INFLUENCE OF VOBENZYME ON THE CYTOLOGICAL PARAMETERS OF THE ORAL CAVITY IN PATIENTS SUFFERING FROM POLLINOSIS

The cytomorphometric method (Grigoryan et al., 2006) was used for studying cytogams of cellular elements in gingiva imprints and for evaluation the inflammation and destruction processes occurring in the parodont. After the treatment, the index of density was revealed to decrease to 35.4, thus indicating the better improvement of the epitheliocytes differentiation. Eosinophils demonstrated the most reliable differences in the cytogams. After the therapy their index became two-fold lower and constituted 2.3%. The indices of destruction and eosinophils were found to be the most informative.

It has been used for identification such cells as eosinophils, mast ones, including those being at the stages of degranulation and goblet-like cells, all of them indicating the allergic reactions and thus helping to characterize the morphologic features of epithelial and other cells. This method allows demonstrating distinctly variations in staining of cytoplasm and nuclear components with different dyers. It also helps to keep the stained preparations unchanged for a long period of time.

Keywords: Cytology, specific immunotherapy, allergen, pollen allergy, asthma allergy.
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Introduction

A cytologic method is one of the methods used for investigation of the mucosa epitheliocytes in the oral cavity. Cytodiagnosis of smears obtained from the oral cavity is of great significance for investigation of the local pathology and a number of somatic diseases. The numerous data on the cytologic parameters of the oral cavity mucosa, mostly in adults, are given in the literature (Yuy, 2006).

At various pathologic states the reliable changes in the indices of cells differentiation were revealed in every part of the oral cavity mucosa, especially in old aged persons. The cytomorphometric method (Grigoryan et al., 2006) was used for studying cytogams of cellular elements in gingiva imprints and for evaluation the inflammation and destruction processes occurring in the parodont.

Khudaybergenova (2010) has used the cytologic method for investigation of cells population in the nasal cavity mucosa on smears stained by the Papanikolau procedure. It has been used for identification such cells as eosinophils, mast ones, including those being at the stages of degranulation and goblet-like cells, all of them indicating the allergic reactions and thus helping to characterize the morphologic features of epithelial and other cells. This method allows demonstrating distinctly variations in staining of cytoplasm and nuclear components with different dyers. It also helps to keep the stained preparations unchanged for a long period of time.

Methods

The cytologic investigations were carried out by using the modified method described by Kalivradjiyan et al. (2006). The patients were asked to rinse their oral cavity twice with the distilled water before the smears were obtained. Sterile foam rubber cubes, 1x1x1 cm in size were used for obtaining the material for investigation by slight scraping motions. The material was placed on the sterile, fat-free, dry glass slides. The preparations were fixed in
96% ethanol alcohol during 20 min. and then dried up. The smears were stained by the Romanovsky method.

Pathomorphologic features of eosinophils were studied on smears obtained from oral mucosa. After studying the smears stained by the Romanovsky method, these smears were stained by the Leishman method. The percentage content and absolute quantity of eosinophils per 100 cells in every smear and morphologic features of these cells were studied.

The degree of epitheliocytes maturity was defined by the nucleus- cytoplasmatic ratio and identification of lymphocytes and other leukocytes was done by the Kunin (1973) method. Bacterioscopy was used to reveal the coccal flora (characteristics at 10 areas of vision) and morphologic elements of fungi. The microflora activity was estimated by intensity of its staining.

The cytologic index of destruction (ID) reflecting the relative content of cells showing signs of cytopathology in the epitheliocytes population and the inflammation - destruction one (IDI) based on considering the ratio of cells number in the inflammation infiltrates being at various stages of progress were defined by using Grigoriyan et al. (2004) method. Normal indices are as follows: ID- from 0 to 999; IDI- from 0 to 19.0

**Results**

The cytologic index of hygiene (CIH) is the direct method for evaluation the hygienic health of the dental-gingival complex. It allows estimating on cytograms the intensity of contamination with bacteria by methods of microscopy according to the following system of marks:

<table>
<thead>
<tr>
<th>Intensity of contamination</th>
<th>Estimated in marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>No contamination</td>
<td>0</td>
</tr>
<tr>
<td>Traces</td>
<td>1</td>
</tr>
<tr>
<td>Insignificant quantity</td>
<td>2</td>
</tr>
<tr>
<td>Moderate density of contamination</td>
<td>3</td>
</tr>
<tr>
<td>Very high density of contamination</td>
<td>4</td>
</tr>
</tbody>
</table>

Every part being examined in six visual fields was estimated in marks. The mean value for each examined area of the parodont was counted and the total mean value of CIH for the whole parodont was defined.

In pollinosis quantity of epitheliocytes was 79.5%, at the remission stage while after the Vobenzyme therapy it became 80.3%. It should be noted that there were found difference in density indices. The density index fell to 35.4 after the treatment, thus indicating the improvement of the epitheliocytes differentiation. The cells with nuclei containing coarse chromatin were practically absent.

The most distinct variations of eosinophils were revealed in cytograms, their index became twofold lower after the therapy and was 2.3% (Table 2, Figure 1).

The bacterioscopy demonstrated decrease of the coccal flora index while that of in candidosis remained unchanged.
The examined groups showed the most significant deviations in the destruction indices, from 730 to 120 and in the eosinophil ones, from 243 to 7.2 (Table 3).

On the smear imprints obtained at the remission stage in pollinosis, the matured epitheliocytes (the fifth stage) was found to prevail and constituted 57.2%. After the treatment there was noted tendency to increase in percentage (up to 63.4%) of high-
differentiated cells and two-fold decrease of epitheliocytes being at the third stage. No epitheliocytes at the first and second stages were revealed in the examined groups. (Table 4)

**Conclusion**

After the treatment, the index of density was revealed to decrease to 35.4, thus indicating the better improvement of the epitheliocytes differentiation. Eosinophils demonstrated the most reliable differences in the cytograms. After the therapy their index became two-fold lower and constituted 2.3%. The indices of destruction and eosinophils were found to be the most informative.

**References**

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