulum and provisional matrix formation otherwise you lose what you have got. In orthopedics they are also using magnetic fields to increase bone activity, but never before you have osteoid tissue formation. The problem is how do you know when you have osteoid and you are not still in the provisional matrix phase? To be on the safe side, a period of 3 to 4 weeks should be enough!

Aris Tripodakis

From what I understood, your procedure in periodontal prosthesis relates to the preparation under open flap all the way to the level of the bone to eliminate all

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the undercuts as one option. After healing you have reattachment, connective tissue and epithelial attachment onto a prepared surface. Why would you need tissue retraction to make your final impression as long as you only have to cover the clinical crown?

Alberto Fonzar

Tissue healing takes time, one year or so. I take impressions after 3 months and then I leave the crown's margin short. Often, even if you prepare the abutment in a correct way, the tissue does not completely follow the abutment contour. You then take the impression, you check with the paste and you can see at that point that the crown doesn't fit perfectly. Usually it is too large. By inserting a 00 retraction cord very gently you can keep a little bit more space for the impression materials and you can read the abutment profile perfectly.

Alexandros Grous

When do you remove the cord?

Alberto Fonzar

I leave the cord in the sulcus and remove it after the impression.

Aris Tripodakis

Where is the finish line in the knife-edge preparation? Is it at the level of the bone?

Alberto Fonzar

No, absolutely not. The finish line in the knife-edge preparation is the sulcus, where the tissue reaches the abutment or the tooth. What I do with the cord is give more space to allow the material to follow the abutment well. In other words, instead of having a sulcus, you have a pocket; by inserting the cord quite deeply in the sulcus you can have a deeper position of your margin or a shorter position of your margin, but after resective bone surgery how much is the sulcus? 3 mm? In other words I don't need to do this. My personal experience is that the majority of these patients still have the final prosthesis after 20 years. But I have not seen after 10 years that the patient stopped removing the plaque at home in a proper way. But when we speak about 10 or 15 years, you have to remotivate these patients. Without any doubt you have to have a well-organized office to keep these patients in a strict recall program.

Roberto Pontoriero

Once again patients who should be enrolled in this kind of treatment should have no more than 0.5 plaque index score. This means that those patients who did not comply with this index could not be treated like this and should find a different form of treatment.

Alexandros Grous

We didn't discuss the dental technicians involvement in those cases at all. Above all, to my understanding, we need customization – not every patient is a candidate for this treatment.