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Clinical and Radiographic Outcomes of Titanium Implants With Ceramic Coating: 2-Year Results

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Objectives To evaluate the success rates, the marginal bone loss (MBL) and peri-implant indexes, of 68 titanium implants with bioceramic coating (Cerid®).

Methods 34 patients (21 Female, 13 Male) were consecutively enrolled in this study and treated with at least one implant with zirconia coating. A total of 68 Myplant bio (Hager & Meisinger GmbH, Neuss, D) were inserted. Implant length ranged from 6.6 to 11mm. 50 implants with diameter 3,5mm and 18 implants with diameter 4.0mm. 41 were in Maxilla, while 27 in Mandible. After submerged healing period of 3-5 months, abutments in ceramic niobium layer (Niob) with cone-morse connection were used for the prosthetic loading. Patients were scheduled for follow-up at the implant loading, 6 months, 1 year and annually. The distance between the implant shoulder the closest mesial and distal bone-implant contact (MBL) using standardized periapical radiographs, modified plaque index (mPI), modified sulcus bleeding index (mSBI), were assessed. Technical complications, were also recorded. All patients were submitted in maintenance therapy.

Results At 3-5 months follow-up, 67 implants were clinically osseointegrated and loaded, 1 implant (diameter 3,5mm, length 6,6) was removed in posterior Maxilla for mobility. All implants were restored with full occlusal contact. 20 implants were used to restore 4 edentulous maxilla and 1 edentulous mandible (4 implants in each arch). 18 implants were loaded with single crowns, 29 implants with 12 bridgework. At mean follow-up of 30 months (range 20-36), no other implants were lost and the cumulative success rate was 98,6%. Radiographic MBL evaluating both interproximal surfaces was 0.47 mm (range + 0,35 -1,10). The majority of implants presented healthy peri-implant soft tissue conditions (mPI=1, mSBI<1). No mechanical complications related to implant components occurred.

Conclusions The 2-Pieces titanium implant with cone-morse abutment connection did not produces relevant microgap, influencing successfully the peri-implant soft and hard tissues stability. The 2-Pieces Ceramic Implants could combine the biocompatibility of ceramic implant with the technical advantages of titanium implant.