акне – у 6 (66,67%) осіб, у 2 (22,22%) – фізіологічні акне та в одного (11,11%) хворого – вугрова хвороба, спричинена лікарськими препаратами. За клінічною картиною розрізняли комедонову форму захворювання – у 3 (15%) хворих, папульозну – у 6 (30%), папуло-пустульозну – у 8 (40%), конглобатну – в 3 (15%) хворих. Ступінь важкості дерматозу варіював від легкого до тяжкого і мав наступний розподіл: у 7 (35%) хворих – легкий, у 10 (50%) – помірний та в 3 (15%) – важкий перебіг ВХ. У всіх обстежених пацієнтів дерматоз мав хронічний перебіг із тривалістю від 3 місяців до 6 років.

Відповідно до результатів проведених нами досліджень з визначення у хворих на ВХ стану мікробіоценозу кишківника шляхом дослідження їх випорожнень, виявлено різного виду порушення якісного та кількісного складу мікробіти товстої кишки у 9 (81,8%) жінок та у 15 (66,7%) чоловіків. У них виявлено зменшення кількості представництва нормальної мікрофлори: біфідобактерій – на 21%, лактобактерій – на 25%, типових кишкових паличок – на 10%. Водночас в обстежених хворих на ВХ встановлено зростання кількості патогенної й умовно-патогенної флори: Staph. Epidermiditis і Staph. Saprophiticus – на 75%, Candida spp. – на 64%, Enterobacter spp. – на 22%, патогенні кишкові палички – на 18%.

Отже, у значної частини (70%) хворих на ВХ, переважно із середньотяжкими і тяжким клінічним перебігом, встановлено дефіцит облігатних бактерій (Bifidobacterium, Lactobacillus, типових кишкових паличок) та зростання кількості умовно патогенних ентеробактерій, стафілококів і дріжджоподібних грибів із контамінацією патогенними кишковими паличками, ентеробактеріями та ін., що диктує необхідність розробки комплексної терапії дерматозу з корекцією виявлених порушень мікробіоти кишківника у таких пацієнтів.

СЕКЦІЯ 16
ФАРМАКОЛОГІЧНА ДІЯ ТА ФАРМАКОКІНЕТИКА ЛІКАРСЬКИХ ЗАСОБІВ

Bogdan N.S.

DERIVATOGRAPHIC STUDIES OF AN UNTI-ULCER PHARMACEUTICAL DRUG MADE ON THE BASIS OF BEE PRODUCTS

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When a pharmaceutical drug is developed there is always a possibility of chemical interaction between active and auxiliary substances of a multi-component drug. Moreover, the effect of a thermal factor on stability of the drug in the process of its manufacturing should be studied. The derivatographic analysis has been used to study chemical and physiochemical processes of the substance occurring under changing temperature conditions. Data of TG curve received during the research show that "Plantaglyutsyd" is characterized by high thermal stability – at 108^0C, there is a mass loss under drying up to 75% with maximum disintegration rate at 220^0C.

The end of the disintegration process can be observed at 340^0C, the mass loss under drying constitutes 40% of batch. The research of PPHP substance has revealed that there is no loss of mass at the temperature up to 38^0C; a maximum disintegration rate occurs at 202^0C, and 84% of the batch mass is lost at 243^0C. The data obtained are indicative of the fact that 7% of the batch mass is lost at the temperature up to 116^0C. The maximum disintegration rate of the substance starts at 68^0C, where the mass loss is 3.5%. If the substance is fried at the temperature up to 500^0C, the exothermic reaction can already be observed at 270^0C. A maximum disintegration of a standardized honey powder is found at the temperature of 320^0C. At the temperature of 380^0C, 68% of the batch mass is lost.

Analyzing the data showing a thermogram of granules of the investigational drug, we can see that it starts losing its mass at the temperature of 38^0C. This could be attributed to the properties of PPHP substance. According to DTA data a calorigenic action occurs when the temperature reaches 108^0C, enabling to confirm that the destruction processes of the substance occur at the given temperature.

These calorigenic actions made by derivators of the substance are identical to the calorigenic actions shown in thermal gravimetric curves of each individual substance included in the preparation formula. It is indicative of the absence of physical and physicochemical interaction between substances. On the basis of the data of thermograms the temperature destroying components of the drug is about 108^0C. The granules of the drug should be manufactured at the temperature of 20-30^0C. We can therefore state that a manufacturing procedure of making granules under conditions of commercial production takes place without destroying its components.

Thermal gravimetric analysis of Plantaglyutsyd substances, PPHP, standardized honey power, and investigational drug was carried out. The results show that there are no chemical reactions between them, enabling to set a temperature of the manufacturing process which does not exceed 108^0C.

Ivasiuk S.N.

THE USE OF MEDICINAL PLANTS IN COMPLEX THERAPY OF ONCOLOGICAL DISEASES

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Antitumor drugs used in the treatment of oncological diseases to some extent cause a series of undesirable reactions. They are basically related to damage of healthy cells in the body. Insufficient effectiveness of treatment and

the presence of numerous side effects leads to the search for possibilities of different methods of influence, phytotherapy in particular, on the tumor and the body as a whole.

Phytotherapy is an important complement to post-stage treatment of cancer patients and allows the maximum individualization of therapy, taking into account the peculiarities of the organism, the role of individual systems in the development of the disease, and metabolism. Herbal preparations compensate the general condition of cancer patients, especially during combined treatment with chemotherapy, radiotherapy, preparation for surgery and period after operation.

Low toxicity of plant products and a wide range of their effects on the body allow long and successful using of medicinal plants, especially as a symptomatic remedy in combination with other modern treatments.

The first result that should be achieved by a purposeful treatment by means of remedies on the basis of medicinal plants is: reduced severity of pain syndrome, improved sleep, compensation of neurotic condition. Against the ground of severe pain, even a slight relief of the patient's condition is of great importance for the control of ailment. Peripheral action of phytotherapy in the site of spasm, edema, tissue compression and irritation of nerve endings are an important complement to central effects of analgesics that are prescribed to patients with oncological disease.

The possibilities of phytotherapy can achieve the effect associated with improving the function of the body or system. The use of herbal remedies in the prevention of relapses and metastases of tumors is of a particular interest. Moreover, the complex use of herbs, diet and medicines is very important for long-term cancer prevention. Immunomodulatory effect of herbal preparations is one of the essential factors of oncology and antiretroviral therapy.

Modern methods of secondary prevention, including complex and long-term use of herbal medicine, are not sufficiently developed. Therefore, there is a need for additional research and the administration of medicines on the basis of medicinal raw material into standard therapies.

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AMELIORATION OF GENTAMICIN-INDUCED KIDNEY INJURY BY SYNTHETIC PEPTIDE

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Acute kidney injury of different degree occurs in one third of patients treated with gentamicin for more than 1 week, being the reason for serious limitation of its use (A. Muthuraman et al., 2011). Search for drugs able to mitigate the toxic effects of aminoglycosides is an active area of research (B.H. Ali et al., 2011).

The aim of our study was to estimate the nephroprotective potential of tripeptide EDL (L-glutamyl-L-aspartyl-leucine) synthesized in the St.-Peterburg Institute of Bioregulation and Gerontology (RF) on a model of gentamicin-induced kidney injury in rats.

Experimental study was conducted on 21 non-linear white rats weighting 150-180 g, divided into three groups (n=7): I group – control, II group – animals with gentamicin-induced kidney injury caused by administration of 4% gentamicin sulfate solution in dose 80 mg/kg once a day during 6 days. Animals of the III group received EDL (3 μg/kg, i.p.) after each gentamicin injection. Kidney function was assessed by diuresis, glomerular filtration rate (GFR), plasma creatinine concentration, urine protein excretion and fractional excretion of sodium. Histopathological examination by light microscopy was conducted to confirm the research results. Data were compared by Mann-Whitney test using SPSS Statistics 17.0.

Administration of gentamicin during 6 days resulted in the toxic kidney injury, manifested in the decrease of diuresis by 54% ($p<0.01$), increase of plasma creatinine concentration by 3.3 times on the background decrease of GFR by 73% ($p<0.01$) and significant proteinuria with an increase of protein excretion by 57% ($p<0.01$) comparing to control. Proximal tubular injury caused an increase of fractional sodium excretion up to 4.55% ($p<0.01$). Biochemical data correlate with histopathological findings: vacuolar degeneration affected 30%, epithelial necrosis – 70% of proximal tubular cells, the lumen of the tubules were filled with hyaline casts, glomerular congestion and their partial atrophy were also observed. Co-treatment with EDL decreased the severity of renal injury realized in preclusion of oliguria (increase of diuresis by 72% ($p<0.01$) comparing to untreated animals), prevention of retention azotemia (decrease of plasma creatinine concentration by 2.7 times, $p<0.01$), reduction of proteinuria by 3.4 times ($p<0.05$) and normalization of sodium fractional excretion (to 0.87%, $p<0.01$). Protective effect of peptide is confirmed by the absence of epithelial necrosis, glomerular atrophy, luminal hyaline casts and potentially reversible hydropic swelling of 80% of the proximal tubular cells.

Obtained results suggest the therapeutic potential of tripeptide EDL under the conditions of gentamicin-induced kidney injury confirmed by the amelioration of excretory kidney function and histopathological changes.

Stepanchuk V.V.

CIRCADIAN CHRONORHYTHMS OF FREE RADICAL OXIDATION **UNDER CONDITIONS OF LEAD POISONING AND IMMOBILIZING STRESS IN ALBINO RATS**

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Oxidative stress represents an imbalance between the production and manifestation of reactive oxygen species and a biological system's ability to readily detoxify the reactive intermediates or to repair the resulting damage.