The role of prevention in implantology

BY DR PETER VAN DER SCHOOR, IMPLANTOLOGY CENTER, GARDEREN, NETHERLANDS

In October last year, I had the honour of speaking in front of a medical and dental audience to explain my approach to prevention. In my lecture, I talked about our new "peri-profiling" approach using saliva and aMMP-8 diagnostic methods.

Certainly, everyone can get periodontitis, but my younger patients visit my dental practice less frequently, which means they are at a higher risk of developing periodontal diseases. Interestingly, we have always had difficulty achieving the necessary compliance from patients in this younger age group to obtain good dental hygiene in order to prevent periodontitis.

Predictive analysis vs. measuring disease

Also, we have found that well-known diagnostic methods, such as PSI or BOP, do not necessarily "look ahead", nor are they predictive—which is what we need to ensure so that we are not always too late with our treatment. Now, finally, we have found a way to do this.

The well-documented collagen destruction indicator, aMMP-8 can be measured in the saliva (with PerioSafe) and is, for us, the new gold standard for predictive analysis in preventive dentistry. It helps us identify the patients with the greatest need for preventive treatment and at the right point in time, which is when the sub-clinical collagen destruction of periodontal tissue has started, but it is not yet visible.

Fortunately, the Dutch public health insurance system NZA has recognised the "predictive value" and solid scientific data of aMMP-8 diagnostic methods and is going to fully reimburse the cost of the diagnostic treatment for every patient by 2018. This decision is a breakthrough for targeted healthcare in dentistry.

aMMP-8: A proven concept

There are over 200 aMMP-8 studies in dentistry and more than 900 studies in medicine. We ran our own study with over 200 periodontally-healthy patients, between the ages of 20 and 40 years old. Each patient received a free PerioSafe test. Interestingly, 40 per cent of these participants tested positive for the presence of aMMP-8. All of these patients wanted to stay at our practice for an oral hygiene treatment. Of the other 60 per cent who had a negative result, around ten per cent still asked for an oral hygiene treatment. This means that only one test is necessary to triple the number of dental hygiene procedures for 40 per cent of the patients in your practice.

The peri-implantitis protection concept

I have done over 30,000 implants in my life and about ten per cent of those have failed. The overwhelming majority of failures were due to patients developing peri-implantitis. For patients who would like to have implants, we first have to determine what has gone wrong with their natural dentition. Which is why, prior to implant placement, we use the PerioSafe test to evaluate whether there is silent inflammation that might need attention. After the implant surgery, we use the ImplantSafe test for regular monitoring to prevent peri-implantitis. The patient has to test negative for aMMP-8 to guarantee tissue stability and since our strategy is sustainability, aMMP-8 is the most effective diagnostic tool available to date. Owing to the tool, we know that 80 per cent of our implant patients need more prevention to keep the implants safe.

ORALyzer: The digital future of prevention

Looking forward, we now have to step into the world of digital saliva diagnostics that is performed as a chair-side, aMMP-8 quantification with the ORALyzer, which is one of the biggest inventions in dentistry, because it allows us to precisely look at the patient’s immune response system and print out an analysis report within a couple of seconds. This tool is exactly what we need to fight peri-implantitis and periodontitis. The ORALyzer can even measure the success of our treatment by seeing a reduction of aMMP-8 concentration in the saliva, measured in ng/ml.

I want every dentist to understand that 40–50 per cent of all patients will need two to four dental hygiene procedures per year to prevent deterioration. aMMP-8 saliva diagnostics open the door to much needed "patient targeting" and "compliance" and there is nothing else available that can compare to it at this point in time. It is a prevention-need-indicator and a patient motivator.