11th Expert Symposium of BDIZ EDI in Cologne discusses short, angulated and diameter-reduced implants

The "shorties" have become established

More than 250 participants attended the two events organized by the European Association of Dental Implantologists (BDIZ EDI) in Cologne on the Carnival weekend to get an update on short, angulated and diameter-reduced implants and information on impending anti-corruption legislation. Many vivid discussions developed at the Expert Symposium, in the workshops and especially at the 11th European Consensus Conference (EuCC). The results are incorporated in the new EuCC Guidelines – also the 11th of their kind – reprinted on page 16 f. of this issue.

Once again, the Expert Symposium and the Consensus Conference were prepared with support from the University of Cologne. "Spiritus rector" was *Professor Joachim E. Zöller*, Director of the Interdisciplinary Policlinic for Oral Surgery and Implantology and Department of Oral and Maxillofacial Plastic Surgery of the University of Cologne and Vice President of BDIZ EDI. *Dr Jörg Neugebauer* (Landsberg), who is a BDIZ EDI board member and teaches at the University of Cologne, headed both the Expert Symposium and the Consensus Conference.

The recommendations of the 11th European Consensus Conference offered the following take-home benefit for the participants of the 11th Expert Symposium: "The use of short, angulated or diameter-reduced implants in patients with reduced bone volume has become a reliable therapeutic option if the specific treatment parameters are respected, compared to the risks associated with standard-dimension implants in combination with augmentation procedures." In this respect, the hopeful predictions of the 6th European Consensus Conference in 2011 have been confirmed. Five years ago, BDIZ EDI had looked into possible practical applications of these implants, while this time the focus was put on their advantages and limitations. Furthermore, the definition of short implants has been changed. While the 6th EuCC in 2011 had defined implants as short if their length is < 9 mm, the 11th EuCC in 2016 defined short implants as being ≤ 8 mm in length and ≥ 3.75 mm in diameter. Ultra-short implants have a length of < 6 mm.

The "shorties" on the road to success?

Kicking off the one-day symposium, *Professor Rolf Ewers* (Vienna), who with 45 years of experience is an "old hand" in the field of augmentation surgery, conjured up the temporal dimension: "Iliac crest in the past – short implants today". Yet for *Ewers*,

Professor Rolf Ewers

Professor Mauro Marincola

Dr Thomas Fortin

Professor Matthias Kern

Participants paid high attention to the 11th Expert Symposium in Cologne.

the truth still holds that no material is equivalent to autologous bone. Recognizing that the shape of the bone follows its function even in the context of short implants, he sees this as a confirmation of the good results of the prospective studies he helped supervise. During his lecture, *Ewers* compared the results of five years of experience with short and ultra-short implants to the conventional augmentative approach. "We have found that we get comparable results with substantially less surgical effort, less morbidity and lower cost."

Closely related to *Ewers*' theme was the topic of *Professor Mauro Marincola* (Rome), who spoke about his clinical experience with particular regard to prosthetic rehabilitation. He concluded that short implants not only present a stable peri-implant bone situation at large crown/implant length ratios, but that they can also be restored easily due to the fact that they are single-tooth entities.

Dr Thomas Fortin (Lyon) spoke on short implants as an alternative to risky and expensive vertical augmentation procedures. In his five-year prospective multicentre study on 54 patients who were rehabilitated using two different types of abutments in the mandibular anterior region (platform-switching abutments and platform-matching abutments), no significant differences were found. He concluded: "In this context and for both abutment types, short implants can be considered an effective treatment option, including in terms of hard- and soft-tissue reactions."

Is one better than none?

Professor Matthias Kern (Kiel) highlighted the prosthodontic problems associated with patients with atrophied edentulous mandibles. He pointed out the advantages and disadvantages of restorations on two or four implants and the – affordable – option

Professor Douglas Deporter

Dr Wolfgang Bolz

Professor Norbert Schmedtmann

Dr Jörg Neugebauer

Appropriate training is necessary to deal with short, angulated and diameter-reduced implants.

of inserting a single implant in geriatric patients to stabilize an extended pre-existing denture. *Kern*, a proponent of the central single implant in the edentulous mandible, summarized the available clinical data and presented selected patient cases to illustrate the results after more than six years. His conclusion was that during the first five to six years, all clinical trials yielded improvement of the OHIP (Oral Health Impact Profile) with respect to mandibular single central implants.

Professor Douglas Deporter (Toronto) reported on his over 20 years of experience with short implants (7 mm or less) and sintered implant surfaces, presenting the scientific basics and the fundamental design of an implant system based on short implants. The so-called SPS (sintered porous surface) implants are restored without cementing, by means of mechanical cement-free locking mechanisms, and offer excellent resistance to tensile loads, compressive stress and torsional forces. This treatment approach ("osseoconsolidation") opens up minimally invasive options in the edentulous area in patients with a severely resorbed alveolar ridge.

Taking a look at angulated implants

Dr Wolfgang Bolz (Munich) discussed immediate restoration in edentulous or soon-to-be edentulous patients with angulated or zygomatic implants, with particular attention to patient management. He had at his disposal a wealth of data covering nearly 500 patients, from which he selected some extreme cases to elucidate this restorative approach. The discussion that followed his lecture was especially revealing. Asked what to do if a zygomatic implant was lost, *Bolz* retorted that this had yet to happen. He achieves stability for the zygomatic implants by inserting them exclusively into the zygomatic bone. Continuing this line of argumentation, *Professor Norbert Schmedtmann* (Hamburg) explained the indication-driven prosthetic approach using angulated implants, balancing the advantages and disadvantages of different prosthetic treatment concepts.

Surgical aspects

Finally, *Dr Jörg Neugebauer* (Landsberg) offered practical advice, from a surgical perspective, on the preparation of the implant site, on implant placement and regional bone augmentation measures for short or angulated implants, stating that bone quality and the time of tooth loss must be taken into account. *Neugebauer* further elaborated on when a 3D template was necessary and when he considered free-hand implantation possible.

Conclusion

According to the recommendations of the 11th European Consensus Conference, short, angulated and diameter-reduced implants are a viable treatment option. However, there are limits: When using short implants that also have reduced diameters, an increased failure rate of up to ten per cent after three to five years can be expected, as a review of the pertinent literature has shown.

In addition, the EuCC suggests that "implant surgeons and restorative dentists must undergo appropriate training to be able to determine the best possible treatment for each patient".

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