Prospective Multicenter Study of Immediate Occlusal Loading of Implants in Edentulous Mandibles

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Introduction
This study reports the results of a prospective clinical study on immediate loading of prostheses in full arches of edentulous mandibles supported by osseointegrated implants from different brands.

Materials and methods
The study involved 73 patients. A total of 501 implants were inserted, out of which 420 implants were inserted through immediate occlusal loading. Interim prostheses were placed 4h after surgery. Final prostheses were placed 6 months after. Marginal bone loss was monitored through linear measurement of the mesial/distal surfaces by means of paralleling (long-cone) periapical X-rays.

Results
Eight implants failed to integrate in 2 months of occlusal loading. The cumulative success rate was 98.06% from 19 July 1999 to 19 October 2012 (the average being 18–84 months). Crest bone loss around immediately loaded implants was found to be similar to that reported in standard protocols for delayed loading.

Conclusion
The findings of this study suggest that edentulous mandible rehabilitation through fixed, immediately loaded, occlusal, interim prostheses supported by four, five or six implants constitutes a viable alternative to traditional treatment protocols for delayed loading.