

Risk of Implant Failure and Marginal Bone Loss in Subjects with a History of Periodontitis: A Systematic Review and Meta-Analysis

Type: Article

Abstract:

Background: A number of studies have suggested that implant failure and associated bone loss is greater in subjects with a history of periodontitis. Purpose: To evaluate the risk for marginal bone loss around implants and implant failure in subjects with a history of periodontitis compared with periodontally healthy subjects in studies with a minimum 3-year follow-up. Materials and Methods: Data sources: The MEDLINE, EMBASE, and PubMed databases and relevant journals were searched up to July 1, 2008, with restriction to English language. Review Methods: Prospective and retrospective longitudinal observational clinical studies comparing periodontal/peri-implant variables among subjects with periodontitis and subjects who were periodontally healthy were included. Screening of studies, quality assessment, and data extraction were conducted independently and in duplicate. Clarification of missing and unclear information was not sought. Outcome measures were: implant survival/failure, peri-implant parameters, changes in radiographic marginal bone level, probing pocket depth, and gingival index. Results: Seventeen potential studies were identified and six studies were accepted comparing patients with periodontitis and periodontally healthy patients treated with implants. Five studies were eligible for meta-analysis of implant survival and four studies were eligible for meta-analysis of bone loss around implants. The odds ratio for implant survival was significantly in favor of periodontally healthy patients (3.02, 95% confidence intervals 1.12-8.15). A random effects model showed more marginal bone loss in periodontitis subjects compared with periodontally healthy subjects (standard mean difference 0.61, 95% confidence interval 0.14-1.09). Conclusions: Within the limitations of the heterogenous studies available, a moderate level of evidence indicates that periodontitis subjects were at significantly higher risk for implant failure and greater marginal bone loss as compared with periodontally healthy subjects. Prospective observational studies with subject-based designs are recommended.

Author	<ul style="list-style-type: none">• Safii,S.H.• Palmer,R.M• Wilson, R. F.
Source	Clinical Implant Dentistry and Related Research
ISSN	1523-0899
DOI	10.1111/j.1708-8208.2009.00162.x
Volume (Issue)	12(3)
Page	165-174
Year	2010

Keyword:

bone loss, dental implants, periodontitis, systematic review, PARTIALLY EDENTULOUS PATIENTS ,GENERALIZED AGGRESSIVE PERIODONTITIS, OSSEOINTEGRATED TITANIUM IMPLANTS, COMPROMISED PATIENTS, LONG-TERM, THERAPY, 5-YEAR, PROGNOSIS, SURVIVAL, OUTCOMES

Please Cite As:

SAFII, S. H., PALMER, R. M. & WILSON, R. F. 2010. **Risk of Implant Failure and Marginal Bone Loss in Subjects with a History of Periodontitis: A Systematic Review and Meta-Analysis.** *Clinical Implant Dentistry and Related Research*, 12, 165-174.

URL:

- <http://apps.webofknowledge.com> search via Accession No >> 000280629900001
- <http://www.ncbi.nlm.nih.gov/pubmed/19438942>
- <http://ebd.ada.org/SystematicReviewSummaryPage.aspx?srId=5632731d-f827-4b1f-b896-1b293a6ced04>
- <http://onlinelibrary.wiley.com/doi/10.1111/j.1708-8208.2009.00162.x/abstract>