IMMUNOHISTOCHEMICAL CHARACTERISTIC OF CELLULAR AND HUMORAL IMMUNITY AND PREIMMUNE FACTORS IN CHRONIC TONSILLITIS IN CHILDREN

L. Danilov[1,*], I. Ababii[1], M. Maniuc[1], L. Şaptefraţi[2], V. David[2], V. Fulga[2], A. Bocan[1]
[1]*Department of Otorhinolaryngology, State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Republic of Moldova*
[2]*Department of Histology, Cytology and Embryology, State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Republic of Moldova*
[*]Email: danilovlucian@yahoo.com

In order to exclude errors in choosing the treatment strategy in case of chronic tonsillitis it needs to develop new contemporary diagnostic and prognostic criteria. [1, 2]

The purpose of our research was to determine immunohistochemical peculiarities of the palatine tonsils during the evolution of different forms of chronic tonsillitis in children.

Immunohistochemical study were subjected tissue samples taken from palatine tonsils from 21 children with compensated chronic tonsillitis and 20 children with decompensated form, the last being subdivided into two forms: without late complications and with rheumatic complications.

In case of compensated chronic tonsillitis is noticed expressive suppression of T-$CD3^+$, T-$CD4^+$ and T-$CD8^+$ lymphocytes density with $CD4^+/CD8^+$ ratio disorder in lymph node germinal center (GC) and its peripheral area, essential decrease of humoral immunity with involvement of $CD20cy^+$ B lymphocytes, preimmune cells ($CD56^+$ natural killers, $CD68^+$ macrophages) and plasma cells in this areas.

Increasing of T-$CD3^+$ and T-$CD4^+$ lymphocytes level in tonsillar gaps epithelium occurs, probably, because of compensatory cell immunity stimulation in the maximal contact area with foreign antigens, at the level of lymphoepithelial barrier, following migration of this cells from other zones.

For decompensated chronic tonsillitis complicated with rheumatoid pathology the following features are present: more expressive activation of cell immunity in the peripheral part of lymph node GC and in gaps epithelium, a low density of the plasma cells in GS areas and in peripheral areas of the GS, an increased number of $CD20^+$ lymphocytes in the gaps epithelium, truthfully titres growth of $CD56^+$ natural killer in GS, density decreasing of $CD68^+$ macrophages in GS areas and in and in peripheral areas of the GS and their density increasing in gaps epithelium.

The decrease of macrophages in GS area can be explained by their compensatory migration toward tonsillar gaps epithelium (area of antigen recognition and processing) in both forms of chronic tonsillitis, where is detected a truthful increase of their numbers in compensated chronic tonsillitis, compared to control lot.

Immunohistochemical analysis of tonsils at different lymphoepithelial levels encouraged the development of new diagnostic model of local immunity particularities and assessment of the gravity of inflamatory process evolution.

[1] Bathala S., Eccles R. *Hum Immunol* **74** (2013) 708-712.
[2] Carmen A. et al. *Romanian Journal of Morphology and Embriology* **49** (2008) 381-386.