Marco Esposito, Fulvio Gatti, Mario Silvio Meloni, Leonardo Muzzi, Nicola Baldini, Jacopo Buti, Armando Minciarelli, Ertha Xhanari, Marco Tallarico

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TO SPLINT OR NOT TO SPLIT SHORT DENTAL IMPLANTS UNDER THE SAME PARTIAL FIXED PROSTHESIS: FIVE-YEAR RESULTS FROM A MULTICENTRE RANDOMIZED CONTROLLED TRIAL

MARCO ESPOSITO, DDS, PhD
Associate Professor, Dental School, Vita-Salute and IRCCS San Raffaele University, Milan, Italy

FULVIO GATTI, DDS, MSc
Private practice in Milan and Parabiago; and Resident, Department of Biomedical, Surgical and Dental Sciences, Unit of Oral Surgery, San Carlo and San Paolo Hospital, University of Milan, Italy

SILVIO MARIO MELONI, DDS, MSc, PhD
Associate Professor, Department of Medicine, Surgery and Pharmacy, University of Sassari, Italy

LEONARDO MUZZI, DDS
Private practice in Siena, Italy

NICOLA BALDINI, DDS, PhD
Private practice in Florence; and Resident, Department of Periodontics and Implantology, University of Siena, Italy

JACOPO BUTI, DDS, PhD, MPerio RCSEd
Professor, Unit of Periodontology, UCL Eastman Dental Institute, London, UK

ARMANDO MINCIARELLI, DDS, MSc
Private practices in Bari, Italy and Tirana, Albania

PURPOSE. To compare the clinical outcomes of two adjacent 6-mm-long dental implants splinted under the same prosthesis (control/splinted group) *versus* two identical implants supporting single crowns (test/unsplinted group).

MATERIALS AND METHODS. Forty-seven patients with edentulous posterior (premolars and/or molars) jaws received two adjacent 6-mm-long dental implants, which were submerged. Four months after, at impression taking, patients were randomized to receive either splinted or unsplinted cemented metal-ceramic definitive prostheses. Unfortunately, four patients died before randomization and three patients lost five implants, so only 40 patients were randomized, according to a parallel group design, to have both implants splinted under the same partial fixed prosthesis (19 patients) or to have them rehabilitated with two single crowns (21 patients, the unsplinted group). Outcome measures were: prosthesis and implant failures, complications, peri-implant marginal bone level changes and patient satisfaction. Patients were followed up to five years after loading.

RESULTS. After randomization, four patients dropped out from the splinted group and seven from the unsplinted one. One patient in each group had prosthesis/implant failures (Fisher's exact test P = 1.000; difference in proportions = 0.01; 95% CI -0.21, 0.23). Seven complications occurred in four patients with splinted implants *versus* five complications in three patients from the unsplinted group, the difference not being statistically different (Fisher's exact test P = 1.000; difference in proportions = -0.04; 95% CI -0.32, 0.27). At 5-year post-loading, patients with splinted implants lost -0.27 ± 0.53 mm of peri-implant marginal bone, as compared to -0.14 ± 0.26 mm in patients with unsplinted implants, the difference between groups not being statistically significant (P = 0.457; mean difference 0.13 mm; 95% CI -0.23 to 0.50).
There were no statistically significant differences between groups in terms of function, aesthetics or willingness to undergo the same intervention again (difference in proportions = -0.07; 95% CI -0.31, 0.19, Fisher's exact test P = 1.000).

CONCLUSIONS. This data seems to suggest that, up to five years after loading, the prognosis of short implants, mostly placed in mandibles characterised by dense bone quality, may not be influenced by splinting them or not under the same fixed prostheses. However, these preliminary results need to be confirmed by larger trials with follow-ups of at least five years.

CONFLICT OF INTEREST STATEMENT
Micerium (Avegno, Italy) partially supported this trial and donated the implants and prosthetic components used in the present investigation; however, the data belonged to the authors and Micerium by no means interfered in the conduct of the trial or the publication of its results.

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