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“Osteoclast activity around loaded and unloaded implants: a histological study in the beagle dog.”

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Traduzione in italiano a cura Bone System del Titolo e dell'Abstract, tratti dalla pubblicazione indicata, alla quale si rimanda per una visione integrale e per ogni approfondimento.

Abstract

The mechanisms of bone loss around dental implants are poorly understood. The osteoclast is the most important bone-resorbing cell. Humoral factors seem able to stimulate the differentiation of osteoclasts from mononuclear phagocytes. Bacterial lipopolysaccharides seem to be directly involved in inflammatory bone loss by stimulation of the survival and fusion of preosteoclasts. Excessive load seems to be able to cause bone loss. The aim of this paper was to evaluate the presence and number of osteoclasts in peri-implant bone in control (unloaded) and test (loaded) implants in order to determine if loading per se could be a contributing factor in peri-implant bone resorption. Forty-eight implants were inserted in the mandibles of 4 beagle dogs. After 3 months, a prosthetic superstructure was inserted on 24 implants, whereas in 24 implants only the healing screws were positioned. Twenty-four implants (12 test and 12 control) were retrieved at 6 months, and 24 implants (12 test and 12 control) were retrieved at 12 months. All implants were osseointegrated. The number of osteoclasts found in the crestal bone in the first 3 mm from the implant surface was evaluated. The mean number of osteoclasts were the following: control implants (6 months), 5.66 +/- 0.81; control implants (12 months), 2.55 +/- 1.05; test implants (6 months), 5.25 +/- 1.55; and test implants (12 months), 2.5 +/- 1.0. No statistically significant differences were observed between the control and test implants. According to our data, loading does not seem to have a relevant importance on the osteoclast activation in peri-implant bone.

“Attività osteoclastica attorno ad impianti caricati e non caricati: uno studio istologico sui cani beagle”

Riassunto

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