

SUMMARY

The chronic inflammation in tonsillar (chronic tonsillitis) and nasal (polyposis nasi) tissue has quite a lot of similarities. The chronic inflammation and malignant transformation are biological processes controlled by many cytokines taking part in the process of cell to cell signaling and it is also known that chronic inflammation can be accepted as a factor facilitating the conversion of malignant process.

The aim of this project was to follow and prove a potential role of antimicrobial peptides, eNOS, VEGF, TGF- and the level of cell proliferation (Ki-67 marker) and apoptosis (cleaved caspase 3) in the development of nasal polyposis and chronic tonsillitis and to determine the relationship between the inflammatory and malignant processes in tonsils.

Samples were obtained from patients with nasal septum deviation and SAS - sleep apnoe syndrom (as healthy controls), nasal polyposis, chronic tonsillitis and oropharyngeal carcinoma. Immunohistochemical procedures for detection of all studied substances and antigen determinants were carried out on cryostat and paraffin sections.

(...)

Summarizing it can be concluded that malign transformation can be facilitated by the attenuation of the local mucosal immunity (the reduction in beta-defensins synthesis – especially HBD-2) but also by hypoxia – the expression of some growth factors (VEGF, TGF-) and eNOS (elevation of the production of NO molecule) increases and it can induce the processes such as apoptosis, cellular proliferation, angiogenesis, vascular permeability and affection of the cell cycle.