

Extended Abstract

Preventing Bacterial Leakage in Implant-Abutment Connection: A Review [†]

Dorina Lauritano ^{1,*}, Giulia Moreo ¹, Francesco Carinci ², Alberta Lucchese ³, Dario di Stasio ³, Fedora della Vella ⁴ and Massimo Petrucci ⁴

¹ Department of Medicine and Surgery, Centre of Neuroscience, University of Milano-Bicocca, 20126 Milan, Italy; moreo.giulia@gmail.com

² Department of Morphology, Surgery and Experimental Medicine, University of Ferrara, 44121 Ferrara, Italy; crc@unife.it

³ Multidisciplinary Department of Medical-Surgical and Dental Specialties, University of Campania—Luigi Vanvitelli, 80138 Naples, Italy; alberta.lucchese@unicampania.it (A.L.); dario.distasio@unicampania.it (D.d.S.)

⁴ Interdisciplinary Department of Medicine, University of Bari, 70121 Bari, Italy; fdellavella@gmail.com (F.d.V.); massimo.petrucci@uniba.it (M.P.)

* Correspondence: dorina.lauritano@unimib.it; Tel.: +39-335-679-0163

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1. Introduction

Osseointegration can be affected by oral conditions, in particular the micro gap at the implant-abutment-connection (IAC) represents a site for dental plaque aggregation favoring bacterial leakage that can increase inflammatory cells at the level of the IAC, causing peri-implantitis [1]. This micro gap, once early colonized, may constitute a bacterial reservoir, that could subsequently contaminate fixture's surroundings and interfere with peri-implant tissues health [2,3].

2. Aim

The aim of this review is to describe, according to the most recent literature, the different kind of implant-abutment connection and their ability to reduce bacterial leakage and thus preventing peri-implantitis.

3. Materials and Methods

The following database were consulted: Pubmed (n = 26), Scopus (n = 90), Research gate (n = 7) and were found a total of 123 articles. Duplicates were excluded and after reading abstract and titles, were excluded those articles that were off topic. The remaining ones (n = 24) were assessed for full-text eligibility: we excluded 5 articles because they were case report, 2 because there was no clear reference to the relationship IAC and bacterial leakage and 2 because was not pertinent with the argument. Fifteen articles were included in the review.

4. Results and Conclusions

From the review, it's clear that exists a relationship between the IAC and bacterial leakage. All the connection presented an amount of micro-gap and bacterial micro-leakage but conical and mixed connection systems seem to behave better. Moreover, both connections seem to have a better load's distribution and mixed one has also anti-rotational properties very useful during the positioning of the prosthesis [4].

Conflicts of Interest: The authors declare no conflict of interest.

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