

Maintenance of marginal bone support and soft tissue esthetics at immediately provisionalized OsseoSpeed implants placed into extraction sites: 2-year results

Background: Placement of implants into extraction sockets aims at the maintenance of peri-implant hard and soft tissue structures and the support of a natural and esthetic contour. The major advantages of immediate implant insertion in comparison to delayed implant placement protocols are a reduced treatment time, less number of sessions and, thus, the less invasive procedure. This study examined the clinical performance of OsseoSpeed implants placed into extraction sockets with immediate provisionalization in the anterior maxilla after a two-year follow-up.

Methods: Twenty patients received a total number of 37 OsseoSpeed implants which were immediately inserted into extraction sockets with and without facial bone deficiencies of various dimensions. A flapless procedure was applied and the implants were immediately provisionalized with temporary crowns without occlusal contacts. Facial gaps between implant surface and facial bone or the previous contour of the alveolar process were grafted with autogenous bone chips. Implants in diameters 3.5, 4.0, 4.5 and 5.0 with lengths of 11 to 17 mm were used in the study. During the course of the study, implant success rates, marginal bone levels and the Pink Esthetic Score (PES) were assessed per implant.

Results: One patient with three implants did not follow the study after prosthesis delivery. The remaining 34 implants were still in function at the final follow-up (survival rate: 100%), The mean follow-up period was 27 months (range, 12 to 40 months). Marginal bone levels at the level of the implant shoulder averaged -0.1 ± 0.55 mm (range, -1.25 to 1.47 mm). Mean PES ratings were 11.4 ± 1.8 (range, 6 to 14) at the date of the final follow-up. In 78 percent of the patients PES was completely preserved or even improved.

Conclusions: Survival rates, marginal bone levels, and esthetic results suggest proof of principle for the preservation of marginal bone level at immediately placed and provisionalized OsseoSpeed implants after a two-year follow-up. Even implant sites with facial bony deficiencies can be successfully treated with a favorable esthetic outcome using the immediate implant insertion, immediate reconstruction and immediate provisionalization technique.

Key words: immediate implant placement, immediate provisionalization, flapless, microthreaded