

(CASE REPORT)



Dental prosthetic rehabilitation of a patient with parafunctional habit: A case study

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Abstract

Introduction: Parafunctional habits such as clenching, grinding, gnashing of the teeth leave multiple consequences on the natural dentition if left untreated.

Purpose: The purpose of this study is to represent a patient treated prosthetically with parafunctional habit of clenching his teeth.

Material and methods: For the purpose of this study a 42 year old patient was analyzed, treated and rehabilitated with metal ceramic anterior dental bridge. He was treated with a dental splint before beginning of the treatment. His left central maxillary incisor, left maxillary lateral incisor, and left canine were treated endodontically, and then restorated with posts and cores. After that a dental frontal aesthetic bridge was manufactured. Because the patient has a habit to clench his teeth, he needs to be monitored so that he does not damage the anterior bridge, which is the reason why a dental splint was designed for protecting the patient.

Results and Discussion: Patients with parafunctional habits represent a highly challenging group for treatment. Authors worldwide have tried to find optimal solutions on how to help patients with different parafunctional habits and how to prevent them in the future. In this case study the patient was successfully treated and rehabilitated.

Conclusion: The consequences that parafunctional habits can leave on the dentition can be observed, and dental prosthetic treatment can create functional – aesthetic solution that needs to be preserved.

Keywords: Dental prosthetic rehabilitation; Parafunctional habit; Dental splint; Endodontically treated teeth.

1. Introduction

The anatomy and physiology of the masticatory system is complex and include many different types of activities. Among the normal functional activities are speaking, swallowing, chewing and breathing [1].

Parafunctional habits are known to be highly related with different conditions from dental to medical. Regarding the dental conditions, they can have different etiological factors, such as occlusal anomalies, traumatic occlusion, increased or decreased occlusal vertical dimension. The medical conditions are also highly important starting from anxiety, depression, neurological conditions etc. [2].

When patients come to the dental office often times they are not even aware that they clench, grind or gnash their teeth. They sometimes repeatedly chew pens, pencils, their nails or hard objects. These repeated actions leave different types of consequences of the hard and soft tissues in the stomatognathic system. They can be in the form of abrasion, fracture

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of the teeth, exposition of the pulp, inflammation of the gum tissues, and different types of periodontal changes, such as luxation, or even losing of the teeth. [3]

Early diagnosis and early treatment are in favor of an early prevention of the stomatognathic system and thus of the overall systemic patients' health.

Purpose

The purpose of this study is to represent a dental prosthetic rehabilitation of a patient with parafunctional habit clenching, grinding and gnashing of his teeth.

2. Material and methods

For the purpose of this study, a 42 year old male patient was analyzed, diagnosed and prosthetically rehabilitated. When the patient first came to the dental office he had lowered third of the face, enhanced sulci nasolabialis et mentoolabialis and pain in his maxillary right central incisor, lateral incisor and canine.

The patient was aware of his parafunctional habit like biting on his right side, biting hard objects such as pens, pencils and thus abrading his teeth. Also after detailed anamnesis it was realized that he protruded his mandible at the right side, thus causing hard degree of loss of hard dental tissue. His right maxillary central incisor, right lateral incisor and right canine were in need of endodontic treatment. After meticulous finishing of the endodontic treatment the teeth needed enhancement (figure 1a and figure 1b).



Figure 1a Intraoral view of the patient



Figure 1b Intraoral view of the bite of the patient

The patient was given a splint so that he can prevent his natural teeth and his treated endodontically and enhanced teeth, and also to prevent damage on his temporomandibular joint.

Specific measurements were taken, so that a detailed dental prosthetic rehabilitation plan was conducted in terms of alteration of the occlusal vertical dimension.

A dental anterior functionally aesthetic bridge was manufactured (figure 2).



Figure 2 Intraoral view of the functionally-aesthetic dental prosthetic rehabilitation of the patient

After permanent cementation of the anterior dental bridge, a dental splint was designed so that the patient can protect himself from his parafunctional habits.

The patient was followed for a period of two years, and with frequent controls, his results remain satisfactory.

3. Results and discussion

More and more often as therapists we witness the high rate of incidence of parafunctional habits. We live in a stressful society, chasing our dreams, and idealizing the future. It is not unusual for highly ambitious people to cope with different kinds of diseases. It is well known the connection between the psychosomatic diseases and parafunctional habits such as grinding, clenching and gnashing of the teeth. The deadlines, the cope of high achievements can lead to different kinds of manifestations both during the day and during the night. Some literature data suggest that patients that visit psychiatrists because of daily parafunctional habits such as bruxism that are related to psychological problems [4.5].

The longer a parafunctional habit exist, the more complex dental prosthetic rehabilitation treatment will prevail, as shown in various literature data[6].

In this case study, a patient with dental anamnesis for grinding, gnashing, clenching his teeth during the day was obtained. The patient in the history of medical data gives negative answers for presence of any kind of physical and mental diseases. He is aware of his condition and the need for cognitive behavioral therapy, by listening to the therapists' advices and by wearing the splint. The splint is an occlusal inserter with multiple advantages, like rehabilitating the temporomandibular joint that suffers in patients with parafunctional habits, then helping gradual increasing of the occlusal vertical dimension and what is even more important to prevent the patient from himself. Once the patient wears the splint during the day he can be conscious and awake and aware how to control his habits. And during the night he can not control what he is unaware of but he can prevent the future damage of his natural and artificial dentition.

In the management of dental parafunctions and thus temporomandibular joint dysfunctions, the dental therapist have a wide treatment modalities on the type of splint to create or even the type of material [7].

The entire treatment protocol of the patient presented in this case study has shown satisfactory results, with frequent controls and advices, so that as therapist we have the role of further prevention, by helping the patient to keep, preserve the newly designed dental bride.

The patient had shown satisfactory results by functioning with the newly designed occlusal vertical dimension, by eliminating his parafunctional habits using his conscious control.

4. Conclusion

Dental prosthetic rehabilitation of a patient with parafunctional habit is a challenging and complex work, with multidisciplinary approach and help of different dental and medical specialists. What is even more important is the quest and discipline of the patient himself so that he can protect himself from himself with cognitive behavioral therapy and occlusal splint therapy. Only then when the follow ups of the patient show respectful results and preservation of

the newly designed occlusal vertical dimension and preservation of the dental bridge we can say that we have achieved satisfactory treatment modality that not only has helped the stomatognathic system, but also the entire patients' health.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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