SEALING MINOR LESIONS IN TEETH

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ABSTRACT. Dental sealing as a measure to prevent caries, is recommended for both children and adults. Dental sealing is done also in treating minor lesions with reference to the erosion of the teeth, cuneiform lesions, abrasion and deep grooves in enamel hypoplasia. This study was conducted on 32 patients and when we reexamined the sealings in terms of marginal closure, color and presence we found that all the sealings were there, except to a patient who presented enamel hypoplasia and required replacement because of the marginal leaking. At the outcome evaluation through the factors that we have selected to evaluate dental sealings, we found that some of the sealings had maybe one or two factors, but if it had a slight coloration without the other factors did not had to be replaced. The dental sealings after 6 months and 12 months remained fully present on teeth. It is recommended to seal minor lesions with light-cured resin materials such as composites in liquid form, because these materials combine a good sealing ability, abrasion resistance and excellent mechanical properties.

KEYWORDS: dental sealing, minor lesions, sealants, composite, erosion

INTRODUCTION

Dental sealing as a preventive measure it is recommended for children, adolescents and adults where there is an increased risk of caries, it is a simple procedure, painless, fast and efficient. Following clinical inspection of the teeth, we can determine the type of sealing required for each patient.

Sealing can be achieved in minor lesions of teeth with reference to abrasions, cuneiform lesion, enamel hypoplasia, etc.

Dental erosion is the gradual process characterized by the irreversible loss of tooth enamel. Over time, erosion of teeth often leads to complications that can seriously affect dental health.

Tooth erosion appears on teeth because of some substances such as acids that are in most foods that we eat daily, for example: citrus, coffee, fruit juices, fizzy drinks, those being the main causes of dental erosion. Another cause could be incorrect brushing technique on the background of existing periodontal dental disease.

Cuneiform lesions affected the gingival part of the crown of the upper and lower front teeth. The reason why these injuries occur in this area is the fact that tooth enamel present in the neck area has the smallest thickness favoring stress factors to produce cuneiform lesions by the intensity of occlusal force applied and its direction at the place where the two antagonist teeth meet.

The sealing procedure pays great attention to sealant adhesion to the tooth surface especially when treating minor lesions of the teeth, because of the lesion shape and nature that affect the retention of the sealing. The removal of plaque with pasta by professional brushing, fluorides binding contains oily constituents which may decrease the effectiveness of the acid, and therefore sealant adhesion to the tooth surface is altered.

It is recommended that sealing be achieved with light-cured composite materials, in liquid form, because the material combines good sealing ability, abrasion resistance and excellent mechanical properties.

Where enamel pits and fissures are affected by the decay, and also when minor lesions are with decay, enlarged sealing can be achieved by removing the affected enamel, continuing with the normal procedure for dental sealing.

Early diagnosing of minor lesion has an advantage, that they could be treated without making an important sacrifice of healthy tissue in the aim to prepare a cavity and make a filling. Another factor to consider is that the lesion doesn’t evolve to tooth decay.

By removing the etiological factors we secure a success in achieving a good treatment of minor lesions. So, first we have to determine the causes: incorrect brushing technique, substances that causes tooth erosion, concentrated occlusal stress factors. If we determine those factors we can also secure a successful dental sealing.

If we want to restore a minor lesion we have to make a careful evaluation of the lesion, and if it is in an early stage, and the lesion is not complicated with any other factors such as tooth decay, after we establish and eliminate the etiological factor, than we can have as an option treatment the dental sealing.

MATERIALS AND METHODS:
In our study dental sealing was the chosen method for treatment of minor injuries (erosion, cuneiform lesion, enamel hypoplasia) at a group of 36 patients, and all of them were made with light-curing sealing materials. The teeth were selected so as to provide clear indication for sealing but besides this they also had minor lesions without complications that made possible the indication of sealing. Thus of the 36 patients, 10 had dental erosions, 8 presented cuneiform lesions, 4 enamel hypoplasia and the remaining 14 patients had deep retentive grooves with sealing indication. As shown in the graph below 39% of patients had deep retentive grooves, 28% dental lesions edging the type of erosion, 22% cuneiform lesions, 11% are the cases of enamel hypoplasia.

![Graph showing distribution of minor lesions](image)

Not all the patients included in our clinical trial had as treatment the dental sealing, at 3 of them (2 with erosion and 1 with cuneiform lesion) because the minor lesion were with complications we had to make dental fillings. As can be seen from the graph below the treatment with dental sealing was made at 43% patients with deep retentive grooves, 24% with dental erosion, 21% cuneiform lesions, and 12% enamel hypoplasia.

![Graph showing situation with treatments and percentage of sealings](image)

All the dental sealings were evaluated in terms of marginal closure (that resulted because a defect due to an increased retention of the grooves or because an increased viscosity due to the sealing material) immediately after the sealing and those that did not correspond were rebuilt, and in terms of marginal closure and color change at 6 months and 12 months after their completion.

![Results table showing marginal closure](image)

After 6 months we reviewed all cases of dental sealings and we evaluated them in terms of marginal closure, color change, the presence or absence on the tooth. We also evaluated the sealing integrity. All the sealing did not change their color, and all of them were present on teeth. Only at one dental sealing the marginal closure was affected and it was a slight line of fracture, probably because in that area were concentrated high occlusal forces.

![Results showing marginal closure and all the sealings](image)
After 12 months we reassessed the dental sealings in terms of marginal closure, color change, the presence or absence on the tooth, integrity. All the sealings were present on teeth and did not change their color. The marginal closure was not correct at 4 cases of erosion, 3 of cuneiform lesion and 2 at deep retentive grooves, and it was because the patients did not respect the indication to eliminate the favoring factors from their daily routine.

CONCLUSIONS
Considering this study dental sealings are a good option in choosing the method of treatment of minor lesions (erosion, deep retentive grooves and fissures, cuneiform lesions and enamel hypoplasia) as long as the favoring factors of those lesions are eliminated.

REFERENCES