ABSTRACT

Purpose. The aim of this study was to histologically evaluate the crestal bone response to loaded and unloaded implants in beagle dogs.

Materials and Methods. Sand-blasted and acid-etched implants (Bone System, Milano, Italy) were placed in the mandible of six beagle dogs. The two premolars and the first molars had been extracted 3 months previously. Each dog received 12 implants in the mandible, and a total of 72 implants were used in this study. Three months after implantation, second-stage surgeries were performed for placement of abutments or healing screws. Three dogs were killed after 6 months, and three dogs were killed after 12 months. All 72 implants were retrieved.

Results. No statistically significant differences were found in the amount of bone loss between test and control implants, both at 6 and 12 months. Statistically significant differences were found, in both groups, between the bone loss observed at 6 months and that found at 12 months.

Conclusion. Loading does not seem to be a relevant factor in the peri-implant bone resorption observed during the first year of function. Our results support previous findings that bone crest level changes could depend on the location of the microgap.