Peri-implant marginal bone loss; What is the current consensus?

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Peri-implant marginal bone loss: an academic controversy or a clinical challenge?

Björn Klinge
Eur J Oral Implantol 2012;5 (Suppl)
Periimplant tissue destruction

Academic controversy:

Clinical feature
or
Initiation of event
?

2014-09-08
Factors related to marginal bone loss

Biofilm accumulation
("infection")

at the implant-tissue interface

inflammation

tissue destruction, periimplantitis
The impact of genotypes and immune reactivity in peri-implant inflammation: identification and therapeutic use of anti-inflammatory drugs and immunomodulators

Thomas E Van Dyke
Eur J Oral Implantol 2012; 5 (Suppl)

Impact of the type and configuration of abutments and their (repeated) removal on the attachment level and marginal bone

Eric Rompen
European Journal of Oral Implantology
2012; 5 (suppl)

Identifying occlusal overload and how to deal with it to avoid marginal bone loss around implants

Jia-Hui Fu, Yung-Ting Hsu, Hom-Lay Wang
Eur J Oral Implantol 2012; 5 (Suppl 5)
Little do we know...
**PubMed Publications**

Review: "Periodontitis" AND "Dental implants" AND "Review"
Human: "Periodontitis" AND "Dental implants" AND "Human"

**PubMed search October 6, 2012**

**Periimplantitis # Estimated growth**

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**PubMed "periimplantitis AND "human"**

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Under-reporting of relevant data

In a systematic review reporting on complications after > 5 years follow-up, biological complications were reported only in < 40% of all available studies.

Berglundh T, Abrahamsson I, Klinge B, J Clin Per 2002
28% of all patients
>1 implant, bone loss > 3 threads

Fransson et al 2005

14-16% of patients
>1 implant, bone loss > 3 threads
Probing Pocket Depth (PPD) > 6mm

Roos i Jansåker et al 2006

Peri-implant mucositis was diagnosed
at 80% of all investigated individuals
and at 50% of all implants

Zitzmann et al 2008
Peri-implantitis lesions were identified in 28% - >56% of all investigated individuals and at 12% - 43% of all implants

Zitzmann et al 2008

Implant Treatment of Patients with Edentulous Jaws: A 20-Year Follow-Up

Åstrand et al Clinical Impl Dent and Rel Res 2008
Peri-implantitis
2.4% (implants, 3/123)
14% (patients, 3/21)
11.3% of patients
PPD > 6mm + BoP
Boneloss > 3 mm

> 3 mm

Koldsland et al et al 2010

24% of patients
PPD > 4mm + BoP
Boneloss > 2 mm

> 3 mm
> 2 mm

Koldsland et al et al 2010
Statement 1*

The prevalence of peri-implantitis over a 5 to 10 year period following implant placement has been reported to be in the order of 10% of implants and 20% of patients.

*Minority statement by T. Albrektsson & A. Wennberg: “...it is quite clear that a particular figure for the true incidence of peri-implantitis cannot be stated...”

Klinge B & Meyle J. COIR 2012

Clinical recommendations

Peri-implantitis is expected to occur in 1 of 5 patients, hence frequent monitoring of the peri-implant tissues for signs of inflammation is necessary.

Prior to placement of implants patients should be informed of the risk of peri-implant diseases and how it can be reduced.

Klinge B & Meyle J. COIR 2012
Little do we know....

Levignac J
L’ostéolyse périimplantaire, périimplantose – periimplantitis.
Rev Fr Odontostomatolol 1965; 12:1251-1260

The microbiota associated with successful or failing osseointegrated titanium implants
“...it is suggested that “periimplantitis be regarded as a site specific infection.....”
...failures, even one year after installation, still seemed to be concentrated in patients with a high degree of plaque accumulation.

van Steenberghe et al 1993
Little do we know....
Statement

Factors that have been shown to affect peri-implantitis prevalence include smoking, poor oral hygiene and a history of periodontitis.

Clinical significance

Patients presenting with these factors should be subject to high vigilance monitoring.
What have we learned

Periodontitis is a risk factor for implant treatment. Common (other) risk factors have been identified for periodontitis-susceptible individuals and patients experiencing complications in relation to implant treatment.


What have we learned

Smokers with previous or current sensitivity to periodontitis have recently been identified as high-risk individuals.

What have we learned

Patients in general, and periodontitis-susceptible individuals in particular, should be kept on a strict oral hygiene maintenance program and be encouraged to quit smoking.


What have we learned

Periodontitis-susceptible individuals can be successfully treated with osseointegrated implants, however the patients should be informed of the higher risk involved.

Acknowledgment:
Å Dr Hadar Hallström, Halmstad Sweden
Å Dr Margareta Hultin, Stockholm, Sweden
Å Dr Leif Jansson, Stockholm, Sweden
Å Dr Nils Ravald, Linköping, Sweden
Å Dr Christer Slotte, Jönköping, Sweden
Å Dr Andreas Stavropoulos, Malmö, Sweden

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