



*Folia Morphol (Warsz). 2006
Feb;65(1):75-7.*

**“Bacterial colonisation
of interior implant
threads with and
without sealing.”**

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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 inte-
grale e per ogni approfondimento.*

Abstract

Premature loss of dental implants is due, apart from mechanical factors, to germ-related inflammation. Gaps and hollow spaces within the implant system, for example the gap between implant and abutment in the two-part implant system, may provide a bacterial reservoir causing or maintaining inflammation. The bacterial spectrum involved is similar to that found in periodontitis. This in vitro study aimed to scrutinise the capability of *Porphyromonas gingivalis* (DSM 20709), the bacterium blamed for inducing peri-implantitis, to pass the implant/abutment gap in titanium implant systems used for orthodontic anchorage and to remain vital in the interior. Additionally, the in vitro effectiveness of gutta percha for gap sealing was examined. Twelve titanium implants (Straumann, diameter: 3.3 mm, length 5.5 mm) were provided with abutments at a defined torque (20 Ncm), six of which were sealed with gutta percha before screwing in the abutment. Subsequently the implants were placed in a nutrient solution (thioglycolate boullion with haemin-menadione solution) that contained *Porphyromonas gingivalis*. Microbiological specimens were sampled from the implant interiors after 24 and 72 hours and analysed using culture methods. There was evidence that penetration of the periodontal pathogen *Porphyromonas gingivalis* to the implant interior may occur as early as after 24 hours. Microbes were also detected in the interior of implants sealed with gutta percha. The abutment/implant interface in vitro provides a microbiological leakage for the prospective peri-implantitis-inducing bacterium *Porphyromonas gingivalis*. Survival of the bacterium is possible in the interior, so that development of a bacterial reservoir is assumed. This in vitro trial produced no evidence that sealing with gutta percha is an effective means to prevent secondary bacterial colonisation in the implant interior.

“Colonizzazione batterica del filetto interno degli impianti con e senza sigillatura”

Riassunto

N. D.