Immediate rehabilitation of the edentulous jaws with full fixed prostheses supported by four implants: interim results of a single cohort prospective study.

Agliardi, Enrico / Panigatti, Stefano / Clerico, Matteo / Villa, Cristina / Maló, Paulo

Objectives: The purpose of this study was to prospectively evaluate the clinical andradiographic outcomes of immediately loaded full-arch fixed prostheses supported by a combination of axially and non-axially positioned implants in a large cohort of patients with completely edentulous jaws, up to 5 years of function.

Materials and methods: One hundred and seventy-three edentulous patients (80 males and 93 females) were enrolled according to specific selection criteria. Each patient received a full-arch fixed prosthesis supported by two distal tilted implants and two anterior axially placed implants. The provisional functional acrylic prosthesis was delivered the same day as surgery in all cases. All cases were finalized 4–6 months later. The patients were scheduled for follow-up at 6 and 12 months of function, and annually up to 5 years. At each follow-up plaque and bleeding score was assessed and radiographic evaluation of marginal bone level was performed.

Results: The overall follow-up range was 4–59 months. A total of 154 immediately loaded prostheses (61 in the maxilla and 93 in the mandible) were in function for at least 1 year and were considered for the analysis. Four axially placed implants failed in the maxilla and one tilted implant in the mandible, all within 6 months of loading. No further implant failure occurred to date. Implant survival at 1 year was 98.36% and 99.73% for the maxilla and the mandible, respectively. Marginal bone loss at 1 year averaged 0.9 _ 0.7mm in the maxilla (204 implants) and 1.2 _ 0.9mm in the mandible (292 implants). No difference was found in marginal bone loss between axial and tilted implants. Plaque and bleeding scores progressively improved from 6 to 12 months. Fracture of the acrylic prosthesis occurred in 14% of total cases.

Conclusions: The present preliminary results from a relatively large sample size suggest that the present technique can be considered a viable treatment option for the immediate rehabilitation of both mandible and maxilla.