

A shift to “well-care”

Dr Sammy Noubbissi has been practicing implantology for many years, specialising mainly on the use of ceramic implants. In 2011, Dr Noubbissi founded the International Academy of Ceramic Implantology (IAOCI), an organisation dedicated exclusively to ceramic and metal-free alternatives to metal implants. In an interview with Georg Isbaner, editorial manager of *ceramic implants*, the IAOCI founder and president spoke about how he entered ceramic implant dentistry and how he approaches titanium versus ceramic and future challenges.

Dr Noubbissi, you are one of the leading dentists in the field of ceramic implantology having successfully organised the 7th IAOCI World Congress held in San Diego, USA, at the beginning of February. What were the most talked about aspects regarding zirconium dioxide implant systems?

The 2018 congress was very successful and we reached our highest attendance ever: five continents and attendees from eighteen different countries were present. This year, three major aspects of ceramic implantology dominated the discussion. Firstly, a recurring theme among most speakers was the optimisation of patients’ systemic health prior to implant surgery. Implant surgery requires optimal bone healing for initial implant integration and long-term success. The important role of Vitamin D, cholesterol levels, Vitamin C and Vitamin K in bone health and bone healing among others was widely discussed.

As a second aspect a few of our speakers introduced more advanced and complex cases with ceramic implants which clearly indicates that the limitations of ceramic implant applications are gradually disappearing. Thirdly, the correlation between peri-implantitis, certain systemic health problems and titanium disintegration as a result of corrosion was presented and supported with recently published research by Prof. Diane Daubert of the University of Washington and Dr Johan Lechner of Munich, Germany. We came out of this meeting with the overall understanding that ceramic implants are a viable alternative for aesthetic, functional and biological purposes. However, despite

the fact that there is mid-term clinical data available on various ceramic implant systems, there is still a need for structured and organised scientific research with ceramic implants.

As it was your seventh IAOCI congress can you please describe how the discussion around ceramic implants has changed in comparison to the beginning of your IAOCI activities?

There has been a steady evolution in the perception of ceramic implants and the discussions around them. In the early days their ability to integrate, the success rates and if they were really metal-free were questioned. Another source of discussion was their macroscopic design which was one-pieced and limited their range of application. Many of these concerns have been laid to rest today as we now have implants on the global market that are not only two-pieced but also contain metal-free abutment screws. Today there has been an added focus on the recipient of the implants and the correlation between their success and systemic health.

Are there any therapeutic indications for which you recommend the use of ceramic implants only?

Ceramic implants are a wonderful addition to the options implantologists and patients have in replacing lost or missing teeth. Like any other medical or dental modality, ceramic implants are not a panacea and certainly cannot be used exclusively. In terms of indications, we have seen the use of implants as a preferred method of tooth replacement grow exponentially. This has led to exposing a very broad range of individuals to dental implants, however, in return the biological response to these conventional implants has resulted in reevaluating the “biocompatible” label given to titanium and titanium alloy implants.

We now know from scientific literature that titanium when compared to zirconia ceramic did not fare as well in terms of aesthetics, plaque retention, epithelial attachment and soft tissue stability. We also know that ceramic implants with their unique surface treatments osseointegrate as well as titanium coated implants. I believe that ceramic implants when requested or offered should be used with consideration given to the biological factors such as immunology and, of course, the dental aspects also. Pa-



Fig. 1 Founder of the International Academy of Ceramic Implantology (IAOCI) Dr Sammy Noubbissi.



Fig. 2

Fig. 2: Attendees at the 7th IAOCI World Congress in San Diego, USA, on 15–17 February 2018.

tients and dentists who want superior aesthetic results as well as patients who have a history of allergies and sensitivity to metals are prime candidates for ceramic implants.

In your opinion, what are the ideal properties and functions of a modern ceramic implant system?

A modern ceramic implant—whether it's one-pieced or two-pieced—should be able to function as successfully as any conventional implant. Today, most ceramic implants do match the flexural strength of metal alloys although there are some ceramic composites headed to the market that will address such concerns in a significant manner. Another important thing is that implants, especially from a prosthetic aspect, need to be versatile, meaning they have to be easily serviceable. I see manufacturers coming out with screw-retained two-piece ceramic implants now and even metal-free screws, which is exciting.

When do you use a one-piece ceramic implant, and what are the indications for a two-pieced system?

When I fully entered ceramic implantology, the only option available in North America where I practice were one-piece ceramic implants. We managed to treat about 90 per cent of cases that came to our clinic. The greatest challenge was the precise and accurate placement of the implant as there are very few systems that allow you to prep their abutment if you are off by a couple degrees. However, I was able to treat a wide range of cases from single implants to full-mouth reconstructions.

In the last four or five years, having two-piece ceramic implants with cementable or screw-retained abutments has brought options to a whole new level as there are more options and more flexibility. As I see it I would recommend using one-piece ceramic implants for single tooth or multiple separate single teeth replacement mainly in the molar and premolar area. When it comes to anterior teeth or full arches, although in some cases one-piece implants will work, I prefer a two-piece solution. For servicing and maintenance, I recommend two-pieced, screw-retained, and in keeping with the metal-free philosophy using a system that offers a metal-free screw.

Drawing from your experience, do you think patients who oppose titanium implants decide now in favour of ceramic implant solutions?

Yes, absolutely. In my experience when I discuss treatment with patients and I present the option of a metal-free implant, I get approximately 93 per cent who would prefer a metal-free solution and 80 per cent of these are willing to spend extra to replace their teeth with ceramic implants instead of titanium. The reason for that in my opinion is that people have become more and more health conscious and concerned with the type of treatment they are willing to accept. Just look at the proliferation of organic/biologic supermarkets and the rise of alternative medicine, biological dentistry and integrative medicine. There is a shift from old fashioned health/dental care to what I like to call “well-care”.

What are the future challenges or tasks of ceramic implant technologies?

Ceramic implants still need to improve in terms of flexural strength, their structural and biological properties however are far superior to metals. Ceramic implants are not vulnerable to corrosion, do not release ions in the host and should be regarded as the most biocompatible dental implant material available today. Continued research and development are the key, but also close collaboration with clinicians who see far more and unfortunately report less than researchers.

Dr Noubissi, thank you very much.

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