A nuanced perspective on periimplantitis

“We see bone remodeling and bone loss for very different reasons,” according to osseointegration pioneer

by Dr. Stefan Holst, Nobel Biocare

According to some widespread, but crude, definitions, periimplantitis can be characterized by a periimplant bone loss of as little as 1 mm in the first year after initial treatment. Since some post-treatment bone loss is in all but inevitable during initial bone remodeling in even the most successful and long-lasting cases, such definitions lead, as a matter of course, to controversy.

One of the most widely quoted scientists in dental implantology, Prof. Tomas Albrektsson wonders that periimplantitis is increasingly being used as an alarming label for benign marginal bone loss around implants. On a recent visit to Zurich, Switzerland, he spoke with Dr. Stefan Holst, Nobel Biocare’s Vice President of Implant Systems and Research, on this topic.

Dr. Stefan Holst: Periimplantitis is currently a prominent topic of discussion at various events and congresses. Is the nature of this debate beneficial for the implantology community or could it be a threat to our reputation?

Prof. Tomas Albrektsson: If the biological reasoning is not sound, then it is always a threat. When we look at the clinical outcomes in long-term studies, they are so much better than many of those that we hear and read about. I am very critical of this since it creates problems where there may not be anything problematic. The frequency of periimplantitis has been grossly exaggerated in the literature. All bone loss that occurs in the first year is definitely not periimplantitis.

A clinician should always take action when he or she sees marginal bone loss or rather the preface of it, which is called mucostitis. Mucostitis is only the first sign of an immunological reaction; it has nothing to do with anything other than immunology, but this is unfortunately not understood by many of our clinical colleagues.

From the clinician’s standpoint, we should take all types of marginal bone loss seriously—even if the great majority of implants with some bone loss will never develop periimplantitis. The problem is that we do not know which ones this applies to.

For example, one reason for problems with bone loss is cement remnants in the soft tissue. If this is removed in time, the bone loss stops. The implant can then function properly ever after without any problems. However, there is also the possibility that if the cement remnants are left in place for ten, 15 or 20 years, periimplantitis affecting the same implant may follow.

A clinician should always take action when he or she sees marginal bone loss or rather the preface of it, which is called mucostitis. Mucostitis is only the first sign of an immunological reaction; it has nothing to do with anything other than immunology, but this is unfortunately not understood by many of our clinical colleagues.

Recent studies among the Swedish population imply that implant brand plays a role in periimplantitis. Is this not misleading given that so many factors influence treatment outcomes?

Many of the figures that are being quoted, be that in the recent Swedish publication or others, are lamentably unrealistic. They have used the most liberal definitions of what they call a disease when in reality it is no such thing.

Our own studies of long-term follow-up of implants demonstrate very clearly a similar, small percentage of implants that are affected by periimplantitis. This is between 1 and 2 percent—whether one of the major implant systems or another is used, it makes no difference.

However, implant systems that say they are similar to other documented implants and therefore need no documentation of their own are not to be trusted.

For example, one reason for problems with bone loss is cement remnants in the soft tissue. If this is removed in time, the bone loss stops. The implant can then function properly ever after without any problems. However, there is also the possibility that if the cement remnants are left in place for ten, 15 or 20 years, periimplantitis affecting the same implant may follow.

A clinician should always take action when he or she sees marginal bone loss or rather the preface of it, which is called mucostitis. Mucostitis is only the first sign of an immunological reaction; it has nothing to do with anything other than immunology, but this is unfortunately not understood by many of our clinical colleagues.

Recent studies among the Swedish population imply that implant brand plays a role in periimplantitis. Is this not misleading given that so many factors influence treatment outcomes?

Many of the figures that are being quoted, be that in the recent Swedish publication or others, are lamentably unrealistic. They have used the most liberal definitions of what they call a disease when in reality it is no such thing.

Our own studies of long-term follow-up of implants demonstrate very clearly a similar, small percentage of implants that are affected by periimplantitis. This is between 1 and 2 percent—whether one of the major implant systems or another is used, it makes no difference.

However, implant systems that say they are similar to other documented implants and therefore need no documentation of their own are not to be trusted. Clinicians need to choose an implant system that has been published in peer-reviewed papers. If that does not exist, do not buy it. Buying a cheap implant that is undocumented can prove to be very expensive.

Based on your clinical experience, what are the factors that play a role in bone loss? Treatment complications cause bone loss. We call it the “triat of poor.” First is the use of poor implant systems. As mentioned, these exist and are sold at a cheap price. Again, these implant systems should be avoided.

Second is poor clinical handling by clinicians without the necessary skills. Third is what we can term poor patients—those patients that are difficult to treat. These are the causes of bone loss that in some instances, although rare, may in the long term lead to periimplantitis, but in most cases do not.

So what can we as dental implant professionals do to prevent the proliferation of misinformation about periimplantitis?

I am increasingly irritated with people calling benign bone loss a disease. Those who are doing so have to read the new research that is out and realize they are wrong. The profession must unite to protest against alarming reports in a much stronger and united manner than we have done to date. However, we must, of course, continue to take patients very seriously. We cannot ignore bone loss, even if it proves to be benign. We have to be active all the time and work to the best of our knowledge for our patients.

How does a clinician determine whether bone loss is a natural physiological reaction or due to disease?

More to explore!

To read more about this and related topics, such as findings about screw versus cement retention, please visit nobelbiocare.com/news