МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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Висновки. Програми для перегляду медичних зображень мають потужні інструменти для обробки, аналізу та візуалізації і дозволяють зберігати зображення у різних форматах для подальшого використання або передачі іншим спеціалістам. На даний момент є також програми, що працюють на базі штучного інтелекту, що значно пришвидшує процес діагностики захворювань або наявних ушкоджень, коли час є критичним фактором. Нейромережа аналізує зображення комп'ютерної томографії в автоматичному режимі та виявляє патологічні зміни.

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АКТУАЛЬНІ ПИТАННЯ КЛІНІЧНОЇ ІМУНОЛОГІЇ, АЛЕРГОЛОГІЇ ТА ЕНДОКРИНОЛОГІЇ

Marchuk Yu.F.

PHARMACOLOGY TREATMENT PRINCIPLES IN PCOS COMBINED WITH OBESITY

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Introduction. Rates of weight gain and prevalence of excess weight are increasing in the world and are further increased in female with polycystic ovary syndrome (PCOS).The comorbidity of excess weight and PCOS, negatively effects reproductive, metabolic and physiological health. This both pathologies are usually combined with hyperandrogenism and hyperandrogenaemia. All this need prevention and treatment. Insulin resistance affects 75% of lean women and 95% of those with a BMI more 25kg/m^2 with PCOS and is further exacerbated by excess weight.

The aim of the study. To evaluate effect of usage of liraglutide in female with PCOS combined with obesity.

Material and methods. There were 30 females with PCOS and obesity investigated: free androgene index, androstendione, DHEA-sulfas, fasting glucose, insulin, ovarian cycle, ultrasound of ovaries, body mass index (BMI).

Results. Polycystic ovary syndrome occurs in 29% of female patients with obesity reaching up to 36% of women with severe obesity. Obesity in females can be associated with relative functional hyperandrogenism and plays a major role in determining female hyperandrogenaemia. PCOS accompanied with visceral fat excess is frequently associated with insulin resistance and metabolic sequelae, such as type 2 diabetes, cardiovascular risk factors, dyslipideaemia, and appetite dysregulation. The last is connected with disorders in homeostasis between appetite stimulating gut hormones and appetite suppressing gut hormones. Women with PCOS with obesity have more hunger than women without PCOS with obesity. That's why such women have impaired weight management. But treating obesity in female with PCOS is very important as it improves their hyperandrogenemia indices. Nowadays except Metformin, glucagon-like peptide-1(GLP-1) receptor agonists liraglutide and semaglutide show nice results in treatment of obesity in female with PCOS. In our investigation liraglutide together with lifestyle modification and physical exercises reduced BMI in all females, decreased indices of hyperandrogenemia, restored ovarian cycle and improved ultrasound characteristics of PCOS.

Conclusion. Overall, liraglutide in women with PCOS and excess weight, reduced total body weight by as little as 5%, has shown metabolic, reproductive and physiological benefits.

Olenovych O.A.

CHARACTERISTICS OF URINARY CALCIUM AND PHOSPHATES EXCRETION IN THE DYNAMICS OF EXPERIMENTAL DIABETES MELLITUS DEVELOPMENT

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Introduction. Convincing data are indicative of a tendency to decrease bone mass and change of the bone tissue microarchitecture, observed in case of diabetes mellitus (DM). At the same time, the state of human mineral metabolism and bone remodeling is largely determined by

the activity of the kidneys as the main efferent link of the regulation of water-salt metabolism. As a target organ and the site of degradation of most calcitropic factors, the kidneys significantly affect calcium homeostasis and vitamin D metabolism, and renal disorders are undoubtedly considered a risk factor for the development of secondary osteoporosis. Since diabetic nephropathy is one of the leading causes of renal failure among the numerous chronic complications that constantly develop against the background of DM, regardless of its type and duration, it is reasonable to clarify the role of renal dysfunction in the development of mineral metabolism disorders in case of DM.

The aim of the study. The research is aimed at exploration of the peculiarities of calcium and phosphates excretion in the dynamics of experimental diabetes mellitus development.

Material and methods. The experiments were carried out on 54 white non-linear mature male rats – 24 animals with 11-, 26- and 46-day long alloxan-induced experimental diabetes mellitus (EDM), induced by single intraperitoneal administration of alloxan in the dose of 160 mg/kg of body weight, and 30 intact animals of the control. After assessment of water-induced 2-hour diuresis (in ml/100 g of body weight for 2 hours), urine and plasma creatinine concentration were determined, GFR was calculated based on endogenous creatinine clearance. The calcium urine content was detected by the intensity of coloration in the presence of o-cresolphthalein complexone, the level of phosphates in urine – by photometry of the phosphoromolybdate complex. The calculation of electrolyte excretion was carried out. The data obtained were statistically processed with determination of the mean value and standard errors, the non-parametric Mann-Whitney rank test was used to assess the probability of difference between the studied groups.

Results. It was shown, that urinary calcium and phosphorus concentration did not undergo significant changes at the initial stage of diabetic renopathy development in comparison with the corresponding indices of intact rats, demonstrating a tendency to decrease – by 8,7 ($p>0,3$) and 6,5% ($p>0,6$) as to urinary calcium and phosphorus concentration respectively. The excretion of calcium and phosphorus increased unreliably – by 7,3% ($p>0,6$) and 10,7% ($p>0,5$), respectively – on 11th day of EDM.

On the 26th day after administration of the diabetogenic substance, the calciuric response of the kidneys of rats reached statistically reliable values (the calcium content in the urine of animals of this group exceeded that of intact animals by 12,0% ($p=0,05$), and its excretion – by 24,6% ($p<0,01$)) and was accompanied by a significant intensification of phosphates excretion (the urine concentration of phosphorus of animals with 26-day EDM exceeded the control level by 88,0% ($p<0,001$), phosphates excretion – by 2,1 times ($p<0,001$)).

The trends established on the 26th day of alloxan-induced EDM persisted hereinafter – calcium and phosphorus ions were detected in the urine of alloxan-diabetic rats on the 46th day of the experiment in the amounts significantly exceeding the control values, in particular, by 1,2 ($p=0,05$) and 2,1 times ($p<0,001$), respectively. The excretory fractions of these ions increased significantly as well: calcium excretion exceeded the corresponding index in the group of intact animals by 27,2% ($p<0,05$), phosphate excretion – by 2,3 times ($p<0,001$).

Conclusions. The development of calcium-phosphorus homeostasis disturbances in the dynamics of experimental diabetes is a consequence not only of an imbalance of calcitropic factors, but kidney dysfunction as well in response to metabolic processes induced by hyperglycemia. Transtubular transport of calcium and phosphates in case of alloxan-induced experimental diabetes mellitus is characterized by changes of the intensity of tubule-specific reabsorption of cations and depends on the duration of the experiment.

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PROSPECTS FOR THE TREATMENT OF AUTOIMMUNE DIABETES

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Introduction. Autoimmune Type 1 Diabetes (T1D) is a chronic endocrine disorder that arises due to autoimmune destruction of pancreatic beta cells. With the global rise in incidence and