ABSTRACT.
The causes of implant failures can be biological or mechanical. The mechanical causes include fracture of the implant, fracture of the abutment, and loosening of the abutment. Numerous studies show that abutment loosening constitutes one of the marked implant post-surgery complications requiring clinical intervention. The aim of the present study was to evaluate the incidence of the screw loosening in screwed or cemented abutments. Six adult male Beagles were used. In each dog, the first molars and 2 premolars were extracted. The sutures were removed after 7 days. After 3 months, 10 implants were placed in each dog, 5 in the right mandible and 5 in the left mandible. The abutments either were screwed in (n=30) (Bone System, Italy) by applying a total strength of 30 N/cm or were cemented (n=30) (Bone System, Italy). After 12 months, 8 (27%) loosened screws were present in screwed abutments, whereas no abutment loosening was observed in cemented abutments (P = .0001). Screwed abutments are often submitted to nonaxial loads that determine screw and abutment loosening.

