

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ  
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**101 – ї**

**підсумкової наукової конференції**

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We investigated the effect of coagulase-positive *Staphylococcus aureus*, which was isolated and identified in pure culture from 27 patients with superficial staphylocodermia, and on leading indices of immune status.

Conducted immunological studies aimed at determining the absolute and relative numbers of T-, B- and 0-lymphocytes, TCD4 +, TCD8 + by indirect immunofluorescence method using a panel of appropriate monoclonal antibodies, showed changes in immune status in patients with superficial staphylocodermia. In patients is established a decrease in the relative (by 14.87%) and absolute (by 10.55%) number of lymphocytes in the peripheral blood, due to the deficiency of the total number of T-lymphocytes, actually the relative number of TCD3 + by 10.82%, absolute – 25.22%. In superficial streptodermia, the absolute (by 3.65%) and relative number (by 6.53%) of TCD4 + is reduced in the peripheral blood, indicating the violation (decrease) of the pathogens recognition processes, which results in blocking the formation of a specific immune response to *S. aureus*. This reduces the relative (by 14.87%) and increases the absolute number (by 21.73%) of TCD8+ that indicates a violation of the immunoregulatory function of T lymphocytes. The relative BCD19 + number did not change despite a 36.11% increase in the absolute number of mature B lymphocytes. With these changes, the relative number of 0-lymphocytes, which play a significant role in nonspecific anti-infection protection, increases by 23.32%. Important, in our opinion, is the violation of factors and mechanisms of nonspecific anti-infectious protection (innate immunity). Thus, in patients with superficial staphylocodermia, the activity of lysozyme and the complement system is significantly reduced due to the fact that *S. aureus* (the leading pathogen) exhibits anti-lysozyme activity at  $0.214 \pm 0.022 \mu\text{g/ml}$ . The high level of anticomplementary activity is manifested at 5 CH50/ml, 10 CH50/ml and at 20 CH50/ml. Changes in the humoral factors of anti-infectious protection contribute to the reduction of the processes of phagocytosis of neutrophilic granulocytes and monocytes, which is manifested in both the first and final stages. The phagocytic activity of neutrophilic granulocytes decreases by 61.35%, the phagocytic index of neutrophils - by 70.59%, and of monocytes, respectively, by 88.16% and 2.08 times.

Obtained and presented results from the study of the immune status of patients with superficial staphylocodermia show the need for inclusion of immunotropic drugs to improve the treatment that stimulate factors and mechanisms of both nonspecific and specific immune anti-infectious protection.

**Sydorchuk L.I.**

### **TAXONOMIC COMPOSITION AND MICRO-ECOLOGICAL INDICES OF PALATINE TONSILS MICROBIOME IN PATIENTS WITH CHRONIC TONSILLITIS**

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In case of a local immunodeficiency state and the intervention of pathogenic and opportunistic microorganisms on the surface of the palatine tonsils, a local infectious process is characterized by inflammation, accumulation of purulent discharge in crypts and their blockage - the formation of acute tonsillitis, which is often transformed into a chronic-recurrent process. Many infectious diseases today have changed their course, their severity with an increased rate of hidden, asymptomatic forms, and in some cases, not only the properties of pathogens have changed, but their taxonomic composition, which resulted in multiple antibiotic resistance.

The study was aimed at investigation of the taxonomic composition, micro-ecological indices of palatine tonsils microbiome in patients (age: 19-54 years) and the sensitivity of leading causative agents to antimicrobial drugs.

Samples of secretions from palatine tonsils from 85 adult patients with chronic tonsillitis underwent microbiological study. Among them there were 47 females (55.29%) and 38 (44.71%) males (average age:  $28.36 \pm 4.67$  years). Seeds of facultative anaerobic and aerobic microorganisms were incubated in a thermostat at 37 °C. Obligate anaerobic bacteria were grown in a stationary anaerostate "CO<sub>2</sub> – incubator T-125 »(Sweden). Anaerobic bacteria were grown on a Shaedler-agar



with 5% of lamb blood. Gram-positive cocci, *Moraxellae*, hemophilic bacteria were cultured on blood MPA, Chistonov media and others, enterobacteria - on Endo, Ploskirev media. To cultivate and identify yeast-like fungi of the genus *Candida* Sabouraud media with polymyxin was used, and to grow *Pseudomonas* - malachite MPA.

By bacteriological and mycological methods 161 strains of microbes belonging to 15 different taxonomic groups were isolated from the surface of palatine tonsils and identified in 85 patients.

It has been shown that chronic tonsillitis in adults is associated with the persistence of the facultative anaerobic and aerobic gram-positive (70.40%) and gram-negative (10.56%) microorganisms, as well as anaerobic gram-positive (4.97%) and gram-negative (8.07%) bacteria. By a consistency index, frequency of occurrence, Margalef species richness index, Whittaker species diversity index and Simpson and Berger-Parker species dominance index major pathogens of chronic tonsillitis are *Staphylococcus* (*S. aureus*), *Streptococci* (*S. pyogenes*, *S. anginosus*), which separately or in association with other opportunistic pathogens (*C. albicans*, *E. coli*, *P. niger*, *P. loescheii*, *B. fragilis*, *P. aeruginosa*, etc) form an infectious inflammatory process and support it for a long time. At the present stage, for rational etiotropic antibiotic therapy of chronic tonsillitis in adults, it is recommended to use ofloxacin, gatifloxacin, ciprofloxacin and neomycin, to which the most of the isolated and identified strains of *Staphylococci* and *Streptococci* are sensitive.

Thus, chronic inflammation of palatine tonsils in adults is mostly related with infection of gram-positive pyogenic *Staphylococcus* (*S. aureus*) and, *Streptococci* (*S. pyogenes*, *S. anginosus*), which have no developed resistance against fluoroquinolones of 2<sup>nd</sup>- 4<sup>th</sup> generations. The obtained results are the basis for the study of the factors of nonspecific anti-infective defence of the adult organism (anti-lysozyme, anti-complementary, anti-immunoglobulin activity and inhibition of phagocytosis).

**Yavorenko K.Y.**

## **DISTRIBUTION OF GENTIANACEAE FAMILY IN CARPATHIAN REGION AND USING IT IN PREVENTIVE HEALTHCARE**

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The Gentianaceae family includes about 300 species, distributed mainly in the temperate latitudes of the northern hemisphere.

In traditional medicine texts, Gentianaceae family plants are used for the treatment of some disorders such as menstrual over-bleeding, conjunctivitis, vitiligo, animals venom poisoning, injuries, infected wounds, pain and swelling of liver, spleen, stomach and sprains of muscles. Some activities are the same in traditional and alternative medicine such as anti-inflammatory, hepatoprotective and diuretic effects.

*Gentiana*, a cosmopolitan and important genus of the Gentianaceae family, comprises 400 species distributed among the world.

The aim of the research was to analyze literature sources and to determine the prospect of the practical application of the Gentianaceae family in the preventive medicine of Ukraine.

According to researches, in Ukraine 16 species are growing. In the Carpathians, the most common are *Gentianaalutea* L., *Gentianapunctata* L., *Gentianacruciata* L., *Gentianaasclepiadea* L.

Morphological features of the Gentianaceae family are different in the structure of stems, leaves, inflorescences and flowers.

Hepatoprotective, anti-inflammatory and antimicrobial properties are manifested due to the substances isolated in the raw materials: simple phenols and their glycosides, hydroxybutyric acids, flavonoids, xanthenes, tannins, anthracene derivatives; aminoacids, carbohydrates, lipids, phospholipids, steroids, chlorophylls, organic acids, macro and trace elements

According to the monitoring data, the content of biologically active substances in the investigated species depends on the plant growth places: highland species accumulate and contain