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Assesment of Success Rates of Endodontic Treatment and Dental Implants in Treatment of Periodontitis.

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KEYWORDS
Periodontitis

ABSTRACT:

Background: Assessment of success rates of endodontic treatment and dental implants in managing periodontitis

Material and methods: The study included overall 60 subjects with periodontitis. The subjects were divided into 2 groups based on severity of periodontitis. Both the groups consisted of 30 subjects each. The subjects in group 1 had mild to moderate periodontitis. The subjects in the other group had severe periodontitis and had poor prognosis. The subjects with severe periodontitis underwent extraction for the purpose of dental implant treatment. Statistical analysis was carried out using SPSS software.

Results: 1 subject from group 1 showed continuous pain whereas infection, furcal perforation and crown fracture was evident in 1 subject each. 1 subject from the second group showed peri-implantitis whereas implant mobility and nerve damage were seen in 1 subject each. The success rate of dental implants was higher as compared to RCT followed by crown placement for the treatment of periodontitis.

Conclusion: Dental implants have demonstrated a superior success rate in comparison to root canal treatment followed by crown placement for addressing periodontitis.

Introduction

Dental implants are regularly placed in patients suffering from chronic periodontitis. Implant treatment in periodontitis-susceptible individuals is frequently debated. It has been reported that in partially or completely edentulous patients, periodontal pathogens might be transmitted from teeth to implants, implying that periodontal pockets might serve as a reservoir for bacterial colonization.[1- 3] The microflora similarity of periodontitis and peri-implantitis support the concept that periodontal pathogens might be associated with peri-implantitis and failing implant. The hard and soft tissues of these patients are host-modulated and susceptible to aggravation of disease. There are certain factors which are associated with the susceptibility of these conditions.[4- 6] Hence, this study was conducted to evaluate the comparison of success rates of endodontic treatment and dental implants in treatment of periodontitis.

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Material and methods

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Results

1 subject from group 1 showed continuous pain whereas infection, furcal perforation and crown fracture was evident in 1 subject each. 1 subject from the second group showed peri-implantitis whereas implant mobility and nerve damage were seen in 1 subject each. The success rate of dental implants was higher as compared to RCT followed by crown placement for the treatment of periodontitis.

Table 1: Success rate of both treatment methods.

Fate of treatment	RCT followed by capping	Dental implants
Success	25 (83.33%)	28 (93.33%)
Failure	5 (16.67%)	2 (6.67%)
Total	30 (100%)	30 (100%)

Discussion

Regardless of the clinical conditions, dental progress is the anticipated outcome following root canal treatment (RCT). When the tooth is completely repaired and functional, the surgery should be regarded as complete. The root canal treatment protocol is a method of analyzing therapeutic success from many perspectives, with particular principles including the dentist and the patient itself.[13] The importance of signs, the importance of health conditions, and the value of images are also references for dentists (there is no periapical irritation and the root canal gap is entirely filled). The combined impact of the root canal system's mechanical instrumentation, filling with an inert substance, and chemical debridement known as the periapical tissues are maintained and restored during root canal treatment (RCT).[6- 9] Today, dental implants are one of the restorative methods to replace missing teeth. Improvements in implant design, surface characteristics, and surgical protocols made implants a secure and highly predictable procedure with a mean survival rate of 94.6 % and a mean success rate of 89.7 % after more than 10 years.[10] Hence, this study was conducted to evaluate the comparison of success rates of endodontic treatment and dental implants in treatment of periodontitis.

In this study, 1 subject from group 1 showed continuous pain whereas infection, furcal perforation and crown fracture was evident in 1 subject each. 1 subject from the second group showed peri-implantitis whereas implant mobility and nerve damage were seen in 1 subject each. The success rate of dental implants was higher as compared to RCT followed by crown placement for the treatment of periodontitis. Elemam RF, et al compared the success rates of these two treatments. Success was measured as the longevity of the tooth or implant. Studies which met strict inclusion criteria to ensure best evidence were included. Searches were performed in Ovid Medline, Pubmed, Scopus database, and the Cochrane Library. Evidence-based groups were formed following the assessment of inclusion/exclusion criteria. The overall success rates for primary endodontic, nonsurgical retreatment, and surgical treatment were (86.02%), (78.2%), and (63.4%), respectively, implants was 90.9%. In conclusion, choice between implant and endodontic therapy cannot be exclusively based on outcome as both treatments differ in the biological process, diagnostic modalities, failure patterns, and patients preferences. More research is required with improved study designs before long-term success rates can be compared.[10]

Clinicians often must decide between maintaining or extracting a tooth with a doubtful prognosis. This decision can be difficult and complex. The use of preestablished criteria can assist in this process, such as the criteria proposed by Strindberg (1956) and Ørstavik et al. (1986) for endodontically treated teeth and parameters, such as pocket depth, degree of mobility, and bleeding on probing for teeth after periodontal treatment. In this way, it is essential that a correct “endpoint” is determined, so that a treatment can be considered successful. A recent publication observed that a clinical endpoint of ≤4 sites with PD ≥ 5 mm is effective in determining disease remission/control after active

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periodontal treatment. Implants are currently classified according to their survival and success rates. Survival classification is quantitative and based on whether the implant is present in the oral cavity, independent of implant health. In contrast, the success analysis is qualitative and involves several parameters (e.g., marginal bone loss, probing depth, pain, suppuration, and mobility) that are dependent on the scale adopted. Most longitudinal studies report data on survival. This can be justified by the greater practicality in obtaining survival data than in obtaining data on the success rate.[11- 14]

Conclusion

Dental implants showed higher success rate as compared to RCT followed by crown placement for the treatment of periodontitis.

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