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Prevalence of Peri-Implantitis in a Known Population

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KEYWORDS
dental implants, peri-implantitis, prevalence

ABSTRACT:

Background: This study was conducted to assess the prevalence of peri-implantitis in a known population

Material and methods: This study comprised of 50 subjects. The subjects who were willing to participate in the study and those who underwent implant treatment were included in the study. The subjects who were not willing to participate in the study had been excluded from the study. The procedure was informed to the patients and they were asked for consent. The subjects with dental implants had been clinically examined for any signs of peri-implantitis. The observations had been recorded. Statistical analysis had been conducted using SPSS software.

Results: In this study, there were 50 subjects out of which 20 were males and 30 were females. Peri-implantitis was present in 26(52%) subjects out of 50 subjects.

Conclusion: The prevalence of peri-implantitis in this study was 52%.

Introduction

Dental implants have become an indispensable established therapy in dentistry in order to replace missing teeth in different clinical situations. Success rates of 82,9% after 16 years follow-up have been reported.[1] Under care and attention of indications, anatomical and intra-individual limiting factors, insertion of dental implants seems to represent a “safe” treatment option. Nevertheless, in the last decades increasing evidence raised on the presence of peri-implant inflammations representing one of the most frequent complications affecting both the surrounding soft and hard tissues which can lead to the loss of the implant. Therefore, strategies for prevention and treatment of peri-implant disease should be integrated in modern rehabilitation concepts in dentistry.

In analogy to gingivitis and periodontitis affecting the periodontium of natural teeth, an inflammation and

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destruction of soft and hard tissues surrounding dental implants is termed as mucositis and peri-implantitis.[2-4] Thereby, transitions are often fluent and not clinically clearly separable.[5]

This study was conducted to assess the prevalence of peri-implantitis in a known population

Material and methods

This study comprised of 50 subjects. The subjects who were willing to participate in the study and those who underwent implant treatment were included in the study. The subjects who were not willing to participate in the study had been excluded from the study. The procedure was informed to the patients and they were asked for consent. The subjects with dental implants had been clinically examined for any signs of peri-implantitis. The observations had been recorded. Statistical analysis had been conducted using SPSS software.

Results

Table 1: Gender-wise distribution of subjects

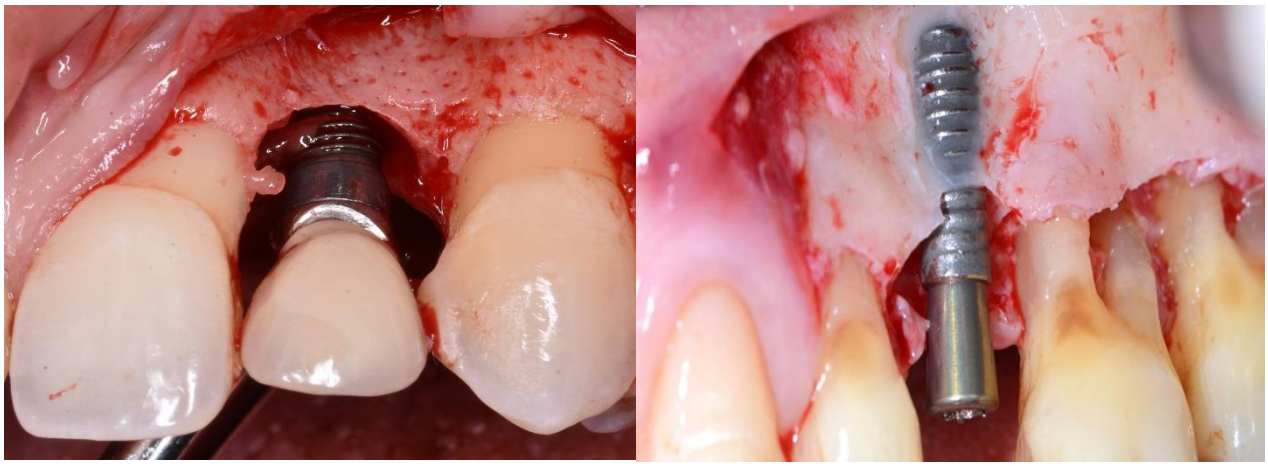
Gender	Number of subjects	Percentage
Males	20	40%
Females	30	60%
Total	50	100%

In this study of 50 subjects, there were 20 males and 30 females.

Table 2: Prevalence of peri-implantitis

Prevalence	Number of subjects	Percentage
Absent	24	48%
Present	26	52%
Total	50	100%

Peri-implantitis was present in 26(52%) subjects out of 50 subjects.



Discussion

Dental implants were an effective method for replacing missing teeth in partially edentulous patients. However, peri-implant connective tissue inflammation with or without progressive loss of supporting bone, known as

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peri-implant mucositis and peri-implantitis[6], may be associated with this treatment.

According to the peri-implant diseases and conditions classification developed at the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions, the diagnostic definition of peri-implant health was based on the absence of peri-implant soft tissue inflammation (redness, swelling, and profuse bleeding on probing) and additional bone loss following initial healing.[7]

A meta-analysis by Derks J et al.[8] estimated the weighted mean prevalence of peri-implant mucositis and peri-implantitis at 43% (95% CI: 32–54%) and 22% (95% CI: 14–30%). Changi[9] used a validated reference cohort comprising patients (2127 patients and 6129 implants) receiving dental implants over 3.5 years and exhibited a 34% prevalence of peri-implantitis on the patient level [standard error (SE): 3.1%] and 21% on the implant level (SE: 1.7%).

This study was conducted to assess the prevalence of peri-implantitis in a known population

In this study, there were 50 subjects, out of which 20 were males and 30 were females. Peri-implantitis was present in 26(52%) subjects out of 50 subjects.

Weinstein T et al (2020)[10] determined the prevalence of peri-implantitis and to assess its association with several patient- and implant-related factors. Patients with at least one implant, who came for a recall visit to one of the four centres over a period of five months, were enrolled. Presence of peri-implantitis (defined as bleeding on probing, exudate/suppuration, bone loss > 0.2 mm/year and increased pocket depth) and several other variables (e.g., smoking habits, history of periodontitis, diabetes) were recorded. Out of 248 enrolled patients (1162 implants), 10 patients had at least one implant with peri-implantitis (4.03%); a total of 14 implants were affected (1.20%). A statistically significant association between peri-implantitis and diabetes was found (OR 8.65; CI: 1.94–38.57). Smoking more than 10 cigarettes per day (OR: 0.53; CI 0.03–9.45) and history of periodontitis (OR: 2.42; CI: 0.49–11.89) were not found to be statistically associated with peri-implantitis. Even if implant therapy is a consolidated treatment, biological complications do happen. Strict supportive therapy recalls could lead to lower rates of peri-implantitis and earlier diagnosis.

Zhao R et al (2022)[11] investigated the prevalence of peri-implant disease and identify potential disease risk factors in western China. Methods: The present retrospective study was conducted in 131 consecutive patients receiving 248 dental implants treated with implant-supported prostheses with a mean follow-up of 2.52 years. Several patient-related, implant-related, and oral hygiene maintenance factors were analyzed. Results: Peri-implant disease developed in 68 (51.91%) patients and 110 (44.35%) implants. The prevalence of peri-implant mucositis and peri-implantitis were 45.80% and 7.63%, respectively, at the subject level, and 36.69% and 7.66%, respectively, at the implant level. Multivariate analysis exhibited that male [odds ratio (OR) = 1.91; 95% confidence interval (CI): 1.02–3.57; p = 0.04], implant length < 10mm (OR = 7.87; 95% CI:1.62–38.46; p = 0.01), poor proximal contact of the prosthesis (OR = 1.90; 95% CI: 1.06–3.42; p = 0.03), tooth brushing once a day (OR = 3.11; 95% CI: 1.26–7.68; p = 0.04) and moderate periodontitis (OR = 13.00; 95% CI: 4.38–38.60; p < 0.01) were independent risk factors for peri-implant disease.

Conclusion

The prevalence of peri-implantitis in this study was 52%.

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