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# ***БИОЛОГИЯ ВА ТИББИЁТ МУАММОЛАРИ***

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BIOLOGY AND MEDICINE**

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*под редакцией профессора А.М. ШАМСИЕВА*

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# **БИОЛОГИЯ ВА ТИББИЁТ МУАММОЛАРИ**

**PROBLEMS OF  
BIOLOGY AND MEDICINE**

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use of drugs containing narcotic substances; 5. to establish the value of identification of narcotic substances in medicinal products during criminal investigations. Medicinal products that contain narcotic substances are analyzed in the research paper. Chromatographic methods were used for research. Conclusions: 1. Drugs in the broad sense are narcotic drugs, psychotropic substances, their analogues and precursors. The main three most commonly used drugs in the medicaments category are morphine, codeine and tebain (while it is only a very mild psychoactive, a decisive precursor to most semi-synthetic opioids, such as oxycodone). 2. The largest amount of narcotic substances were found in psychotropic medicines (neuroleptics, tranquilizers, sedative, analeptics, antidepressants), antihistamines, analgesics, anti-inflammatory medicines. 3. The content of narcotic substances in medicinal products is often blurred on markers or does not correspond to the quantity declared in the composition. 4. In Ukraine, the turnover of drugs containing narcotic substances is regulated by the List of Narcotic Drugs, Psychotropic Substances and Precursors, approved by the Cabinet of Ministers of Ukraine and is consistent with international treaties of Ukraine.

#### **CHARACTERISTIC OF INDICATORS OF CELLULAR AND HUMORAL IMMUNITY IN PATIENTS WITH DEMODECOSIS**

Chornenka Zh.A., BSMU

The study of the indices of cellular and humoral immunity of patients with demodicosis in the phase of exacerbation of the disease was carried out. Immunological reactions of 109 demodicosis patients aged from 20 to 60 years were examined. The patients were divided into 2 groups: the first group included patients without manifestations of functional disorders from the hepatobiliary system, and to the second - patients with liver dysfunction. Aim. Determine the changes in the indices of cellular and humoral immunity of demodicosis patients developing in response to invasion. Results. The study of humoral immunity showed that the concentration of immunoglobulins (Ig) of the main three classes (A, M and G) in patients with demodicosis varied in different ways. This is consistent with the frequency of Ig level change compared with the norm. The concentration of Ig A was more often increased, and Ig M and Ig G - was within the normal range. The total content of these Ig was below the norm ( $p \geq 0,05$ ). The percentage of Ig level changed. At the same time Ig G / Ig A ratio in patients was more than 2 times lower than normal. The revealed changes indicate imbalance of serum Ig, which may be one of the signs of immunodepression. In the development and realization of the immune response, a series of complex interactions occurs between the cells - T- and B-lymphocytes and other immunological indices, which provide a variety of immune response. In order to detect changes in the interrelations between the indices of cellular and humoral immunity in patients with demodicosis, an assessment was made of the infrastructure of the complex of correlations between the studied indicators. It has been established that for the infrastructure of the immune parameters of the control group, 16 strong bonds with a correlation coefficient of more than 0.54 and 7 moderate bonds with a coefficient greater than 0.42 and less than 0.54 are characteristic. In patients of the 1st group before treatment, only 6 strong and 5 moderate bonds were detected. Of the 11 reliably correlated pairs, only 7 were the same as in the control group, and 4 were "new". In patients of the 2nd group there were only 6 reliably correlated pairs. Conclusion. The results of the study of cellular immunity make it possible to conclude that when demodicosis changes in the blood content of lymphocytes and their activity, the ratio of T- and B-lymphocytes changes. The degree and frequency of immunity disorders were higher in patients with DP: a decrease in the number of lymphocytes, T-lymphocyte activity, and inhibition of leukocyte inhibition was more often observed. The results of the correlation analysis showed that in the development and realization of the immune response in demodicosis there is a complex rearrangement of the interaction between the T and B immune systems, which provides a new integration of immune processes, reflects the interaction of the indices of the immune system.

#### **SYNTHESIS AND EXCRETION OF PORPHYRINS ON THE BASIS OF CHLOROPHYLL, SEPARATED FROM EXCREMENT OF THE SILKWORM**

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Scientific supervisor: prof. Askarov K.A.

Work purpose. Synthesis and excretion of porphyrins on the basis of chlorophyll, separated from excrement of the silkworm. Material and methods of a research: Porphyrins - nitrogen-containing pigments, are part of the non-protein part of the molecule of hemoglobin, chlorophyll, cytochrome c, catalase and a number of enzymes. Relate to higher heterocyclic compounds. Due to a unique set of physical and chemical properties, porphyrins and their analogues attract the interest of researchers in the fields of chemistry, biology, medicine, optics and materials science. Catalysts, sensors, drugs, organic semiconductors, liquid crystals and materials for nonlinear optics have been developed based on porphyrins. Hem, one of the representatives of porphyrins, is a prosthetic group of hemoglobin, myoglobin, cytochrome c, cytochrome P450, etc. One of the most accessible natural sources of porphyrins is a chlorophyll, on the basis of which it is possible to create industrial production of a number of important porphyrins and their metal complexes. However, the excretion of chlorophyll from plant material is an expensive process. We have developed an economical method for extracting chlorophylls from the excrement of the silkworm. This material in our republic is sufficient, in that in the production of a crack, 30,000 tons of living cocoons are produced annually. For extraction from excrement of silkworm caterpillars, it is not necessary to use mixed solvents, as when extracting pigments from plant raw materials, and only 2 to 2.5 liters of solvent per 1 kg of dry raw material. This is approximately 10 times less than in the case of extraction from the leaves of the nettle. In addition, the caterpillar excrement lacks both a cellular structure and enzymes that ensure the decomposition of chlorophyll and the chlorophyll content in it is several times higher than in the leaves of plants. Results: Spectral analysis have shown that the chlorophylls obtained from the excrement of the silkworm are identical to the pigments extracted from the leaves of the nettle and mulberry tree. The best extractants for extracting chlorophyll from the excrement of silkworm caterpillars are methanol, ethanol and acetone, as the weight yield of chlorophyll from the excrement of the silkworm is 3.6% by methanol, ethanol 3.5%, acetone 2.5%. Conclusions: Thus, the emergence of the excrement of the silkworm as a new type of raw material, devoid of many of the drawbacks inherent in the traditional sources of chlorophylls, will lead to the development of new industrial technologies for the production of these compounds, which give wide application in many spheres of public life. The wide use of porphyrins in the national economy and medicine was hampered by the absence of a cheap source of their receipt, so the excrement of the silkworm was chosen.

#### **MORPHOLOGICAL PICTURE OF DEGRANULATION OF APODOCYTES OF THE GASTRODUODENAL ZONE DURING EXPERIMENTAL STARVATION**

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Chair anatomy of a man and operative surgery topographic anatomy (head of the chair – PhD Husanov E.U.)

Scientific adviser: Mukhamedov N.A.

The morphological basis for the participation of the apodocytes in the diffuse endocrine system in local regulation of internal organs has not been studied sufficiently, although the role and importance of the biologically active substances produced by them (peptide hormones) physiologically and clinically investigated are indisputably docked. The GDZ contains a high density of apodocyte-endocrine distribution purpose of the investigation: studies morphological foundations of secretion (degranulation) of apodocytes of gdz of cranks and guardians in the norm and in experimental struggle. Materials and methods of research: As a test animal, 5 coats of rabbits and marine snails were used. The material was fixed in the life of the buoy. Paraffin sections of GDZ are treated with silver nitrate by gremelius. frozen sections from a fixed in 12% neural formalin material impregnated with nitric acid according to

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