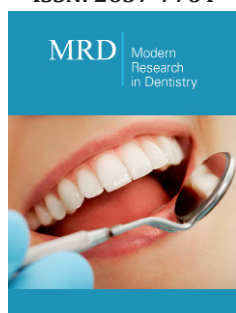


Dental Erosion Preview

Wan Zaripah Wan Bakar*

Conservatives Unit, School of Dental Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

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***Corresponding author:** Wan Zaripah Wan Bakar, Conservatives Unit, School of Dental Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

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Abstract

Dental erosion is one of the harmful types of tooth wear if left to progressed or untreated. It has many causes which relate to current lifestyle especially diet taking. Studies found that erosion increases occurrence to people who have lack of knowledge on them.

Opinion

In current days, people are more knowledgeable and aware of taking care of the dentition from dental caries to keep the life cycle and healthier teeth longer. However, erosion of the teeth is prominent due to several related factors. Dental erosion is a type of tooth wear where it is a chemical process characterized by acid dissolution of dental hard tissue not involving acids from bacterial origin [1]. The causes can be from intrinsic factors, extrinsic factors or combination as well as small percentage is idiopathic. In detail, it is an irreversible softening and subsequent loss of dental hard tissue due to a chemical process of acid dissolution but not involving bacterial plaque acid, and not directly associated with mechanical or traumatic factors, or with dental caries [2]. Chemical-mechanical tooth surface loss caused by the processes of dental erosion followed by abrasive and/or attritive wear is referred to as erosive tooth wear. Anyway, erosion lesion could get carious if bacteria from plaque reside uncleaned. The patient was asymptomatic at the early stage but might complain of hypersensitivity or pain and unaesthetic dentition with discomfort in functioning when it became worse [3]. Proper and detailed history taking with clinical examination are very important to achieve a correct diagnosis and planning appropriate plan for each case.

The intrinsic cause comes from the internal of the body which is the gastric juice that enters the mouth either through Gastro-Oesophageal Reflux (GORD), frequent vomiting from alcoholism or pregnancy, through rumination habit, anorexia nervosa or bulimia. This cause erosion of the tooth structure at the palatal of upper anterior teeth which is difficult to restore back. GORD affected 8.8%-25.9% of adults in Europe [4]. In severe cases, referral for consultation and management by medical doctor or psychologist for suitable cases would be needed.

Extrinsic causes are the majority aetiologies for dental erosion. The easiness to get ready made diet, drinks and beverages that are acidic-nice in the market make even young children frequently consumed it, even many healthier food and drinks were available in the market but many still prone to consume this acidic type of diet. They vary from pure fruit juice, soft drinks, carbonated drinks, sports drinks with different acid contained give consumers many choices. Not only frequency of consumption, style of taking them also matter such as swirling or gargling before swallowing is harmful. It is advised to use straw to avoid extended time of the acidic solution insider the oral environment. The habit of eating acidic or commonly citrus fruit also gave the same effect especially citric acid that has the chelating effect, and the pH is also quite low. Else than diet, environment and occupation can also cause dental erosion. People who work at fruit juice or soft drinks or alcohol factory with the job to taste the acidic drinks will be at high risk. They should be advised to chew cheese, gargle with fresh milk or antacid and avoid straight away brushing teeth after tasting to avoid worsening of exposed to

erosion of their teeth. Swimmers that always use the chlorinated swimming pool were at high risk too. In this case it is good if they use the soft mouthguard to minimize the sipping through of the pool water to their teeth to avoid erosion. Some medications and dietary supplements such as vitamin C and aspirin are acidic and potentially erosive if they are chewed or frequently drinks. Medical doctors should be contacted for suitability of changing to other type of medication.

For pathologic wear caused by erosion, detailed examination and diagnosis is needed. The planning considered proper steps in managing the case and most of the time they come by phases with in between monitoring. Urgent treatment will be done to treat acute symptoms such as pain or severe hypersensitivity. Early start needs preventive treatment and habit advised. This involved diet analysis and dietary advice. The advice should according to the cause of the erosion and the best is if could encroach to specific details of the problems. When the condition is passive, then further restorative phase could proceed. If the erosive condition is still active, there is a high risk of the treatment given will end up failed which make both the patient and operators frustrated. Main reason for restorative treatment given is to rehabilitate function, preserving remaining tooth structure and eliminate painful symptom (RCSE, 2021). Scheduled monitoring is important and also in case of additional treatment suitable with the updated conditions needed in future.

In a study for undergraduate student in Australia, they found that the awareness rate of dental erosion was 92.1%. where soft drinks and fruit juice were most often perceived as acidic beverages by the respondents [5]. This study involved 418 participants through an online questionnaire. The students of greater age, and studying pharmacy, paramedicine, physiotherapy or science, were less likely to be aware of dental erosion. Those who were aware also had better knowledge of dental erosion, with a reduced quantity of consumption. The importance of delivering knowledge should not be taken for granted. In a study in Stockholm, dental erosion was clinically diagnosed in 28.3% of 15 years old and 34.3% of 17

years old based upon the intra-oral photographs. Severe erosive wear of grade 3 and 4 according to SEPRS was found in 18.3% of the adolescents. The males have more prevalent and severe than females and erosive lesions correlated significantly with soft drink consumption [6]. There is also a study that compiles the recommended materials/ products for preventive treatment of erosion especially in halting hypersensitivity Studies with CPP-ACP showed anti-erosion efficacy when applied before or after erosive wear [7,8].

In conclusion, the knowledge about dental erosion is still low or unknown to many people. The risk of exposure to it in modern days is increasing and needs participation of many dental practitioners and health providers to improve and distribute the information to help the community.

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