

Gingivo-periodontal Pocket Caused by the Fault Contact Point

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Abstract

Introduction: Health of periodontal tissue is reflected by the assessment through periodontal indexes. The second class of Black has been selected for the existence or not of the contact point. In this situation we tried to find the interconnection of this situation with the periodontal health of the involved teeth.

Materials and methods: The study was based on 10 clinical cases, in patients presented at the University Clinic of Albanian University, during the period of time, March-May 2016. The periodontal status assessment before and after dental restoration, was done with the PMA index and with N-T index. The evaluation of the patients was according to these indexes, visually, and documented through X-rays and photographs that were conducted to the patients.

Results: The evaluation according to PMA and N-T indexes are: before treatment P3M3A2 Class 2, and after treatment P2M2A2 Class 1. The results on all data collected from the separation of patients by age and by female-male ratio, came out to p value 0.0222. Based on the data collected for evaluating periodontal patients before treatment, according not healthy for PMA, not healthy for N-T, the p value is 0.0762.

Conclusions: The presence of processes of caries at inter-proximal surfaces of the teeth, significantly affects the health of the papillary gums. Gingival health is evaluated in the presence or not of inflammation, by even reducing the height of the papilla.

Timely treatment of inter-proximal caries and implementation of a correct contact point by the dentist, are the minimum objectives to be achieved, to avoid the consequences that come from negligence of these situations.

Keywords: PMA Index, N-T index, Black, Periodontal status.

Introduction

Gingivo-periodontal pocket is caused by the progress of gingivitis or periodontitis. Gingivitis occurs with high prevalence, presented at the age of childhood, even in adult populations. The gingival tissues are affected initially and subsequently, the gingivitis as inflammatory lesion can be aggravated, passing on periodontitis, presenting the clinical signs during routine dental examination process. Preventing of sickness includes the first step to prevent the aggravation of gingivitis to periodontitis; as an inflammatory process, gingivitis is reversible, within the 14 day time limit (Löe 1967). Here is the moment for the intervention with the aim of prevention. The specifications of the intervention are depending on the individual patient's specifications and on individual oral status.

The unique structure of interdental papilla is one element that should be healthy and preferably protected from external trauma. This structure is affected by the lack of contact point, from the creation of scale between the teeth and the cavity filling, the roughness of the filling, or from the neglect of the smoothing process, as the terminal stage of the therapeutic dental treatment.

Health of periodontal tissue is reflected through periodontal indexes. These indexes have to reflect the changes on periodontal tissues, from the impact of local and systemic factors. The goal of the study aims to find potential link between the carious processes and the change of periodontal status of the affected tooth, avoiding systemic factors; expressed in numerical value (the selected periodontal index), to make more evident the difference in the status of health of periodontal tissue. For this study has been selected the second class of Black, based on the concrete fact, the existence or not, of the contact point.

All foregoing are documented by periapical X-rays and on

attesting the clinical realization of contact point by using the interdental floss. In essence these are the elements that encouraged us and pushed us further, to collect, for selected patients involved in this study, the accurate data by diagnostic means and to come to results that maybe in the future, will be an encouragement to seek for more collaborative aid on operations. The destructive processes of strong tissue and destructive processes of soft tissue essentially are operating with well-known mechanisms that stimulate each other.

Materials and methods

The presence of the contact point minimizes or reduces the possibility of deadlock of food. The lack of it even food waste, causes inflammatory responses, which act in the performances of gingivitis, which depending on the gravity, passes in periodontitis.

The presence of the contact point was clinically proven by X-rays and clinically controlled with the help of interdental floss. Interdental thread passed on contact surfaces, on mesial and distal surfaces of the natural teeth.

The selected index for the classification of the positioning of papillary gingiva is Nordland-Tarnow index. According to this index, the papilla losing shape is classified in 4 classes, based on the positioning of the tip of the papilla, against three anatomic landmarks. These data are reflected in Figure, taken from a study published in March 2012, in the Journal of Indian Medical Sciences, about the treatment of gingival indrawing, with prosthetic tentative [1].

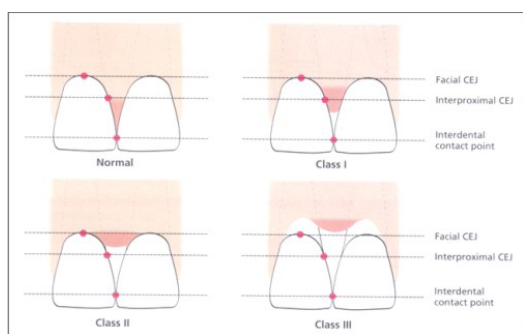


Figure: The papilla index

We decided to evaluate the periodontal status according the PMA index, only at the vestibular side of the teeth. The evaluation

is carried out with the values 0-5. The study was based on 10 clinical cases, in patients presented in the University Clinic, Albanian University. Patients that were involved in this study had the selection criteria:

- Not to suffer from systemic disease that affects the periodontal status of the teeth.
- The presence of a fault MOD, OM, OD class II according to Black, regardless of the type of tooth affected.
- The affected teeth appeared with carious process, not secondary processes of caries.

Before treatment, the affected tooth was photographed and was taken an accurate periapical X-ray. One week post treatment was performed again the located radiography and photography.

Patients were evaluated by PMA index, before and after treatment. The evaluating process of the patients was according to this index, visually conducted and was documented through photographs.

Results

The results are shown in Table 1, Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, and Table 9.

Discussion

Based on the two indexes selected in the study, PMA index and N-T papilla index, it became possible to capture significant improvement after appropriate treatment and the correct implementation of the contact point, compared with the situation before treatment. All these changes are presented in objective value, numeric, to be done as understandable, and precise. Improvement of the PMA index values is reflected in a significant improvement of the papillary index, Nordland-Tarnow. So these indexes appear in correlation with each other [2].

Based on the data obtained from our study, it is evident the high presence of carious processes, under the age of 40 years. The carious destructions are observed exactly up to age 36 years and they gradual decline after this age. But, periodontal problems start at age 18 with a gradual increase. Periodontal problems with numerous manifestations are observed at age 42. In this study, was found that as people get old, in increased the frequently of

Table 1: The data collected on the basis of the separation of patients by age

Patients	Age under 40 years	%	Age over 40 years	%	Total	%	P
Females	8	80%	0	0%	8	80%	0.0222
Men	0	0%	2	20%	2	20%	
Total	8	80%	2	20%	10	100%	

Table 2: The data collected for dental restauration, divided according to the classification MO, OD, MOD and the type of tooth.

Patients	MO	%	OD	%	MOD	%	Total	%
Premolar	1	10%	2	20%	3	30%	6	60%
Molar	2	20%	0	0%	2	20%	4	40%
Total	3	30%	2	20%	5	50%	10	100%

Table 3: The division of the patients according to PMA index and papilla index

No.	PMA index before treatment	PMA index after treatment	Papilla index before treatment	Papilla index after treatment
1	P0M0A1	P0M1A1	Class 1	Normal
2	P2M3A2	P1M1A2	Class 2	Normal
3	P5M5A3	P3M3A3	Class 3	Class 2
4	P1M1A1	P1M0A1	Class 1	Normal
5	P2M3A2	P1M2A1	Normal	Normal
6	P3M2A2	P2M2A2	Class 1	Normal
7	P1M2A2	P2M2A2	Class 2	Normal
8	P5M3A2	P3M2A2	Class 2	Class 2
9	P5M3A2	P3M3A2	Class 2	Class 2
10	P5M3A2	P3M2A2	Class 2	Class 2

Table 4: Grouped the involved patients depending on the type of filling and the presented periodontal status before treatment

Patients	MO	%	OD	%	MOD	%	Total	%
Not healthy	0	0%	0	0%	4	40%	4	40%
Healthy	3	30%	2	20%	1	10%	6	60%
Total	3	30%	2	20%	5	50%	10	100%

Table 5: Grouped the patients depending on the type of filling and the presented periodontal status after treatment

Patients	MO	%	OD	%	MOD	%	Total	%
Not healthy	0	0%	0	0%	0	0%	0	0%
Healthy	3	30%	2	20%	5	50%	10	100%
Total	3	30%	2	20%	5	50%	10	100%

Table 6: The table below reflects the patients according to the type of filling and papilla index presented before treatment

Patients	MO	%	OD	%	MOD	%	Total	%
Not healthy	2	20%	0	0%	4	40%	6	60%
Healthy	1	10%	2	20%	1	10%	4	40%
Total	3	30%	2	20%	5	50%	10	100%

Table 7: The patients depending on the type of filling and presented papilla index after treatment

Patients	MO	%	OD	%	MOD	%	Total	%
Not healthy	0	0%	0	0%	4	40%	4	40%
Healthy	3	30%	2	20%	1	10%	6	60%
Total	3	30%	2	20%	5	50%	10	100%

Table 8: Summarizes the data collected from evaluating the periodontal status of the patients before treatment

Patients	Not healthy according to N-T	%	Healthy according N-T	%	Total	%	P
Not healthy according PMA	4	40%	0	0%	4	40%	0.0762
Healthy according PMA	2	20%	4	40%	6	60%	
Total	6	60%	4	40%	10	100%	

Table 9: Changes at the average value of the indices used for the assessment of periodontal status

Patients	According PMA index	According the N-Tindex
Before treatment	P3M3A2	Class 2
After treatment	P2M2A2	Class 1

the gingival recessions. The height of papillary tissue is reduced to 0.012 mm/year of life ($p < 0.05$ level) [3]. Also, it is noticed a greater prevalence of periodontal disease in women compared with men.³ Interdental papilla loss at the region of the posterior teeth appeared in the range of 35-49 years of age, as well as in this study, in which results in 36-42 years interval of age. Compared also with another study, performed in the United States, where it is noted a high percentage (47%) of periodontitis at people over 30 years old, grouped under various degrees of periodontitis according to the aggravation of the inflammation [4]. Last stage appeared significantly in older age. Periodontitis occurs in younger people due to improper hygiene, cultural level, and the socio-economic development. But, with periodontitis presented, the real prevalence appeared quite sensitive at the age over 30 years old [4]. Severe periodontal diseases, which can consequently be associated with loss of teeth, have resulted in ages 35-44 years at a percentage 15 -20%. These data result according to a study in 2012 by the World Health Organization [5]. There is a decrease in the number of cavities after the age of 35 years. According to a study, which was based on dental caries at the age 20-64, it was noticed a considerable number of untreated cavities in the ages 20-34 years old, presented in 27, 88% [3]. According to another study, the proportion of caries is observed more in age 9-11 years old in children, at the level of 31.36 percent [5].

Caries of second class is in our interest, in this study. According to the results we obtained by location, 30% was in class MO, in OD class was 20% and 50% in MOD class. Compared with another survey realized at the dentistry student, prevails grades of OD at 8%, followed by those of MO at 6% and of MOD at 3% [6].

It should be noted that the study in question was taken in V-th class, according to Black, highlighting the respective percentages of each of them. We highlight that in our study courses are taken into consideration only the second class, according to Black. The highest frequency presence of the second caries predominated in females [7]. Dental restoration affects directly the periodontal health of tissues around the teeth. There is a well-defined correlation between the effects of restoration on periodontal status. Studies have shown that periodontal tissue is very sensitive to minimal changes around. We need extreme care on conservation or on repair of periodontal condition, avoiding any factor that can aggravate, or violate it [8]. The use of circular matrix, compared with sectional matrix, causes less dependent walls, compared with the sectional matrix (- 0.85 mm²). However, these two types of matrices are definitively the most efficient compared with other matrices, with the aim to avoid the hanging wall and the outline, always associated with the use of interdental pins [9].

The matrix was placed with force on the cervical part, as possible as we can. Pins were positioned to the coronary surface, so the walls can be reconstructed in a correct way, and with the proper curvature of the anatomical shape of the tooth. Papilla must be

repositioned in the most harmonious way, to avoid its oppression. The interproximal contacts influence enough the periodontal status. However, significant relationship was observed between food and the kind of impact contact, and between the impact of food and pocket depth. That adds significantly impact of the observation that the impact food has on periodontal condition [10]. Therefore, the aim of the study in question is intended to avoid the loss of the contact point, because of the presence of carious process. This was accomplished by rebuilding correctly the contact point, precisely to avoid the accumulation of food, and to avoid their decomposition. Restorations should be smooth in a way, to avoid the possibility of accumulation of food, because of the potential severity that they represent [10].

The study was aimed on treating of dental problems and on helping the improvement of the periodontal status of the patients. The significant improvements are really presented in our numerical values.

Conclusion

The presence of proximal caries affects the health of papillary gums. The gingival health is evaluated based on the presence or not of inflammation that reduces the height of the papilla. Timely treatment of inter-proximal caries and implementation of a correct contact point by the dentist, are the minimum objectives to be achieved, to avoid the consequences that come from negligence of these situations.

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