ABSTRACT.
Background. Crestal bone loss has been shown to occur around dental implants. This crestal bone resorption may determine a more apical position of the gingival margin. A clear trend of increased bone loss with increased interimplant distance has been reported.
Purpose. The aim of the present study was to evaluate, in the canine mandible, the crestal bone behavior around dental implants inserted with different interimplant distances.
Materials and Methods. Sandblasted and acid-etched implants (Bone System, Milano, Italy) were placed in the mandibles of six beagle dogs. Each dog received 10 implants in the mandible (five in the right side and five in the left side). A total of 60 implants was used in this study. The implants were divided in four groups: group I, with a 2 mm interimplant distance; group II, with a 3 mm interimplant distance; group III, with a 4 mm interimplant distance; and group IV, with a 5 mm interimplant distance. The dogs were killed after 12 months.
Results. No statistically significant differences were found in regard to vertical bone loss whereas, on the contrary, statistically significant differences were found in regard to lateral bone loss (p = .0001). Statistically significant differences also were found in regard to vertical crestal bone loss (p = .0001). In fact, vertical crestal bone loss decreased, from 1.98 mm in group I to 0.23 mm in group IV.
Conclusion. The clinical significance of these data lies in the fact that the increased crestal bone loss results in an increase in the distance between the base of the contact points of the neighboring implants and the crest of bone, and this fact could determine whether the papilla is present or absent between two implants.