Dr. Thomas Nguyen - A New Classification Scheme for Periodontal and Peri-Implant Diseases and Conditions – Highlighted Tables

Chiraz: So, you have prepared a few tables for us, would you like to go through them and describe them?

Dr. Nguyen: As we can see here, this is a figure from the classification of periodontal disease and conditions of the 2017 workshop. So, the three main divisions are periodontal health and gingival disease and conditions, periodontitis and other conditions affecting the periodontium. If we look at the first one, we have periodontal and gingival health, gingivitis, dental-biofilm-induced, which was already in the previous classification. Gingival disease non-dental biofilm-induce, both of them are part of the previous classification. I think the main change to note here is the periodontal and gingival health. Gingival health is different from periodontal health because once the patient has periodontitis, he has lost some clinical attachment, so he cannot go back to gingival health anymore. He can be periodontally healthy but still be considered periodontitis patient.

Dr. Nguyen: If we go to the other conditions affecting the periodontium, it is very similar to the previous classification. We can see tooth- and prosthesis-related factors for iatrogenic or pen margins, failing restorations that's influencing the periodontium; traumatic occlusal forces are part of that, and mucogingival deformities and conditions, like recession has always been part of the classification. And now, we have a new classification of periodontal abscess and endodontic periodontal lesions. There are [full] articles about this section and I think it would be really interesting to dig into it a bit later on. And then, you have systematic disease and conditions affecting the periodontal supporting tissues. And this is very different from a periodontitis as a manifestation of systemic disease, because even if both of them are systemic diseases, one will make you more susceptible to biofilm and will create bone loss.

Dr. Nguyen: The other one is not biofilm related, so it could be anything like a tumor, a lesion affecting the periodontium but not related to biofilm or bacteria. Now, the main portion of it, which is periodontitis, it is separated because there are different etiologic factors, you have the necrotizing periodontal disease, which is different from periodontitis and different from periodontitis as a manifestation of systemic disease. A good example of this one would be the Papillon Lefèvre Syndrome, where it is a systemic disease, but then, the patient becomes highly susceptible to plaque and biofilm; they have huge destruction of the periodontium.

Dr. Nguyen: The next figure that we can talk about is the peri-implant disease and condition. Like I've mentioned previously, you have peri-implant health, peri-implant mucositis, peri-implantitis, and the interesting part is peri-implant soft- and hard-tissue deficiencies, because we know that those hard and soft tissues have a very high impact on the long-term survival of dental implants.
Dr. Nguyen: So, staging is now staging, and grading is the main way of diagnosing peri-implantitis now. And, for staging, it talks about severity, complexity and the extent and distribution of periodontal disease. Like I mentioned previously, stage 1 and 2 can be easily managed with surgical and non-surgical treatment. And stage 2 and 4 will require a more multifactorial approach into periodontal disease. I won’t go too much into details, but you can see, it looks into interdental clinical attachment loss, radiographic bone loss, and tooth loss like the previous classification. So, stage 1 and 2 have no tooth loss due to periodontitis. Stage 3 and 4 being a bit more severe as stage 3 has less than 3 teeth lost to periodontitis not taking into consideration wisdom teeth. And stage 4, has more than 5 teeth. So, in stage 3 and 4, if we look at the probing depth has to be equal or more than six millimeters, vertical bone loss more than three millimeters and furcation involvement of two and three, with moderate ridge defect. The main difference is you have masticatory dysfunction, secondary trauma, secondary occlusal trauma, severe ridge deficiency, bite collapse and less than 20 remaining teeth, so 10 opposing pairs. These are very compromised patients that will most probably lose the remaining teeth and will need full-mouth rehabilitation. The distribution is also added to the grading where you can have either localized, generalized or lower incisor pattern of disease distribution.

Dr. Nguyen: And finally, the last figure is grading. Grading, the way we approach this is the majority of the patients will start at grade B and then we have to find a reason to move them to grade A or C. So, if we look over grade B, we have less than 2 millimeters of disease progression over five years. The bone loss over age is a new addition to this classification. So, let’s say if you have more than 40% of bone loss and you’re less than 30 years old, this ratio would be more than one, so you will be a grade C. But, if you’re 80 years old and you have 30% of bone loss, this patient will be less than 25%. So, this will be a grade A. In grade B, destruction is commensurate with biofilm deposit. Here, in grade C, destruction exceeds expectation given biofilm deposit and a grade A, you have, if a patient has heavy biofilm deposit, but low level of destruction than he’s more resistant to periodontal disease. So, he could be a grade A. These are the primary criteria. You also have the grade modifiers which are very important and more can be added as a classification system, improve with time, but the two main risk factors that we know and are very well documented are smoking and diabetes. So, for grade B, a patient has to be a smoker of less than 10 cigarettes per day. So, if he smokes more, than this is automatically a grade C. For diabetes, we look at the Hb1AC percentage. So, if the patient is less than 7%, he will be a grade B. If he is more than 7%, he’ll be a grade C. If the patient is not diagnosed with diabetes, then he will be a grade A. This classification was made so it can improve with time as we get more evidence from research about biomarkers and systemic impact of periodontitis. At the moment, what we know is C-reactive protein is a very well-known marker that we can look into blood test for the inflammatory burden to the patient. The other interesting things are
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biomarkers. There's a lot of that has been identified, but as more and more comes out, they will be included in the new classification.

Chiraz: Thank you very much Dr. Nguyen. That was quite an interesting and eye-opening conversation. We will have all the resources that you mentioned included in the posts along with the video, the article, and the tables and I wish you all the best in your endeavors and I hope to host you again on Oasis.

Dr. Nguyen: Thank you very much for having me today. It was really fun, and I'll be happy to come back anytime to talk to you about classifications and periodontal disease.