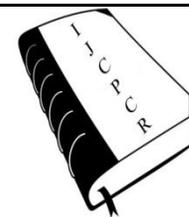




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A REVIEW ON ATTRITION OF TEETH

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ABSTRACT

Attrition is the loss of teeth structure by mechanical forces from opposing teeth. The extent of attrition will depend upon the use to which an individual puts their teeth. Tooth brushing should be avoided immediately after consuming acidic drinks and foods for a period of time as it fastens the rate at which attrition of teeth occurs. This article focuses on the clinical aspect of attrition and methods by which it can be prevented.

Key words: Attrition, Prevention, Patents etc.

INTRODUCTION

Teeth wear increases with age and the tooth wear among the population during the 2000–2002 National Surveys was found to be around 76% for 35–44 year olds [1]. Males have a higher prevalence of tooth wear than females. Tooth wear is caused by: erosion, attrition and abrasion. A common type of tooth wear is erosion which is the progressive loss of tooth substance by chemicals or acids and no bacteria are involved in such tooth wear. Erosion results from the frequent or inappropriate use of carbonated drinks and fruit juices with high levels of acidity and is seen most commonly in teenagers and young adults [2].

Erosion is also seen in individuals who suffer from gastroesophageal reflux disease or from eating disorders. Attrition is defined as the slow and steady loss of hard tooth substances caused by mastication or grinding between opposing teeth of the arch. Attrition will increase in people who habitually clench or grind their teeth. Abrasion is the slow and steady loss of hard tooth substances caused by mechanical actions other than mastication [3]. Abrasion is associated with incorrect tooth brushing technique which gives rise to notching at the junction of the crown and root of teeth. It can also be seen in individuals who use their teeth as a tool for their daily job work.

ATTRITION

Tooth-to-tooth friction causes the form of wear called attrition. Occlusal and incisal attrition can occur during deglutition and clenching; however, wear becomes most severe during bruxism, as evidenced by the advanced and often rapid wear of the teeth seen in that condition [4]. Functional habits are those such as chewing and swallowing, which usually puts very little force on opposing teeth. Parafunctional habits, such as clenching and clicking the teeth together nervously, place greater amounts of forces on opposing teeth and begin to wear the teeth. As expected, wear usually begins on the incisal or occlusal surfaces. Proximal attrition, which occurs at contact areas, can cause a reduction of the dental arch [5].

Attrition initially affects the enamel and, if unchecked, may proceed to the underlying dentin. Once past the enamel, attrition quickly destroys the softer dentin. It is characterized by development of a facet (flat surface with circumscribed and well defined border). Opposing tooth facets will match perfectly in occlusion. Tooth wear is the term used to describe the progressive loss of a tooth's surface due to actions other than those which cause tooth decay or dental trauma.

Prevention [6]

Tooth brushing should be avoided immediately

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after consuming acidic drinks and foods as the acid softens the enamel. Attrition is a slow progressing condition so people are not much aware about it. Bruxism, a type of attrition, requires wearing of a bite guard during sleep for its prevention. Erosion of teeth can be prevented by reducing the frequency of drinking carbonated drinks and fruit juices with high levels of acidity. Abrasion can be prevented by use of proper and ideal brushing techniques. Irregular brushing should be avoided and a dentist should be consulted for ideal brushing pattern. Long term use of tongue jewellery should be avoided as it may also damage the tooth structure. Toothpastes are also a reason for tooth wear so excessive paste use should be avoided during brushing. Fluoridate toothpastes helps to counter tooth wear as it forms a calcium flouride layer.



Other Reasons for Tooth Discoloration/Wear [7]

There are several causes of tooth discoloration, including:

- Foods/drinks
- Tobacco Use
- Poor Dental Hygiene
- Disease
- Medications

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- Dental Materials
- Advancing Age
- Genetics
- Environment
- Trauma

Some Patents on Attrition

1. Device for the Detection of Non-Cavitated Early Dental Caries Lesions: The invention tells us about a device for detecting non-cavitated caries lesions. It uses a tip which fits within a fissure and provides electrical contact with a patient's tooth. It uses a reference and measured electrical current to detect caries [8,9].

2. Method for Removing Incipient Carious Lesions and/or Stain from Teeth: The present invention tells us about a method for removing incipient carious lesions from teeth. It uses a yttrium-aluminum-garnet laser to remove caries from the tooth [10].

CONCLUSION

Tooth-to-tooth friction causes the form of wear called attrition. Occlusal and incisal attrition can occur during deglutition and clenching; however, wear becomes most severe during bruxism, as evidenced by the advanced and often rapid wear of the teeth seen in that condition. Attrition should be clearly distinguished from carious lesion and any type of tooth discoloration before treating the tooth as any misidentification may change the treatment options available to us.