Abstract

Introduction: In the periodontal pathology of the pediatric patient, the therapeutical management depends on an early, as precise as possible diagnosis, as well as on a correct evaluation of the causes and risk factors involved in such processes.

The aim of the study: The paper discusses a clinico-statistical study devoted to the evaluation and comparison of the periodontal health condition of a group of children and teenagers subjected to a local etiological treatment.

Materials and method: The experimental study was formed of 70 patients selected from the total number of patients having addressed a dentist. Over the whole period of the therapy, oral hygiene, the aspect of marginal gingiva, and the vitality of the teeth under treatment were carefully monitored. Comparisons between the initial and the final moment were based on: periodontal diagnosis, condition of marginal gingiva, number and depth of periodontal pockets, hygiene and dental mobility.

Results: Improvement of the periodontal condition or its maintaining at the initial level was observed in patients with good or satisfactory oral hygiene, which was not the case of those with a scarce hygiene, in whom the periodontal problems evolved.

Conclusions: Periodontal management should observe the basic principles of the initial causal, corrective and maintenance therapy. The main elements to be here considered are: age, the extent of patient’s involvement, his / her cooperation and motivation, and the support expressed by the family, all of them reflecting the periodontal diagnosis.

Keywords: children, teenagers, periodontal health, therapeutic approach

INTRODUCTION

The periodontium of the pediatric patient is continuously modifying, offering to the clinician a dynamic pattern of study and evaluation on the development of both dentition and periodontium. Control of inflammation has been always considered as essential in the elaboration and maintenance of a healthy periodontium, in spite of the rarely observed absence of inflammation in pediatric dentition, as plaque control in this group of age is inconstant (1, 2).

A correct establishment and diagnosis of the various types of periodontitis is essential, as their management depends on a correct appreciation of the causal processes and of the risk factors involved. (3, 4, 5)

In children and adolescents, the periodontal treatment usually involves three stages:

1. the initial causal therapy, aimed at eliminating or at controlling the inflammations induced by the microbial biofilm
2. collective therapy, representing the sum of therapeutical measured taken for restoring its function and also the aesthetics
3. the supporting (maintenance) therapy, aimed at preventing possible recurrences, and its evolution by hospitalizing stages at various moments of time, after the establishment of the diagnosis. (6)

The basic means for a mechanical control of the plaque available to the dentist are represented by debridement, scaling and root planing and prophylaxy, each of them aiming at removing the supra and subgingival plaque and the deposits of calculus which represent the local factors of plaque retention. (7)

After eruption of the permanent teeth, the necessity of the supra and subgingival scaling in children and adolescents should not be underestimated, while persistent gingival inflammation in a young patient subjected to a reasonable control of the supragingival plaque is much too frequently related to the deposits of some previously non-detected or residual subgingival calculus.

Several studies demonstrated the surprisingly high prevalence of the subgingival calculus in
young subjects, and its chronic nature, as well as the connection with the subsequent loss of attachment, which motivates the necessity of its removal through non-surgical scaling techniques. (8, 9)

THE AIM OF THE STUDY

The aim of the present study was to analyze the effects of the etiological periodontal therapy on patients suffering from various periodontal problems, varying from localized gingival inflammation up to marginal chronic mean periodontitis (the bone loss being of maximum half of the length of the dental root).

MATERIALS AND METHOD

The experimental group was represented by a number of 70 patients selected from the total batch having addressed the dentist.

The selection criteria applied were: age between 10-30 years, status: patients not suffering from a disease affecting the general condition of the organism and not following a chronic treatment, or from minor/major periodontal problems.

The size of the experimental group was determined according to the prevalence of the dental-periodontal anomalies observed within it, as well as to the total number of subjects from which the batch had been selected.

The health condition of the marginal gingiva was evaluated with the SBI index.

In the patients for whom this was considered as necessary, an orthoanatomography was performed prior to, during and in the end of the therapy, for a correct estimation of the stage and evolution of the periodontal disease.

Along the whole period of therapy, oral hygiene, marginal gingiva and vitality of the treated teeth were carefully monitored.

Comparative analyses between the initial and the final moment were based on: periodontal diagnosis, condition of marginal gingiva, number and depth of periodontal pockets, hygienic condition and dental mobility.

RESULTS AND DISCUSSION

The distribution on sexes and age of the 70 patients was the following: 36 men (60.7%) and 34 women (39.3%), with ages between 18 and 36 years, with an average age of 27.3 years, out of which 47 (55%) had ages between 10-20 years, 24 (39.28%) – between 21-30 years and 1 (5.71%) - between 31-36 years. 51 patients (73%) came from the urban medium and only 19 (27%) from the rural one.

Prior to initiating the therapy, the patients had been divided, according to the extent of their periodontal problems, into 3 classes: chronic gingivitis – 40, chronic marginal periodontitis – 26, aggressive periodontitis – 4.

Table I. Distribution of patients according to their periodontal problems

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>WOMEN</th>
<th>MEN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized gingival inflammation</td>
<td>10</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Unilateral gingival inflammation</td>
<td>13</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Chronic marginal periodontitis</td>
<td>9</td>
<td>17</td>
<td>26</td>
</tr>
<tr>
<td>Aggressive periodontitis</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>34</td>
<td>36</td>
<td>70</td>
</tr>
</tbody>
</table>
Results on the evaluation of the periodontal indices after the treatment

Within a week after initiating the treatment, a significant reduction of gingival bleeding during brushing and on probing could be observed in all 3 groups.

In the first group of patients, one week after the treatment, a reduction of 40%, was observed in the values of bleeding on brushing. In the third week, gingival bleeding occurred in all patients.

For the second group, a 40% reduction was noticed in the first week, bleeding being reduced at 50% after 3 weeks.

In the third group, a reduction of up to 50% could be registered one week after the treatment, the value recorded after 3 weeks being of 80%.

Plotting of the above graphic involved calculation of the mean values of the CPITN indices at 3 different time intervals, for the 3 groups of patients:

1. Prior to the treatment
2. 1 week after the treatment
3. 3 weeks after the treatment

Plotting of the above graphic involved calculation of the mean values of the PBI indices at 3 different time intervals, for the 3 groups of patients:

1. Prior to the treatment
2. 1 week after the treatment
3. 3 weeks after the treatment
In the first group of patients, an insignificant reduction of the index was noticed one week after the treatment while, in the third week, the tendency of returning to the initial clinical situation could be observed.

In the second and third group of patients, some reduction of the index, also continuing in the third week after the initiation of the treatment, was noticed.

The above graphical representation shows the depth of the periodontal pockets in all three groups of patients. To this end, the depth of the periodontal pockets was measured for each patient in part, the worst condition of a patient being also registered. There followed calculation of a mean value for each group, the evolution being recorded 1 and, respectively, 3 weeks after the treatment.

The results of the study demonstrated a better compliance of the female patients as to the maintenance of an optimum oral hygiene, even if the differences among sexes are significant only for the number of patients with poor hygiene.

Out of the total number of 17 female patients, 8 (47.05%) showed a good oral hygiene, 6 (35.29) – satisfactory oral hygiene, and 3 (17.64) = scarce hygiene. 5 (45.45%) male patients maintained an optimum hygiene, 3 (27.27%) – average hygiene, and 3 (27.27%) – a poor hygiene. In the patients with good or satisfactory hygiene, the periodontal status was either improved or maintained at its initial level, which was not the case in those with a poor hygiene, which facilitated the evolution of the periodontal disease, in two cases a generalized gingivitis evolving towards chronic marginal periodontitis, with horizontal and vertical bone loss and formation of periodontal pockets.
CONCLUSIONS

Realization of a treatment plan for a child or adult patient may be frequently a challenge for the physician as, even if the adults are more cooperating, quite often they themselves suffer from periodontal problems, have teeth with abrasion, with correct or incorrect restorations, absent teeth, irregular spacings and other periodontal and restoring deficiencies that may compromise the final result of the treatment. Periodontal management should observe the basic principles of the initial, causal, corrective and maintenance therapy, on considering the age of the patient, his cooperation and motivation, as well as the support offered by the family of the child or adolescent, for most correctly reflecting the periodontal diagnosis.

References