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A comparative study of bone densitometry during osseointegration: Piezoelectric surgery versus rotary protocols”*

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ABSTRACT.

Objectives

To date, there have been no studies on the outcome of osseointegration of alveolar bone around dental implants inserted with piezoelectric osteotomy versus conventional osteotomy. The aim of this study was to compare the radiographic differences, through evaluation of peri-implant bone density, between implant insertion using traditional surgical technique and piezoelectric technique.

Materials and methods

Forty patients were selected whose treatment consisted of a minimum of two implants placed in nonpathologic native bone. A single type of implant surface (SLA) was chosen. The implants were placed following the manufacturer protocol for traditional surgical technique and piezoelectric technique. Radiographs were taken following surgery and 30, 60, and 90 days after surgery. The bone density was studied with the densitometry application.

Results and Conclusions

All patients completed the study period with success. Despite a limited number of treated patients, the results of this pilot study demonstrated that (1) piezoelectric implant site preparation promotes better bone density and osteogenesis, and (2) the piezoelectric technique is predictable, with a 100% success rate in this study.

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