History and development of implants over the past 60 years

Yu Jeong SONG, Nam Joong KIM, Kyung Sook HWANG*

Dept. of Dent. Tech., Shin Han Univ., 95, Korea

The main discourse: There is a saying in Korea that the health of your teeth corresponds to the five blessings. It has been over 60 years since the invention of dental implants to replace these teeth. In the 1960s and 1970s, implant-supported prostheses based on subperiosteal or blade implants had a poor reputation because of questionable clinical outcomes and lack of scientific documentation. The change to a scientifically sound discipline was initiated by the two scientific pioneers of modern implant dentistry, Professor P. I. Brånemark from the University of Gothenburg in Sweden and Professor André Schroeder from the University of Bern in Switzerland. Together with their teams, and independently of each other, they laid the foundation for the most significant development and paradigm shift in dental medicine.

The development of bone-augmentation techniques, such as guided bone regeneration and sinus floor elevation, to correct local bone defects at potential implant sites has increased the indications for implant therapy. The paradigm shift to moderately rough implant surfaces resulted in faster and enhanced bone integration and led to improvements in various treatment protocols, such as immediate and early implant placement in postextraction sites, and made various loading protocols possible, including immediate and early implant loading.

In the past 25 years, preoperative analysis and presurgical planning improved as a result of the introduction of three-dimensional imaging techniques. Hereby, cone-beam computed tomography offers better image quality with reduced radiation exposure, when compared with dental computed tomography. This opened the door for digital planning and surgical modifications. Over the last 60 years this evolution has facilitated tremendous progress in esthetic outcomes with implant-supported prostheses and improved patient-centered outcomes. Such as the potential of digital implant dentistry in the surgical and prosthetic field, the trend for an increasing average age of implant patients and the related adaptations of treatment protocols, and the second attempt to establish ceramic implants using, this time, zirconia as the implant material is being developed.

In view of the above research flow, in conclusion, it is judged that the development of future implants will develop toward the most human-friendly and natural teeth.

Keywords: implant history, Brånemark, digital implant

Acknowledgement: This study is supported by Uniance's Central Research Institute.