

PERIODONTAL DISEASES IN THE PATIENTS WITH SEPTUM DEVIATION

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Keywords: septum deviation, periodontal disease, oral breath

Abstract: As a result of the publication, in specialty magazines, of some studies referring to the incidence of the periodontal diseases in the patients with septum deviation and oral breathing (being also stipulated as a local favouring factor of periodontal afflictions) we also intended to study this. So, we examined a batch of 15 patients all diagnosed with septum deviation, insisting on the marginal periodontitis and the comparison of two factors (the index of oral hygiene and the one of papillary bleeding).

Cuvinte cheie: deviație de sept, boală parodontală, respirație orală

Rezumat: În urma publicării în reviste de specialitate a unor studii referitoare la incidența bolilor parodontale la pacienții cu respirație orală (aceasta fiind și stipulată ca și factor favorizant local al afecțiunilor parodontale) și deviația de sept, ne-am propus să studiem și noi acest lucru. Pentru aceasta am examinat un lot de 15 pacienți toți fiind diagnosticați cu deviație de sept la care s-a insistat asupra parodontiului marginal și comparării a doi indici (indicele de igienă orală și cel de sângerare papilară).

INTRODUCTION

Regarding septum deviation as a functional factor (being a sub-assembly of local factors of the periodontal diseases), many studies have been done (supporting or not this connection), many of them offering irrelevant or sometimes contradictory information, thus showing this topic as an interesting one, worthy to be explored. Septum deviation is a quite frequent affliction (80%), representing a possible factor for the occurrence of the periodontal diseases in these patients. It was demonstrated the tight connection between septum deviation and oral breath as a consequence of this one (present in 52% of the patients with septum deviation) and the occurrence of some dental-maxillary anomalies.

PURPOSE

We insisted on the simple, uncomplicated plaque induced gingival disease, gingival enlargement and on the chronic periodontitis, all of them present in the patients with septum deviation in the absence of other favouring local factors. We tried to make connections between septum deviation and the affection of the marginal periodontitis, including the symptoms taken into study.

METHODS

15 patients have been examined, all with septum deviation, aged between 19 and 64 years old. The information we gathered was recorded in a study file comprising besides the identity elements, the form of periodontal affliction, general status, the age of the affliction, papillary bleeding index, oral hygiene index.

The OHI index. The purpose is to assess oral hygiene through the evaluation of the dental surfaces covered with plaque and/or calculus deposit. It has two components DIS and CIS separately calculated and summed up. They are determined at the level of the following selected teeth: 16, 11, 26, 31 (vestibularly) and 36, 46 (lingually). The soft plaque deposits are calculated (DI) and the mineralized deposits (CI). The dental surface is divided into 3 and a score is given according to the degree the tooth is covered with bacterial plaque.

The calculation of the plaque (DIS) is made by the following formula: $O.H.I. = O.H.I.(deposit) + O.H.I.(calculus)$,

$$O.H.I.(d) = \frac{\text{sum of the deposit degrees}}{\text{number of the segments}}$$

$$O.H.I.(t) = \frac{\text{sum of calculus deposits}}{\text{number of the segments}}$$

DIS and CIS

Grade: 0 – excellent hygiene
0,1 – 0,6 – good hygiene
0,7 – 1,8 – poor hygiene
1,9 – 3,0 – precarious hygiene

OHI-S

Grade 0 – excellent hygiene
0,1 – 1,2 – good hygiene
1,3 – 3,0 – poor hygiene
3,1 – 6,0 – precarious hygiene

Papillary bleeding index – PBI (Papillen Blutunge Index, Muhlemann, 1978).

Table no. 1. Oral Hygiene Index (OHI) assessment

Plaque appreciation (Debris Index)		Calculus deposit appreciation (Calculus Index)	
Degree 0	without deposits	Degree 0	no calculus
Degree 1	up to 1/3 coronary cervical	Degree 1	in/inside coronary cervical
Degree 2	deposits up to the level 1/3 middle coronary	Degree 2	up to 1/3 middle coronary, namely calculus subgingival isles
Degree 3	deposits over 2/3 of the coronary surface	Degree 3	over 2/3 of the coronary surface, subgingival calculus (strip)

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Article received on 12.06.2012 and accepted for publication on 17.07.2012

ACTA MEDICA TRANSILVANICA September 2012;2(3):238-239

CLINICAL ASPECTS

This index registers only the bleeding or its absence, after having probed the distal and mesial sulcus from the basis of the papilla up to its top. The following intensities of provoked bleeding are distinguished after 20-30 seconds of sounding.

- 0 = bleeding absence;
- 1 = pointed, isolated, unique bleeding;
- 2 = pointed, multiple or reduced (on line) bleeding;
- 3 = bleeding filling in the whole interdental space (triangle);
- 4 = bleeding over passing the free gingival side, immediately after palpation.

The analogous registration system with API: inside the first palatine frame, inside the second vestibular frame, inside the third lingual frame and the fourth vestibular frame.

$$PBI = \frac{\text{sum of the proximal bleeding points}}{\text{total number of evaluated points}}$$

This index was not issued for epidemiologic studies. It is a sensitive testimony of the gingival inflammation in clinic practice. It was proved to be useful in judging the success or failure of the periodontal treatment. While the patient is looking at its gum into a mirror, the doctor evaluates the papilla's inflammation. Thus, PBI is an excellent method for the patient to motivate its oral hygiene. The patient can see the gingival tissues bleeding, what helps him localize the pathologic points.

These indexes have been used and then compared before and after the local anti-inflammatory and antimicrobial treatment.

Figure no. 1. Plaque induced gingival disease in a patient with septum deviation, oral breathing and open occlusion



The patient in figure no. 1 presents signs of generalized gingival inflammation and unsatisfactory buccal hygiene, OHI = 3,17, PBI = 2,78. Ultrasounds and manual scaling were done, root planning and gingival debridement, local application of a gel with chlorhexidine and mouth rinse with chlorhexidine Corsodyle mouth water for a month. 30 days after the first presentation of the patient, the periodontal status was re-evaluated and it was noticed an improvement, as well as a reduction of the indexes. All the patients benefitted from individualized periodontal treatment and dispensary and it was insisted on the oral hygiene.

RESULTS

Table no. 2 shows the results of our study. There is a greater improvement after the treatment of the periodontal status in the patients without oral breathing compared with oral breathing patients

CONCLUSIONS

There are connections between oral breathing and the accumulation of bacterial plaque, especially at the level of the maxillary frontal teeth. Mainly, oral breathing is due to septum deviation.

The inappropriate mouth hygiene and the bacterial plaque lead to gingivitis, which if inappropriately treated, turns into chronic periodontitis.

The signs of gingival inflammation are first localized at the level of the frontal segment of the arches, afterwards becoming generalized.

After treatment, one can see an improvement of symptoms and of the score given by OHI and PBI indexes.

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Table no. 2. Results obtained as a result of the study

Patient	Gender	Oral breathing	Periodontal affliction behind the treatment				Periodontal affliction after the treatment			
			Chronic gingivitis	Chronic periodontitis	IHO	PBI	Chronic gingivitis	Chronic periodontitis	IHO	PBI
1	M	Yes	Yes	-	3,17	2,78	Da	-	2	1
2	M	No	Yes	-	1,15	1,08	Nu	-	1	0,8
3	M	No	Yes	-	1,33	1,28	Nu	-	1,15	1,0
4	M	No	Yes	-	0,83	1	Nu	-	0,5	0,5
5	M	Yes	Yes	-	1,5	2,34	Da	-	1	1,28
6	M	No	-	Da	2	2,64	-	Da	1,08	2
7	M	Yes	-	Da	1,66	2,46	-	Da	1,33	2,18
8	M	No	-	Da	2,4	3,24	-	Da	1,84	2,16
9	M	No	-	Da	2,38	2,86	-	Da	1,36	1,98
10	F	No	Yes	-	1,66	2	Nu	-	0,66	1
11	F	No	Yes	-	1,5	2	Nu	-	0,86	1,14
12	F	Yes	-	Da	1,16	2,04	-	Da	0,84	1,34
13	F	Yes	-	Da	2,6	2,88	-	Da	1,48	2
14	F	Yes	-	Da	1,56	2,34	-	Da	1	1,5
15	F	No	-	Da	1,33	1,84	-	Da	0,66	1