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Guidelines for computer guided implant surgery; Minimizing errors and maximizing accuracy of surgical guides

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Up to date, computer guided implant surgery (guided surgery) is being hotly debated in the field of dental implantology. The present cases were studied to find out the basis of using surgical guides, and further to establish an optimal guideline for using them in practical dental implant surgery. 108 stereolithographic surgical guides were fabricated by the uses of computed tomography (CT) scans integrated with three-dimensional (3D) virtual planning software and computer-aided design/computer-assisted manufacture (CAD/CAM) process (Osstem®). 179 implant fixtures were placed to 82 patients using those surgical guides for about 18 months. All the surgical procedures were performed by one dentist at one local dental clinic (Gwangju TOP dental clinic, Korea). The cases included various

situations such as single/multiple missing state, sinus bone augmentation, guided bone regeneration (GBR), narrow ridge and partial edentulous. A total of 179 dental implants were finished up to the final prosthesis and evaluated by clinical and radiographic method. From this study, it shows that the success of guided surgery depends on how we minimize errors and maximize accuracy of surgical guides. If once this goal is achieved, exceptionally precise placement of implants could be possible, followed by higher survival rate of implants, at the same time make surgical procedures much simpler with less complication. To conclude, it is certain that computer guided implant surgery is a reliable tool and can be applied broadly if performed in an appropriate manner.

Biography

Sung-woong Hur has completed his DDS, PhD from Chonnam National University School of Dentistry, Korea and PhD (Dental Science) from Tohoku University, Japan. He has published several papers in reputed journals and his recent publication was published in Journal of Dental Research (2015). In the present, he is the representative of Gwangju TOP dental clinic, Korea and is serving as a clinical professor of Chonnam National University School of Dentistry.

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