THE SPECIFICS OF THE DIAGNOSIS OF CHRONIC CATARRHAL GINGIVITIS IN PATIENTS WITH RHEUMATISM

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ABSTRACT

It is known that rheumatism is a multifactorial autoimmune disease and in the development of which exogenous (viruses, bacterial, superantigens) and endogenous (type II collagen) factors are important. The study examined patients with rheumatism in the Bukhara regional multi-disciplinary children's hospital, the department of cardiac rheumatology, who came from different regions. Diagnosis and treatment of chronic catarrhal gingivitis in children with rheumatism. Optimized dental care was also provided to these patients.

In connection with this goal, 150 children aged 3-14 years old with rheumatic disease were examined, who are being treated in the regional Bukhara children's multidisciplinary center, in the department of rheumatology and are registered at the place of residence in the district polyclinics of Bukhara.

Analyzing the data obtained, it can be concluded that in rheumatism, regardless of the form of the clinical course, cytological studies of the soft tissue imprints of the periodontium revealed criteria characteristic of the development of chronic gingivitis, but clinically weak or not expressed, in connection with the treatment of the underlying disease of rheumatism with corticosteroids and high doses of non-steroidal anti-inflammatory drugs (NSAID).

KEY WORDS: rheumatism, chronic catarrhal gingivitis, dental care.

INTRODUCTION

Rheumatism dominates in the structure of rheumatic diseases of childhood. Most authors note an increase in the prevalence of diseases of the musculoskeletal system and connective tissue, including rheumatism. There are separate reports of a high incidence of caries in rheumatism, multiple focal enamel demineralization (FED). In the conditions of constant development and formation of the child's body, all its organs and systems are in complete interconnection, and the presence of an underlying disease contributes to the disruption of the functioning of many systems and organs. Specialists of different profiles, thanks to joint efforts, help to improve the prognosis of the disease and the quality of life of children. In recent years, it is known that the growth of pathology of organs and tissues of the oral cavity is difficult to stop, and sometimes even impossible. In this regard, it is necessary to develop and widely introduce into practice measures for the prevention of major dental diseases.

The aim of this study was to determine the prevalence of periodontal diseases in children with rheumatism and to diagnose catarrhal gingivitis by cytological methods.
MATERIAL AND METHODS

In connection with this goal, 150 children aged 3-14 years old with rheumatic disease were examined, who are being treated in the regional Bukhara children's multidisciplinary center, in the department of rheumatology and are registered at the place of residence in the district polyclinics of Bukhara.

Age gradation of children according to the WHO classification. The age group from 3 to 6 years old was 14 children (9.1%), the age group 7-10 years old was 32 children (21.4%), 83 children were in the age range 11-13 years old (55.3%) and 21 children (14.2%) are children aged 14-16. The control group was comparable to the main groups in terms of age.

We divided children with rheumatism into 2 groups depending on the form of the disease: articular and systemic forms of rheumatism.

The examined children underwent clinical and laboratory tests, common in dentistry and rheumatology. The diagnosis of rheumatism was made by a pediatric rheumatologist. The study assessed clinical, anamnestic, laboratory and instrumental parameters at the time of the initial examination.

The simplest criterion for assessing oral hygiene is the calculation of the tooth surface covered with dental plaque, expressed in numbers. For this we used the Green-Vermillion method. To assess the state of periodontal tissues in our work, we used the well-known periodontal index (PMA) modified by Parma (1960). The condition of the gums was assessed in each tooth after staining with the Pisarev-Schiller solution. Pre-insulate with cotton rolls, dry.

For cytological studies, imprints of the gingival mucosa were taken in the area of the anterior and posterior teeth (6 prints for each child). The literature highlights the cytological characteristics of the gingival mucosa, mainly of the adult population. In childhood, this problem has been studied very poorly, although in adult patients, cytological examinations of gingival margin imprints are one of the main indicators for assessing the state of the gingival mucosa.

To improve the efficiency of diagnosis and prevention of periodontal disease in children, cytological studies are currently an urgent problem in pediatric dentistry.

RESULTS AND DISCUSSION

At the beginning, we carried out cytological studies of the soft tissues of the periodontium in healthy children of the control group. As a result of the study, the following cytological characteristics of the periodontal soft tissues were established. In a healthy periodontium in children, the presence of a prevalence of epithelial cells equal to 81.14% was revealed, consisting in 45.71% of keratinized epithelial cells, epithelial cells in the form of scales, nucleated cells of the spinous layer, constituting 35.43%.

<table>
<thead>
<tr>
<th>Cytological picture, cellular elements</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 age group</td>
</tr>
<tr>
<td>Epithelial</td>
<td>86.64±2.72</td>
</tr>
</tbody>
</table>

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Table 1.

**Cytological indicators of periodontal soft tissue imprints in healthy children of the control group**

Note: In this and other tables * - significant differences were noted relative to other age groups (P < 0.05).

In second place in terms of the number, connective tissue cells should be noted, they were quite fewer in comparison with epithelial cells and amounted to 18.86% (Table 1). The content of PMNL was 15.78%, that of intact monocytes was 1.65%, and that of naked monocytes was 1.43%. It should be noted that the minimum number of epithelial cells with signs of cytology is equal to 0.59%. Also, cells with vacuolated cytoplasm were found - 0.18 ± 0.01%, cells with a deformed nucleus were detected in 0.15 ± 0.03%, with basophilic inclusions 0.07 ± 0.02%, phaging - 0.02 ± 0.01%, cells with cantomized microorganisms 0.15 ± 0.04% (Table 1).
**Fig 1. Cytological indicators of periodontal soft tissue imprints in healthy children of the control group**

<table>
<thead>
<tr>
<th>Cytological picture of cellular elements</th>
<th>Articular form</th>
<th>Systemic form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 age group</td>
<td>2 age group</td>
</tr>
<tr>
<td>Epithelial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Basal</td>
<td>71,43±2,13</td>
<td>71,38±3,1</td>
</tr>
<tr>
<td>2. Nucleated cells of the spiny layer</td>
<td>38,17±1,74</td>
<td>36,71±2,1</td>
</tr>
<tr>
<td>3. Non-nuclear keratinized</td>
<td>33,26±1,92</td>
<td>35,17±1,5</td>
</tr>
<tr>
<td>With signs of cytopathology</td>
<td>1,45±0,7</td>
<td>1,53±0,9</td>
</tr>
<tr>
<td>1. Vacuolated cytoplasm</td>
<td>0,35±0,01</td>
<td>0,41±0,02</td>
</tr>
</tbody>
</table>
### Table 2

| 2. Deformed core | 0.49±0.03 | 0.48±0.01 | 0.51±0.01 | 0.54±0.01 |
| 3. Basophilic inclusions | 0.20±0.02 | 0.07±0.01 | 0.05±0.01 | 0.04±0.02 |
| 4. Contaminated | 0.38±0.05 | 0.39±0.03 | 0.47±0.02 | 0.48±0.08 |
| 5. Phasing | 0.15±0.03 | 0.17±0.01 | 0.22±0.01 | 0.23±0.02 |
| Connective tissue | 43.86±1.65 | 43.58±4.1 | 48,14±5.21 | 49.09±3.52 |
| 1. PME | 37.40±2.1 | 37.91±1.93 | 41.57±2.1 | 42.11±1.78 |
| 2. Intact monocytes | 2.87±1.32 | 2.95±1.25 | 2.93±1.31 | 3.15±1.24 |
| 3. Holonuclear monocytes | 3.29±1.74 | 2.98±1.52 | 3.64±1.46 | 3.78±1.32 |
| 4. Fibroblast-like | 0 | 0 | 0 | 0 |

**Cytological indicators of periodontal soft tissue imprints in children of patients with rheumatism**

Note: * - the reliability of differences between articular and systemic FRA was noted (P <0.05)

Comparison of the control group of healthy children with children with rheumatism, both with articular and systemic forms, the cytological indicators of sick children did not coincide with the average indicators of cytological imprints of the gums of the control group of healthy children, which indicates a high sensitivity of this research method to the course inflammatory reaction in the soft tissues of the periodontium. Thus, studies of the state of periodontal disease in sick children revealed significantly significant changes in cytological examination in comparison with the control group. In sick children, cytological indicators clearly showed and proved the presence and prevalence of inflammatory and destructive changes in the soft tissues of the periodontium.

It should be noted that the comparative analysis of cytological indicators of both age groups is approximately the same indicators mainly for all studied indicators of cytological prints from the soft tissues of the periodontium (table 2), the difference is very close to each other and not reliable (P>0.05). This served as the basis for further research on sulimor parameters in both age groups.

It is important to pay attention to the fact that during cytological studies in the majority of children (56.7%) with apparently clinically healthy periodontium, a significant change in some indicators was established, such as an increase in the percentage of PMNLs, naked and intact monocytes, among connective tissue cells, an increase in cells vacuolated by cytoplasm, as well as with a deformed nucleus and basophilic cytoplasm. The obtained data of the cytological method of research indicate the presence of signs of an inflammatory reaction of the marginal periodontium.
which are not clinically manifested. This is probably due to the treatment of a general disease of rheumatism in children with long-term use of non-steroidal anti-inflammatory and hormonal drugs.

The obtained data give grounds for a cytological description of a clinically healthy periodontium in children, characterized by a rather low content of connective tissue cells, an insignificant noticeably low content of dystrophic-altered cells. Therefore, cytological studies of imprints from the soft tissues of the periodontium can be used as an early diagnosis even at the beginning of the inflammatory process developing in the soft tissues of the periodontium, which is not clinically manifested yet. Our results are consistent with other literature data.
Fig. 2. Cytological indices of imprints of periodontal soft tissues in the control group and in children with rheumatism.

The study of the comparative characteristics of the cytogram of gingival prints in children with rheumatism in comparison with the corresponding cytological indicators of the healthy group of children in the control group revealed quite significant changes in the parameters of the cytogram in sick children compared with the control group (tables 1, 2).

Thus, a highly significant decrease in the cell pool of epithelial cells was found, both in the articular form and in the systemic form, and even more pronounced in the systemic form in both studied age groups.

Against the background of a significant decrease in the content of epithelial cells, a highly significant increase in pathologically altered epithelial cells with symptoms of cytoplagia was revealed. If, with the articular form in the 1st age group, these indicators are increased in comparison with the control by 2.4 times, in the 2nd age group by 2.37 times. With the systemic form, these indicators increased even more and were equal in the 1st and 2nd age groups, respectively, in 2.98; 3.01 times.
Cells with vacuolated cytoplasm at the norm were 0.18%, with the articular age group in 1-0.35%, in group 2 - 0.41, which is 1.9 times higher than the norm and 2.67 times higher, respectively.

The number of cells with a deformed nucleus increased 3.28 times in 1 age group with articular form, and in the second, 2.2 times (0.15% versus 0.47%, P <0.01). With the systemic form, this indicator in the 1st age group increased by 3.4 times (0.15% versus 0.51%; P <0.001), in 2 LHH by 3.6 times (0.15% versus 0.57%, P <0.001).

The number of cells contaminated with microorganisms in articular form in 1 age group was 2.24 times, in 2 LVH - more than 2.3 times (0.17% versus 0.35%, respectively, P <0.05). With the systemic form, the cells contaminated with microorganisms in the 1st age group increased 2.76 times (0.17% versus 0.47%, in the 2nd age group - 2.82 times (0.17% versus 0.48%, respectively P <0.01).

Thus, analyzing the data obtained during the cytological examination of gingival prints, they characterize significant changes in the containing various types of cellular elements characteristic of the development of chronic catarrhal gingivitis in sick children. Chronic catarrhal gingivitis in children with rheumatism during visual examination and other periodontal tests is poorly manifested clinically, probably due to the intake of large doses of non-steroidal anti-inflammatory drugs and hormones by sick children in the treatment of the underlying disease of rheumatism.

CONCLUSION
Analyzing the data obtained, it can be concluded that in rheumatism, regardless of the form of the clinical course, cytological studies of the soft tissue imprints of the periodontium revealed criteria characteristic of the development of chronic gingivitis, but clinically weak or not expressed, in connection with the treatment of the underlying disease of rheumatism with corticosteroids and high doses of non-steroidal anti-inflammatory drugs (NSAID).

Therefore, in children with rheumatism, during dental examination, it is necessary to use cytological examination of the imprints of the soft tissues of the periodontium to determine the presence of inflammatory reactions that are not manifested during clinical visual examination. The cytology method is easy to use, gives a clear description of pathological changes that are not always clinically manifested or have indistinct manifestations.

REFERENCES


