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Life table analysis of ITI implants in extraction sockets: private practice experience

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Introduction: Since the first report from Schulte al. 1978, there has been an increasing interest for the placement of dental implants into fresh extraction sockets.

Immediate implant placement offers several advantages including reduction in the number of procedures, shorter treatment time. However, lacks of soft tissue closure and flap dehiscence over the extraction site are serious disadvantages.

Material and methods: Since February 1998, 180 immediate dental implants (4.5% of overall implants) were placed in 126 patients (44.44% males, 55.56% females, mean age = 56.3 y) in the mandibule (55 imp., 30.5%) and the maxilla (125 imp., 69.5%). 57.2% of them were placed in the anterior region, 36.7% in the premolar region and 6.1% in the molar region. 33 implant, 18.4% were immediately loaded. 61 implants, 33.9%, had simultaneous alveolar bone augmentation.

Survival criteria were lack of: implant mobility, peri-implant radiolucency and recurrent peri-implantitis.

Results: Following surgery 2 complications during healing period were noted (necrosis of the mucosa and superficial infection). 6 (3.34%) implants were early failures and no late failure was recorded. Cumulative success rate over 9 years is 96.7%.

Conclusion: The survival rate and radiographic and clinical results were comparable to those obtained with the standard protocol. Within the limits of the present investigation, immediate restoration of implants placed in fresh extraction sockets can be considered a valuable option to replace a missing tooth. However, this method should be employed in selected cases (patient demand, low esthetic situation).

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Implant-supported distal extensions in severely resorbed posterior alveolar ridges

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The application of implant-borne rehabilitations in residual alveolar ridges may be restricted by various anatomic conditions, as available bone height and characteristics. Here we report the clinical outcome of implants placed in severely resorbed posterior ridges, in addition to various implant-supported treatment modalities.

Extra Oral implants (Straumann, Basel, Switzerland) with the intraosseous length of 2.5–5 mm were installed in the posterior alveolar ridges. Following the healing period of 4–6 months, implants were exposed and included in the distal extensions of fixed and removable prosthesis. At recall appointments were collected surgical, clinical and radiological variables, including the evidence of adverse effects. An 8-years life table analysis was calculated.

The treatment protocol was applied in thirty-five patients, presenting 31 removable and 4 fixed complete implant-supported dentures. A total of 61 Extra Oral implants were placed posterior to the distal implants, at the mean distance of 29.8 mm (range 15.6–62.7 mm). Three implants failed during the osteointegration phase, yielding an 8-year cumulative success rate of 92.24%. Following the osteointegration period, no major bone loss or other adverse events were found.

The clinical results indicated that the Extra Oral implants may be successfully used in addition to the other, longer implants. Thus, a relatively long extension in the posterior region may be employed. With careful preoperative planning, this technique offers a simple and beneficial complementary treatment option for removable and fixed complete dentures.

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Evaluation of narrow diameter implants placed in anterior and posterior regions

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Introduction: Narrow diameter implants (NDIs) are designed for replacing small incisor teeth or to be used connected with regular diameter implants. However the predictability of NDIs is questionable in high load bearing conditions. Peri-implant bone resorption (PBR) and post-loading complications for NDIs placed in the anterior and posterior regions was evaluated in this study.

Material and methods: Study group consisted of 31 patients (80 implants) each with at least one freestanding single narrow implant in the anterior and posterior region placed between 1999 and 2007. Peri-implant bone loss (PBL) was screened on standardized x-rays taken by 6 month intervals. Probing depth (PD), bleeding on probing (BOP) and screw loosening (SL) were also recorded. Data were analyzed with student-t test.

Results: No implants were lost during the follow period. Mean function time was 62 months. PBL was 1.42 vs. 1.62 mm for anterior and posterior implants respectively ($p = 0.11$). PD, BOP and SL was 3.15 vs.3.45 mm ($p = 0.45$), 0.25 vs. 0.88 ($p = 0.002$) and 6 vs. 7 ($p = 0.32$) for anterior and posterior implants respectively. Student-t test showed no significance for all parameters except BOP.

Conclusion: NDIs placed in the posterior region showed similar success to the ones in anterior zone in this study. BOP reveals better hygiene of implants in the anterior region. Despite the favorable results obtained in this study, it should be emphasized that NDIs have lower mechanical endurance and further studies are required to ensure the safe use of NDIs in the posterior region.