МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
КАФЕДРА КЛІНІЧНОЇ ЛАБОРАТОРНОЇ ДІАГНОСТИКИ
КАФЕДРА БІОЛОГІЧНОЇ ХІМІЇ ТА ВЕТЕРИНАРНОЇ МЕДИЦИНИ

IV науково-практична міжнародна
дистанційна конференція

«СУЧАСНІ ДОСЯГНЕННЯ ТА ПЕРСПЕКТИВИ КЛІНІЧНОЇ ЛАБОРАТОРНОЇ МЕДИЦИНИ У ДІАГНОСТИЦІ ХВОРОБ ЛЮДИНИ ТА ТВАРИН»

28 березня 2024 року
ХАРКІВ – УКРАЇНА

УДК 616-074 (075.8)/614.9-636.09

Редакційна колегія: Заслужений діяч науки і техніки України, проф. Котвіцька А. А., проф. Владимирова І. М., проф. Єрьоменко Р.Ф., проф. Кравченко В.І., доц. Ващик Є.В.

Укладачі: проф. Єрьоменко Р.Ф., доц. Ващик Є.В., доц. Матвійчук О.П.

Посвідчення Державної наукової установи «Український інститут науково-технічної експертизи та інформації» № 597 від 11.12.2023 р.

Сучасні досягнення та перспективи клінічної лабораторної діагностики у діагностиці хвороб людини та тварин: матеріали IV науково-практичної міжнародної дистанційної конференції, м. Харків, 28 березня 2024 р. Х. : НФаУ, 2024. 152 с.

Збірник містить матеріали IV науково-практичної міжнародної дистанційної конференції «Сучасні досягнення та перспективи клінічної лабораторної діагностики у діагностиці хвороб людини та тварин». В матеріалах конференції розглянуто сучасні проблеми лабораторної діагностики: питання управління організації лікувально-діагностичної діяльності, організації лабораторної служби, контролю якості лабораторних досліджень; дослідження гемостазу; оцінка гормонального стану; біохімічні дослідження; визначення онкомаркерів; клінічна імунологія та імунопатологія; лабораторна генетика; молекулярно-біологічні дослідження вірусних, бактеріальних та грибкових інфекцій; клінічна та лабораторна діагностика хвороб тварин; патологія, онкологія і морфологія тварин; ветеринарна мікробіологія, вірусологія, епізоотологія, інфекційні хвороби та імунологія; паразитологія та інвазійні хвороби тварин; ветеринарна токсикологія та фармакологія; ветеринарна хірургія; ветеринарне акушерство, гінекологія та андрологія; ветеринарно-санітарна експертиза, якість та безпечність продукції тваринництва; біотехнології у ветеринарній медицині

Для широкого кола наукових і практичних працівників медицини та фармації.

UDC 616-074 (075.8)/614.9-636.09

Editorial board: Honored worker of science and technology of Ukraine, prof. Kotvitska A. A., prof. Vladymyrova I. M., prof. Yeromenko R.F., prof. Kravchenko V.I., ass. prof. Vashchik.

Compilers: prof. Yeromenko R.F., ass. prof. Vashchik, ass. prof. O.P. Matviichuk.

Certificate of the State scientific organization «Ukrainian Institute of Scientific and Technical Expertise and Information» № 597 dated 11.12.2023.

Modern achievements and prospects of clinical laboratory diagnostics in the diagnosis of human and animal diseases : collected papers of IVth scientific and practical international distance conference, Kharkiv, March 28, 2024. Kh. : NUPh, 2023. 152 p.

Collected papers includes the materials of IVth scientific and practical international distance conference "Modern achievements and prospects of clinical laboratory diagnostics in the diagnosis of human and animal diseases" In the materials of the conference were considered modern problems of laboratory diagnostics: management issues of the organization of medical and diagnostic activities, organization of laboratory services, quality control of laboratory research; research on hemostasis; assessment of hormonal status; biochemical research; determination of tumor markers; clinical immunology and immunopathology; laboratory genetics; molecular biological studies of viral, bacterial and fungal infections; clinical and laboratory diagnosis of animal diseases; pathology, oncology and morphology of animals; veterinary microbiology, virology, epizootology, infectious diseases and immunology; parasitology and invasive animal diseases; veterinary toxicology and pharmacology; farriery; veterinary obstetrics, gynecology and andrology; veterinary and sanitary examination, quality and safety of animal husbandry products; biotechnology in veterinary medicine

For a wide audience of scientific and practitioners of medicine and pharmacy.

UDC 616-074 (075.8)/614.9-636.09

Materials and methods. Analysis of scientific publications by the researched topic.

Results and conclusions. Ghrelin was discovered in 1999 by Kojima and co-authors in the process of studying the receptor for somatotropin-releasing factor (a receptor that enhances the secretion of growth hormone) and its effect on growth hormone. It turned out that ghrelin is part of the link in the process of stimulating and releasing growth hormone from the anterior pituitary gland. In 2000, Mark Heimann and Mathias Chap discovered that ghrelin acts in the brain to regulate food intake, body weight, obesity, and glucose metabolism. Ghrelin has been found to modulate systemic metabolism through activation of orexigenic neural circuits. In obesity and some pathological conditions, the concentration of ghrelin is kept at a low level, and vice versa - it increases during starvation and weight loss, after gastrectomy and anorexia nervosa. These qualities have given rise to the idea that ghrelin-based compounds may have therapeutic utility in the treatment of malnutrition and wasting caused by a variety of subacute and chronic disorders. Conversely, compounds that inhibit the action of ghrelin may be useful in the prevention or treatment of components of the metabolic syndrome, such as obesity, dyslipidemia, or insulin resistance. In recent years, the influence of ghrelin on glucose homeostasis, memory function, and gastrointestinal motility has attracted considerable attention and revealed new therapeutic targets for the treatment of a wide range of pathological conditions. In addition, the discovery of ghrelin-O-acyltransferase has also opened up new research opportunities that may lead to a deeper understanding of ghrelin physiology. This review summarizes current knowledge about the synthesis, secretion, mechanism of action, and biological functions of ghrelin, with additional emphasis on the potential of ghrelin-based pharmacotherapy. In addition, an increase in the level of ghrelin during stress has been recorded, and in patients with ulcerative colitis and Crohn's disease in the acute stage, the level of ghrelin can increase threefold and correlate with the severity of the disease. It plays an important role in regulating cancer-related processes and counteracting protein degradation in catabolic states such as cancer cachexia. In addition, ghrelin has anti-inflammatory, anti-apoptotic and anxiolytic effects. The diverse effects of ghrelin and its innocuous nature may make it potentially beneficial for patients with cancer cachexia. The analysis and evaluation of scientific studies of the clinical and therapeutic effects of ghrelin on metabolic disorders helped to conclude that the introduction of its control into the practice of clinical research will have a positive effect in the prevention and treatment of metabolic disorders of various genesis.

PREVENTION OF THE BOTULINUM TOXIN TOLERANCE DEVELOPMENT AMONG PATIENTS

Ostapets M.O., Khomiak O.V., Yartseva M.O., Sochynska A.M., Kustenko M.O.
Kyiv Medical University Polish Campus, Poland

Relevance. In recent years, botulinum neurotoxin type A (BNT A) has gained immense popularity because it is a safe and effective treatment for many diseases, many of which were considered refractory, as patients practically did not respond to previously available therapeutic methods. The list of indications is constantly expanding, and now botulinum toxin therapy is a first-line treatment and is recommended for many pathological conditions in neurology and dermatology. The evidence base for the use of BNT A for the treatment of blepharospasm, cervical dystonia, and post-stroke spasticity is particularly extensive. BNT A therapy effectively reduces uncontrolled dystonic movements, muscle spasticity and associated pain.

In a published report by experts of the American Academy of Neurology (AAN, 2016), based on research data, it was confirmed that botulinum toxin treatment meets the criteria for evidence and recommendations of level "A" and is a first-line treatment for back pain, diabetes mellitus and post-stroke spasticity. The use of botulinum neurotoxin (BNT) as a first-line therapy for complex neurological and dermatological (aesthetic) conditions is approved by the regulatory authorities of the United States (Food and Drug Administration - FDA) and the European Union (European Medicines Agency - EMA), The Cochrane Collaboration, an international organization that studies the effectiveness of medicines and treatments through randomized controlled trials, interacts with the World Health Organization at the board level and implements joint projects.

The great therapeutic potential of BNT A generates great interest among the medical community, which contributes to a significant expansion of the areas of application of botulinum therapy and its active implementation in clinical practice in the following main groups of syndromes muscle hypertonicity (spasticity after stroke and other lesions of the central nervous system, cerebral palsy, blepharospasm, spastic torticollis, bruxism, etc.); sphincter muscle hyperactivity (achalasia of the cardia, urinary disorders - detrusor-sphincter dyssynergia and detrusor hyperactivity, spastic constipation, hemorrhoids and rectal fissures, vaginismus) hyperfunction of the exocrine glands (hyperhidrosis, sialorrhea, lacrimation); pain syndromes (myofascial and muscle-tonic syndromes, tension headache, migraine, facial pain, temporomandibular joint dysfunction); dermatological diseases (seborrhea, rosacea, psoriasis). Aesthetic medicine doctors should take into account that the cause of facial asymmetry is often neurological disorders (hemifacial spasm, neuritis, etc.), so before prescribing any BNT correction and augmentation with dermal fillers, a patient should be recommended to consult a neurologist.

Botulinum neurotoxin A injection has been the most commonly performed aesthetic procedure since 1999. It accounted for one-third of the 13.3 million minimally invasive aesthetic procedures performed in the United States in 2020. Based on the current statistics of the global botulinum toxin market (2023), it is possible to predict a 4-fold increase in this indicator in North America and Europe by 2030.

The aim of the study is to investigate information about the dangers of uncontrolled mass use of botulinum toxin associated with the growth of its use for aesthetic and therapeutic purposes, which can lead to an increase in tolerance to the drug.

Results. Treatment with botulinum toxin is widely regarded as safe, effective, and largely devoid of serious side effects. However, there are two main classes of adverse events associated with Botox - transient and benign events (well-localized, reversible and self-limited complications that develop within a few days after the injection and usually disappear without any treatment), as well as potentially serious events (associated with systemic and generalized diffusion of botulinum toxin due to systemic spread of the toxin, leading to botulism/botulinum-like syndrome). The first symptoms of botulism may be severe and prolonged headache and fatigue. Some researchers report that up to 1% of patients receiving botulinum toxin injections may experience severe, debilitating headaches. Potentially serious events result from the systemic spread of the toxin, leading to signs of botulism or systemic anaphylactic reactions. The mechanism responsible for the generalized diffusion of botulinum toxin is unknown. The proposed hypotheses are either systemic spread or retrograde axonal spread of the toxin. It is unclear whether generalized diffusion is associated with the distribution of botulinum toxin or its inactive metabolites. It is known that the toxin can pass through an intact vessel wall. Long-term negative consequences of botulinum toxin use may be immunoresistance to the toxin

due to the constant formation of antibodies, which will require constant drug changes and increased dosages.

Conclusions. Patient education to raise awareness of their pathology is the key to a successful treatment strategy while raising awareness of this issue among healthcare professionals and institutions will help minimize the serious and dangerous consequences of mass use of botulinum toxin. It is important to inform the public, general practitioners, and government officials not only about the availability of advanced treatments using botulinum toxin but also to educate them about the negative consequences of its widespread popularization. It is necessary to study the possible immunological impact of production technologies and components that make up different botulinum toxin preparations. Physicians should use clinical experience to decide how and when to treat patients to minimize the risk of immunosuppression.

BIOCHEMICAL MARKERS OF THE PROGRESS OF GASTROESOPHAGEAL REFLUX DISEASE IN PATIENTS WITH DUODENOGASTRIC REFLUX

Reva T.V., Reva V.B.
Bukovinian State Medical University, Chernivtsi, Ukraine

Relevance. Gastroesophageal reflux disease (GERD) is a common clinical problem, affecting millions of people worldwide. Patients are recognized by both classic and atypical symptoms. Acid suppressive therapy provides symptomatic relief and prevents complications in many individuals with GERD. The combination of GERD with duodenogastric reflux (DGR) causes significant damage to the gastric mucosa. Advances in diagnostic and therapeutic modalities have improved our ability to identify and manage disease complications.

Aim. To study clinical features of the course of gastroesophageal reflux disease with accompanying duodenogastric reflux, features of endoscopic changes in the esophageal mucosa, the functional state of the endothelium, pH-metry and bilimetry.

Material and methods. 70 patients with gastroesophageal reflux disease aged 28-63 were examined, the average age was 41.5±8.3 years. 40 patients with GERD with accompanying duodenogastric reflux were selected for the main group. The comparison group consisted of 30 patients with typical symptoms of gastroesophageal reflux. The comprehensive study included a survey (the GERD Screener questionnaire), clinical examination, laboratory and instrumental research. The functional state of the endothelium was assessed by the content of NO metabolites. The content of NO in the blood serum was judged by the content of the sum of the final metabolites of nitrogen monoxide (nitrates + nitrites) when using the Griess reagent. The concentration of bile acids in the alkaline content was determined by the method of J.G. Reinhold, D.W. Wilson (1932). The degree of DGR was assessed by ranking the concentration of bile acids according to H.G. Ivanov (1978): I degree – 0.01–0.2 mmol/l, II degree – 0.2–0.4 mmol/l, III degree – more than 0.4 mmol/l.

Results. Among the examined GERD patients with DGR, 33 (82.5%) women predominated, 17.5% (7 patients) men. The ratio of women to men was 4.7:1. In the comparison group (GERD), there were 16 (53.3%) male patients and 14 (46.7%) female patients.

The clinical picture of GERD was dominated by heartburn, which was observed in 23 (57.5%) patients from the main group and in all examined subjects from the comparison group. Nocturnal heartburn was observed in 15 (37.5%) patients from the main group and in 7 (23.3%) from the comparison group. Air or acid belching was detected in 13 (32.5%) patients with concomitant DGR,

Scientific publication

IV scientific and practical international distance conference

MODERN ACHIEVEMENTS AND PROSPECTS OF CLINICAL LABORATORY MEDICINE IN THE DIAGNOSIS OF HUMAN AND ANIMAL DISEASES

Collected papers of IV scientific and practical international distance conference

(March 28, 2024)

Signed to print 28.03.2024. Format 60x84/16. Paper is offset.
Font of Times New Roman. Risograph printing.
Conventional printed sheets 5,8.
100 copies were printed. Order from 28.03.2024. The price negotiated.

Printed from make-up page in the print-house of FOP Zanochkin D.L.

16 Plekhanovskaya str., Kharkiv, Ukraine, tel. (057) 757-93-82