PERIIMPLANTITIS: MANAGEMENT AND PROGNOSTIC

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ABSTRACT

Periimplantitis is an inflammation caused by the presence of bacteria on the surface of the implant. Therefore, in a manner similar to the treatment of periodontal diseases, the removal of the biofilm from the implant's surfaces should lead to the regression of the disease's progression. The best way to do this has not been implemented. This can be surprising, given the relative complexity of the implant's surface compared to the natural root of the tooth. Other management strategies include surface decontamination, removal of the implant wire, known as implantoplasty, and, in severe cases, extraction of the implant. Favourable defects can be reconstructed using guided bone regeneration techniques.

Conclusion: This review evaluates some techniques for treating periimplantitis.

Keywords: periimplantitis, periodontal disease, management

INTRODUCTION

Periimplantitis is a condition of the supporting tissue around a dental implant. (Fig.1)Perimplantitis may have only a few or all of these specific symptoms: bleeding on palpation, increased sac depth, mobility, suppuration, and pain. (1)

Figure 1Periimplantitis

Periimplantitis can occur due to various causative agents, including poor adaptation of the restoration, malposition of the implant, technical complications, traumatic placement, and excessive cement not removed after implant restoration. (2)

Wilson found that excess dental cement was associated with signs of periimplantitis, and upon removal, the signs of periimplantitis were remitted to 74% of the implants tested. (3)

Wadhwani pointed out that many cements commonly used to cement implant-supported prostheses are not radiologically detectable. (4)

It has recently been reported that the incidence of chronic inflammation of the soft

and hard tissues in the vicinity of implants after 5 years varies between 8.6-9.7% and may develop within a few months of implant insertion or a few years postoperatively.

Therapeutic modalities currently used include microflora modification, as well as receptive and regenerative techniques.

Antimicrobial therapies have recently been shown to produce unpredictable and difficult-to-maintain results. (5)

Factors leading to the development of periimplantitis: oral hygiene, history of periodontitis, smoking, diabetes with genetic traits, alcohol consumption, and implant surface.

Smoking is a major risk factor for periimplantitis and implant loss. Although the detailed pathophysiological mechanisms are not known, it has been found that smokers have a -20% lower implant success rate, almost like the incidence of periodontal disease.

History of periodontitis: the bacteria present colonize the peri-implant area.

This list of risk factors for periimplant diseases has recently been expanded by the o authors to include possible poor prosthetic fit and micromotion, poor implant positioning, occlusion, hypertension, inadequate gingiva, reuse of healing abutments, and foreign particles (cement).

Management of periimplantitis

Currently, the management of periimplantitis is based on the methods used to treat periodontal disease. Unfortunately, despite extensive research in various techniques, there is no strong consensus or accepted treatment for the eradication of predictable periimplantitis. This is mainly due to the lack of high-quality evidence on the effectiveness of current treatment modalities. Despite these shortcomings, there are some advantages in evaluating the methods currently available.

Studies have shown that, regardless of the type of strategy used to treat periimplantitis, there are considerable changes in the periimplant mucosa. (Fig.2)

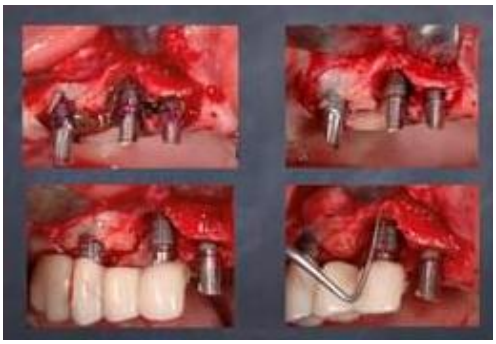

Figure 2 Periimplantar mucositis

Non-surgical management

The strategy focuses on reducing inflammation by controlling biofilms (bacterial colonization of implant surfaces). (Fig. 3).

This is done when a periodontist uses specialized tools to mechanically remove the biofilm from an implant. There are several different techniques and tools available for biofilm removal.

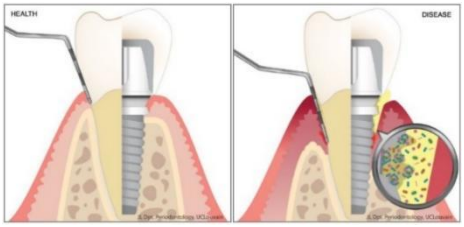

Figure 3 Periimplant tissues in health and disease. In diseased state, the disbiotic (yellow) oral biofilm that accumulates on the implant surface is responsible for the destruction of the supporting tissues by unresolved inflammation.

Medical treatment includes topical anesthetic and analgesic agents (lidocaine, benzocaine, diphenhydramine solutions), mucosal coatings (Amphojel, Kaopectate), hydroxypropyl methylcellulose coatings, mouthwashes and solutions to reduce local pain, hygiene and with analgesics, oral or intravenous analgesics (opioids), growth factors for mucosal development (eg Palifermin).
The method of treatment of periimplantitis with the highest level of success is that of bone grafts, given that non-surgical variants do not give predictable results, and the use of substances such as chlorhexidine has a limited effect to increase the chances of success of a treatment involving regeneration.

Surgical management

Surgical techniques, including guided bone regeneration (GBR) (Fig. 4), have been shown to be more predictable in correcting periimplant defects, however, there is widespread debate about the *Hopp et al*. reported that tilted implants in the maxilla had similar bone loss as axial implants after 5 years of follow-up. (10) As described above, no studies mentioned the surgical procedure as a risk factor for peri-implantitis, although various factors about osseointegration of grafted bone into the surface of the affected implant. (6)

The ultimate goals of such therapies include reducing the bacterial load and restoring peri-implant clinical health. Recent results indicate that the nature of the bone defect surrounding a periimplantitis implant may have a significant impact on the expected therapeutic outcome. (7)

Figure 4 Periimplantitis therapy with an augumentative approach a. Intrabony circumferential defect at implant 46.b. Intrabony defect fill with bone subtitute and coverage with collagen membrane. c. Suturing d. Intraoral view after 12 months

Gheisari et al. reported that there was no significant difference in marginal bone loss between one- and two-stage surgical techniques, although the implants inserted with a one-stage surgical technique produced better esthetic and functional results than those with a two-stage technique. (8)

Jung et al. reported that guided bone regeneration procedures were a predictable technique in their study that investigated the stability of the marginal bone around implants in a long-term evaluation. (9)

the surgical method were discussed. However, subcrestal placement in platform-switching implants has been reported to reduce marginal bone resorption.

The American Academy of Periodontology has defined periimplantitis as a disease that

includes inflammation of the soft tissues around the dental implant, with no additional bone loss after the initial bone reshaping that may occur during healing following surgical placement of the implant. (11)

A good **prognosis** for dental implants is favored by the early detection of signs of mucositis and then of periimplantitis. If the treatment with bone additions and antiseptic solutions has no effect, another option is to remove the dental implant, clean the implant alveolus and introduce larger diameter implants, followed by the manufacture of new prosthetic works.

Conclusions

A high prevalence of peri-implant diseases has been reported in many studies, which together confirm that they occur frequently.

Some researchers have questioned whether dental plaque is the only etiological factor in periimplantitis, which is caused by plaque build-up around the implant.

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