

Effect of Psychological and Genetic Factors on The Bruxism

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Abstract

Medical history and dental diagnosis have been done to 10 patients suffering of bruxism at Al Gamal Dental Center to investigate the effect of the psychological and genetic factors on the bruxism. The cases classified according to severity of attrition in enamel and dentine to three classes. The cases history released that the 10 patients have at least a related person who have bruxism in the family. patients pointed out that grinding of the teeth occurs when they feeling of anxious, angry or stressed and did not happen most the days. This resulted that the genetic factor is

direct cause of bruxism while the psychological factor is the aggravating factor.

Kay word

Bruxism, grinding, anxious, stress, attrition, psychology , genetics factors.

Introduction

Bruxism is the habit of clenching and grinding of the teeth. It is a frequent activity of masticatory muscles, which could occur during sleep (sleep bruxism(SB)) or during wakefulness (awake bruxism (AB)). Recently, the definition of bruxism was corrected by Lobezzo et al.(F. Lobezzo et al, 2018): "Sleep Bruxism is a masticatory muscle activity during sleep (characterized as rhythmic and nonrhythmic); awake bruxism is a masticatory muscle activity during wakefulness (characterized by repetitive or sustained tooth contact and/or by bracing or thrusting the mandible)".

It usually occurs at night during sleep, but it may also occur during the day. Bruxism is an unconscious behavior performed to release anger, stress, or anxiety, and it is one of oldest disorder affects approximately one of four people (Mayo Clinic, 5th edition). Most of the patients are not aware of this problem before their teeth have been sensitive and damaged. While bruxism is typically associated with stress, it may aggravated by abnormal occlusion (the way of upper and lower teeth fit together) or missed teeth (Mayo Clinic, 5th edition). Medical and dental histories and examinations are necessary to differentiate bruxism from other disorders that may cause similar pain such as dental caries, temporomandibular

joint dysfunction, and ear diseases. However, uncommon attrition of occlusal surface of teeth strongly suggests a diagnosis of bruxism. To prevent further damage to the teeth, bruxism is treated by using custom-fitted plastic appliance know as a night guard between upper and lower teeth. Even the grinding and clenching behavior may continue, the wearing of plastic appliance will protect occlusal surfaces of teeth from being damage by friction (Tyldesley's, 2003). In severe cases of bruxism significant tooth wear can cause damage of dental restorations; fillings, crowns etc. (Wssell R. et al, 2008). Therefore most dentists prefer to keep dental treatment in patients with bruxism very simple and carry it out when essential, since any dental treatment is likely to fail with time (Mayo Clinic, Digital edition). Mild bruxism may not require treatment(Tyldesley's, 2003).

The etiology of bruxism is still unclear however biologic, psychologic, and exogenous factors have greater involvement than morphologic factors in its etiology(Manfredini, 2017).

There is no consensus about the definition and diagnostic grading of bruxism (F. Lobbezoof et al, 2012). The best way we could use to classify the bruxism grad in this paper is assessing the amount of enamel and dentin that has been ground away from surface of teeth. Class I: Mild Bruxism, Clinical signs and symptoms of Mild Bruxism would include patients mention that they grind or clench their teeth. Grinding or clenching noises, especially at night, verifies this. According to clinical examination of the patients, they would show signs or symptoms of one or more clinical findings: headaches, hypersensitive of teeth, pain in the muscles of mastication, tenderness of the TMJ, and clicking of the temporomandibular joints. In addition to any of the symptoms and signs mention above there would be minor tooth attrition of less than 1mm of

enamel wear on the cusp tips or incisal edges of teeth. Class II: Moderate Bruxism, In addition to any of the signs and symptoms listed above, there would be moderate tooth attrition with 1-2mm of enamel loss but with no dentin exposed on the incisal edges or cusp tips of the teeth. Class III: Severe/Advanced, Bruxism. In addition to any of the signs and symptoms listed above there would be severe tooth attrition with greater than 2mm of enamel loss with dentin exposed on the cusp tips and incisal edges. We should be aware to that the presence of tooth wear only indicates that it may has occurred at some point in the past, and does not necessarily indicate that the loss of tooth substance is ongoing.

Aim of study

The aim of present study was to investigate the influence of psychological and genetic factors on bruxism in people, it include different age and sex.

Material and methods

Cases history sheets reported and clinical diagnosis have been done at Al Gamal Dental Center to 10 patients. Family history, genetic and psychological factors about bruxism were virtual diagnosed. Medical and dental histories and examinations have been done to differentiate bruxism from other conditions that may cause similar pain, such as ear infections, dental problems, and temporomandibular joint (TMJ) dysfunction. However, uncommonly worn-down teeth strongly suggest a diagnosis of bruxism.(Mayo Clinic, 5th edition)

Male patients aged (19,30,50 years) came to Al Gamal Dental Center with chief complain of teeth sensitivity during drinking of hot and cold liquid. Above patients were suffering from mild sensitivity of teeth with un usual occlusal attrition. As their dental history, they are grinding

their teeth together when they expose to stress or anger (Class II). Returning to their medical history, patients have one of their grandparents at least suffering from same problem.



Male Patient picture 30 years old shows attrition in upper incisors teeth wear of enamel layer class II Bruxism



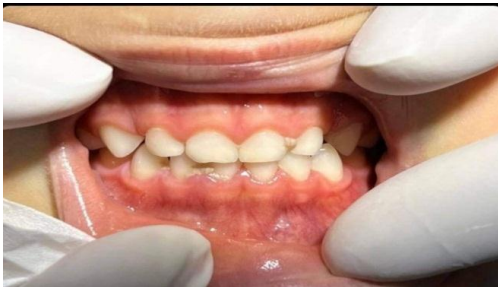
Male patient picture 50 years old shows occlusal central attrition of upper and lower central incisors, class II Bruxism

Female patients aged (35,60 years) contacted Al Gamal Dental Center with sever dental pain and fair worn down in occlusal surface and expose of dentine (Class III). Following their medical history, their grandmothers have same chief complain and wear night guards. In the case history sheets, patients mentioned that they clench and grind their teeth as a way to getting rid of stress.



Female patient 60 years old picture shows sever attrition in lower teeth with exposure of Dentine.
Class III Bruxism.

Child patients aged (5,6,8,9,11years) came with their parents to Al Gamal Dental Center with chief complains of mild teeth sensitivity and occlusal teeth attrition. As history taking from their parents, at least one of the family members were suffering from same chief complain. Following their case history sheets , child have grinding teeth habits when they expose to fear, anger, or stress.



Child patient 6years old picture shows attrition in upper teeth in enamel layer
Child patient



5years old picture shows attrition in upper teeth Class I Bruxism. In enamel no exposure of dentine Class I Bruxism



Child patient 8 years old picture shows attrition in upper central incisors in enamel layer with mild sensitivity in teeth, Class II Bruxism.

Some of the patients of this study refused to published their pictures.

Result

After investigating the cases histories, it became clear that there is a genetic factor relation to bruxism. The genetic relation may come from parents or grandparents. From the cases histories, patients pointed out that grinding of teeth occurs when they feeling anxious, angry or stressed and did not happen most days. This fact turns out that the psychological factor is not the main cause of the bruxism, but it is a initiating and motivating factor that contributes in aggravating the grinding of teeth.

Conclusion

Bruxism is a controversial phenomenon. Both its definition and the diagnostic procedure contribute to the fact that the literature about the aetiology of this disorder is difficult to interpret. Taken all evidence together, bruxism appears to be mainly regulated centrally, not peripherally (F. Lobbezoo. Et al, 2001).

According to this study, the main factor of the bruxism is genetics factor while the psychological factor is a motivating factor that contributes in the grinding of teeth.

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