

SEALING MINOR LESIONS IN TEETH

Dr. Ioana Elena Lile¹, Dr. Ligia Vaida², Dr. Paul Cornel Freiman¹, Dr. Tiberiu Hosszu¹, Dr. Tuturici Liviu¹, Dr. Elisabeta Vasca¹, Dr. Virgil Vasca¹, Dr. SzekeresCatalena¹, Dr. Onet Melinda¹,

¹Western University "Vasile Goldis" of Arad , Faculty of Medicine, Pharmacy and Dental Medicine
²University of Oradea, Faculty of Medicine and Pharmacy, Dental Medicine II

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, cuneiforme 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.

Nr. Crt.	Lesion with sealing indication	Number of patient
1	erosion	10
2	cuneiforme lesion	8
3	deep retentive grooves	14
4	enamel hypoplasia	4

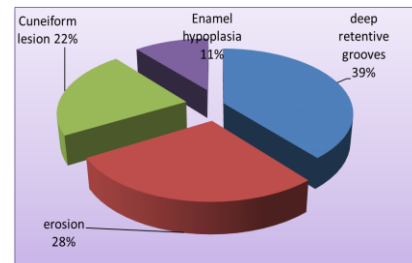


Figure 1. Distribution of minor lesions at the selected group and the percentage with the minor lesion

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.

Nr. Crt.	Dental lesion	Sealings	Other treatment
1	erosion	8	2
2	cuneiforme lesion	7	1
3	deep retentive grooves	14	0
4	enamel hypoplasia	4	0

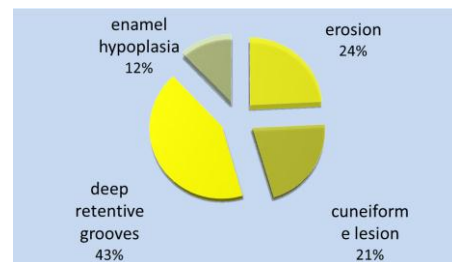


Figure 2. The situation with the treatments and the percentage of sealings for every minor lesion

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.

So the table below shows our results in assessing dental sealing immediately after we done them and we assessed them in terms of marginal closure. Looking at the chart below we see that the number of dental sealings that did not had a correct marginal closure were in the cases with deep retentive grooves and fissures, and it was done correctly in the cases of dental erosion, cuneiform lesions and enamel hypoplasia.

Nr. Crt.	Dental lesion	Marginal closure	All the sealings
1	erosion	0	8
2	cuneiforme lesion	0	7
3	deep retentive grooves	4	14
4	enamel hypoplasia	0	4

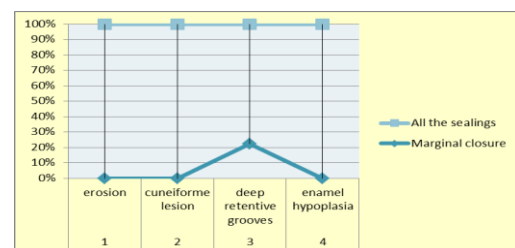


Figure 3. Results

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

Nr. Crt.	Dental lesion	Marginal closure	Nr of sealing after 6 month
1	erosion	0	8
2	cuneiforme lesion	0	7
3	deep retentive grooves	0	14
4	enamel hypoplasia	1	4

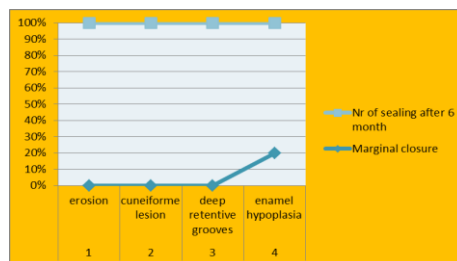


Figure4. Results at 6 months

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.

Nr. Crt.	Dental lesion	Marginal closure	Nr of sealings after 12 month
1	erosion	4	8
2	cuneiforme lesion	3	7
3	deep retentive grooves	2	14
4	enamel hypoplasia	0	4

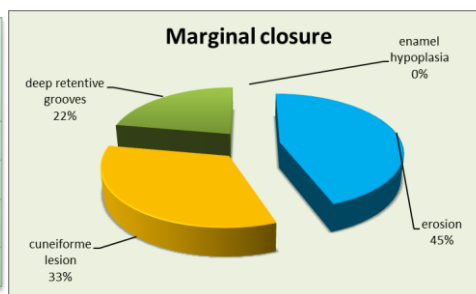


Figure5. Results at 12 months

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.

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