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Short Communication

Tooth Implant Supported Prosthesis

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ABSTRACT

Implant- tooth supported prostheses have significant biological and biomechanical benefits. Due to the widespread use of implants to support prostheses in partly edentulous patients, encountering this condition of mandatory connection between tooth and implant is becoming increasingly unusual. Long-term prognosis of this treatment approach is, however, a topic of specific dispute in dentistry literature due to biomechanical differences between a tooth and an implant. The purpose of this review is to critically analyse the technical issues, the biological effects of tooth-implant supported prostheses, and the recommendations that could be useful in preventing long-term issues related to the tooth supported permanent partial denture.

Keywords: Tooth implant supported prosthesis; Complications; Splinting

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Introduction

Depending on the quantity and health of the remaining teeth, the amount of accessible space, the strength of the bone support, the cost, and the preferences of the patient, there are several treatment options available to replace lost teeth. Fixed dental prostheses supported by implants have been demonstrated to be an effective therapeutic option.[1] When there is an anatomical space restriction for implants or a failure of an implant to osseointegrate, an implant may occasionally be linked to the remaining natural teeth.[2]

Discussion

Benefits and Drawbacks:

The splinting of a natural tooth to an implant, improved mechanoreception, and extra support for the overall load on the dentition are benefits of tooth implant supported prosthesis. Additionally, using implants to join teeth expands the range of treatments a restorative dentist may perform, lowers the cost of replacing teeth, and does away with the need for cantilevers. [3,4] The drawbacks of such connections include a greater requirement for maintenance and repair.[4-6] The issue with the implant-to-natural-tooth link is that the osseointegrated implants and the tooth have different movement patterns, which might put an excessive amount of stress on the implant. Numerous studies have documented severe marginal bone loss or implant failure, particularly in the areas nearest to the implants.This triggered debate about whether it is possible to attach implants to natural teeth.

Rationale:

There are several arguments in favour of fusing dental implants with natural teeth. The common ones include anatomical restrictions in the posterior regions where there is insufficient bone, local and systemic conditions that prevent the placement of additional implants, failed implants with some implant remaining, financial limitations for additional implant placement and bone augmentation procedures, and failed implants with some implant remaining. The necessity for extra support, where implants must give occlusal guidance, and the requirement to distribute the weight among the natural teeth in order to prevent overloading the implant are other factors. Implants can also give the remaining natural teeth more support in cases when the gums are damaged. Its always a challenging task to restore esthetics in anterior region with implants than natural teeth. [6]

Types of Connections:

Three different types of connections are employed in tooth implant supported prostheses:

1. Rigid connection: Using a fixed dental prosthesis, the tooth is rigidlyconnected to the implant.

2. Non-rigid connection: Telescopic restorations, non-precision attachments, and precision attachments are used to telescopically link the tooth to the implant. It serves as a stress-breaking component.

3. Resistant connection: It features a flexible part that mimics the periodontal ligament. It serves as a stress-absorbing component.[7]

Complications

Complications associated with tooth implant supported prosthesis is broadly classified into biological and technical complications. The slow loss of bone surrounding the implant neck, bone fracture, loss of osseointegration, peri-implantitis, endodontic issues, caries following cement breakdown, and root fracture

are examples of biological difficulties. Comparing stiff connection to non-rigid tooth to implant prosthesis and free standing implant restorations, marginal bone loss with rigid connection is expected to be three times greater. It met acceptable requirements, nevertheless. The aforementioned information leads to the conclusion that when implants were attached to teeth, high loads may not have been passed. On the other hand, there are reports in the literature showing equal rates of bone loss with both rigid and non-rigid connections.Abutment fracture, teeth or root fracture, tooth intrusion, fatigue-induced prosthesis fracture, fracture of the implant, fracture of the abutment screw, loss of the prosthesis cement bond to the tooth or abutment, and fatigue-induced implant fracture are examples of technical complications brought on by mechanical damage to the teeth or implant.[8]

Conclusion

It is clear from the research above that there are a number of negative side effects associated with fusing implants to natural teeth. However, the implantologist can and should examine the idea of fusing natural teeth to the implant when the circumstances call for it. To ensure a predictable course of therapy, a treatment plan must be created. Before the treatment plan is established, the patient should be given a risk-benefit analysis and informed of any potential problems. Reducing the danger of tooth intrusion and implant overload should be the major priority.[9, 10]

Authors' contribution

Harshmeer Nagra: Manuscript editing, Literature search, data collection, data analysis

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Conflict of interest

The authors have nothing to disclose or any conflicts of interest.

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