

A longitudinal study of the survival of All-on-4 implants in the mandible with up to 10 years of follow-up

Maló, Paulo / de Araújo Nobre, Miguel / Lopes, Armando / Moss, Steve M./
Molina, Guillermo J.

Background: Immediate-function implants have become an accepted alternative for fixed restoration protocols in edentulous mandibles on the basis of documented high success rates. The All-on-4 concept (Nobel Biocare, Göteborg, Sweden), a surgical and prosthetic protocol for immediate function involving the use of four implants to support a fixed prosthesis in patients with completely edentulous mandibles, represents one of these protocols. The authors conducted a study to document long-term follow-up of the All-on-4 concept.

Methods: This longitudinal study included 245 patients with a total of 980 immediate-function implants (four per patient), all placed in the anterior region, to support fixed full-arch mandibular prostheses. The inclusion criterion was having an edentulous mandible, or a mandible with hopeless teeth, in need of fixed implant restorations.

Results: A total of 21 implants failed in 13 patients, giving cumulative patient-related and implant-related success rates of 94.8 percent and 98.1 percent, respectively, at five years, and 93.8 percent and 94.8 percent, respectively, with up to 10 years of follow-up. The prostheses' survival rate was 99.2 percent with up to 10 years of follow up.

Conclusions: The results support the conclusion that use of the All-on-4 immediate-function implant concept in completely edentulous mandibles is viable in the long term.

Clinical implications: High prosthesis survival rates can be achieved by the use of four implants to support a full-arch fixed prosthesis in the mandible.

Key Words: Dental implants; implant angulations; complete arch; immediate load; mandible. JADA 2011; 142(3): 310-320.