activating an intracellular death program. This process is called programmed cell death, or apoptosis (from a Greek word meaning "falling off," as leaves from a tree). Apoptosis is a vital component of various processes including normal cell turnover, proper development and functioning of the immune system, hormone-dependent atrophy, embryonic development and chemical-induced cell death.

The purpose of this review is to provide a general overview of current knowledge on the process of apoptosis, the role of apoptosis in health and disease, as well as a discussion of potential alternative forms of apoptosis.

The mechanisms of apoptosis are highly complex, involving an energy-dependent cascade of molecular events. Recent studies indicate that there are two main apoptotic pathways: the extrinsic and the intrinsic. There is an additional pathway, that involves T-cell mediated cytotoxicity and perforin-granzyme-dependent killing of the cell. The perforin/granzyme pathway can induce apoptosis via either granzyme B or granzyme A. The extrinsic, intrinsic, and granzyme B pathways converge to the same final, or execution pathway. This pathway is initiated by the cleavage of caspase-3 and results in DNA fragmentation, degradation of cytoskeletal and nuclear proteins, cross-linking of proteins, formation of apoptotic bodies, expression of ligands for phagocytic cell receptors and finally uptake by phagocytic cells. Abnormalities in cell death regulation can be a significant component of diseases such as cancer, autoimmune lymphoproliferative syndrome, AIDS, ischemia, and neurodegenerative diseases such as Parkinson's disease, Alzheimer's disease, Huntington's disease, and Amyotrophic Lateral Sclerosis. Some conditions feature insufficient apoptosis whereas others feature excessive apoptosis.

Conclusions: Apoptosis is a highly regulated energy-dependent process. The importance of apoptosis consists in understanding its mechanism, because it is a vital component of health maintenance and disease outbreak. The widespread involvement of apoptosis in the pathophysiology of disease define studying the treatment strategies of that disease. Understanding the mechanisms of apoptosis at the molecular level provides deeper insight into various disease processes and may thus influence therapeutic strategy.

Keywords: Apoptosis, programmed cell death

36. THE ROLE OF THE 3 GENERATIONS OF ANTIHISTAMINES IN TREATING ALLERGIES

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Introduction: Recent statistical data show a constantly increasing incidence of allergic disorders emphasizing the role of the development of new anti-allergic medication in the treatment of different allergies. H1-antihistamines (H1A) represent the class of anti-allergics most used by physicians in handling the immediate-type of hypersensitivity reactions. Currently, there are 3 generations of H1-antihistamines, classified according to their selectivity and sedative properties.

Purpose and Objectives: The study was designed to find the prevalence of H1-antihistamines among other administered anti-allergic drugs and to determine the particularities of their use.

Materials and Methods: We collected data from 53 medical records inscribed in the department of Allergology from Republican Clinical Hospital of Republic of Moldova, in November – December, 2013.There were patients diagnosed with various immediate-type allergic reactions, such as : Quincke's edema, allergic dermatitis, acute and chronic urticaria, drug allergy and Stevens-Johnson syndrome. The information about the antihistamine drugs prescribed, length and route of administration in stationary versus further ambulatory periods was analyzed.

Results: We found that 28 patients out of 53 (52,83%) were prescribed antihistamines stationary and 20 out of 53(37,73%) – ambulatory. The drugs used stationary were: chloropyramine and promethazine – both first (classical) generation H1A, administered in all patients(100%), intravenous, for an average of 7-8 days. The drugs used ambulatory were as following : clemastine

(first generation H1A) – in 1 patient (1,88 %), intravenous for 5 days; bilastine (second generation H1A) – in 8 patients (15,1 %), orally for 1 month; levocetirizine and desloratadine (third generation H1A) – in 11 patients (20,75 %), orally for 1-2 months.

Conclusion: The role of classical H1-antihistamines in clinical practice remains still high. Second and third generations of H1A are more preferred in further ambulatory anti-allergic treatment, partly due to the absence of the sedative effect of the classical H1A, important for people who need increased attention in practicing their professions, and partly due to their prolonged time of action.

Keywords: allergic disorders, anti-allergic medication, third generation H1-antihistamines

37. CHANGES OF BONE LIPID COMPOSITION IN OXIDATIVE STRESS

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Introduction: Composition and bone metabolism is of particular interest due to high incidence of osteoporosis, frequent and serious complications of the disease and increased risk of death after osteoporotic fractures.

The aim of the research: Was to study the bone lipid composition in experimental oxidative stress induced by CCl_4 long term administration.

Materials and method: The study was conducted on a sample of 60 white laboratory rats of both sexes without pedigree. The animals were divided according to their age in 3 groups, each one consisted of 2 subgroups – control and with experimental oxidative stress. The level of total lipids, phospholipids, triglycerides, cholesterol (total, free and esterified) and total antioxidant activity were determined in the bone.

Results: Our studies had revealed ontogenetic and gender dependent changes of the bone lipid content in oxidative stress. In young male rats significantly decreased the amount of phospholipids (11%, $p<0,001$) and triglycerides (45%, $p<0,05$), while in female one – the content of phospholipids increased by 8% ($p<0,05$) and that of cholesterol – decreased by (36%, $p<0,05$). The oxidative stress did not induce important changes in lipid concentrations in bone of adult animals. An exception is the reduction of phospholipid concentration by 24% ($p<0,001$) and the increase of the esterified cholesterol level by 39% ($p<0,01$) in males. Oxidative stress did not induce any changes of the lipid content in bone in old animales. At this developmental stage were influenced only the concentration of total cholesterol (+13%, $p<0,05$) and phospholipids (-12%, $p<0,05$) in male rats. In experimental oxidative stress induced by long term CCl_4 intoxication ambiguous changes of total antioxidatn activity were found in animals of different age and gender, but in all cases the total antioxidatn activity was significantly higher then in the polar compartment compared in all studied groups.

Conclusions: In oxidative stress, regardless of the ontogenetic stage of development, the amount of total lipids did not change conclusively, but the general trend was of decreasing, especially due to the reduction of phospholipids and triglycerides levels and less of cholesterol. Deeper disturbances of the saponifiable lipids content may be a consequence of the intensification of lipid peroxidation in bone, due to the production of free radicals during the carbon tetrachloride metabolism which affect predominantly the unsaturated fatty acids of the bone lipids.

38. PREVALENCE OF SLEEP DISORDERS IN GENERAL PRACTICE AND MORBIDITIES ASSOCIATED WITH IT

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Introduction: Sleep disorders are a common health problem in our society, which unfortunately is usually ignored. The quality and quantity of one's sleep are affected by sleep disorders and many medical conditions, acute or chronic, causing daytime fatigue and working