

corresponding to the size of the granules. The secretion processes take place in turn in separate groups of glandular sections. Secretory granules are more common in the cells of the epithelium of the glandular ducts than in the terminal sections. The fetal of 20-25 weeks is marked by a further increase in the number of secretory departments. During this period they reach the extreme parts of the gland. The average size of their diameter increases. From the 29th week there has been a slight slowdown in the growth rate of the prostate gland. There is an in-depth specialization of tissues aimed at preparing for the performance of the organ-specific functions, although the growth processes continue. One of the features of epithelial cells of the prostate gland is the process of keratinization, which appears in fruits at the age of 29 weeks. Epithelial components of the prostatic gland of fruits of 27-29 weeks are prone to severe proliferative changes associated with the continuing specialization of glandular sections and excretory ducts. We can assume that certain phases of differentiation of the epithelium are accompanied by a change in the secretory processes. From the 29th week there has been a slight slowdown in the growth rate of the prostate gland. In the ultramicroscopic study, secretory clusters are represented as granules in the cytoplasm of cells and mucous clots in the lumen of the secretory and excretory divisions. Conclusions. Differentiation of epithelial tissue of the gland, first of all, is manifested in the appearance and gradual growth of the secretory activity of epithelial cells. The prostate gland in the embryonic period of ontogeny can be considered as one of the endocrine formations of the fetus.

### **PATHOHISTOLOGICAL CRITERIA FOR SERRATED POLYPS IN THE COLON**

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Serrated polyps (SP) are divided into major subtypes: hyperplastic polyp (HP), sessile serrated adenoma/polyp (SSA/P) and traditional serrated adenoma (TSA). The method for differentiating of subgroups of SP is based on differences in the spread of proliferation zones. HP characterized by straight crypts with a slight extension in their upper third without significant distortion of their shape and tend to have small sizes (<5 mm). Zones of enhanced proliferation are observed at the base of the crypts, and the cells mature toward the outer surface, as it used to be in normal glands. HP are histologically divided into microvesicular (MVHP), goblet cell-rich (GCHP) and mucin-poor (MPHP). Histologically SSA/P resemble HP with prolonged increase of proliferation and serrated changes which propagate to the basal segment of the crypts. SSA/P are characterized by dilatation of crypts and their branching horizontal growth with distorted crypt architecture, commonly with dilated, mucus-filled, L-shaped and T-shaped crypts with mature cells. The secretion of mucus is usually observed, and this leads to the fact that formation has a distinctive "cap" of mucus. Histologically TSA is characterized by the villiform structure with the prevalence of cells with elongated nuclei and eosinophilic cytoplasm, nuclear stratification in 2–3 lines and the formation of false ectopic crypts. A typical feature of the TSA is that ectopic proliferative crypts are perpendicular to the direction of growth villiform structures and is not in contact with the muscularis mucosae. It was noted, that carcinomas in the right parts of the colon arise from serrated formations, that's why SP should be removed in a timely manner.

### **CARDIOTECTIVE EFFECTS OF MODULATORS OF THE ESTROGEN RECEPTORS IN THE CONDITIONS OF EXPERIMENTAL ACUTE MYOCARDIAL INFARCTION**

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According to modern ideas, in myocardial infarction, a cascade of pathobiochemical reactions is triggered directly in the ischemic focus, leading to a disturbance in the metabolism of cardiomyocytes, the launch of "parasitral" energy-producing reactions, the development of mitochondrial dysfunction, the complete blockade of the synthesis of macroergens, and as a result,

death of cells. In this regard, in the acute period of myocardial infarction it is pathogenetically justified to use drugs that can affect the metabolism of cardiomyocytes and restore the course of bioenergetic reactions in the cell. Aim of study - to evaluate the SERM cardioprotective effects in the conditions of acute myocardial infarction modeling with the use of the ST2 marker. Materials and methods: The experimental part of the work was performed on 120 mature rats - males weighing 190-230 grams. Small-focal acute myocardial infarction was modeled by the introduction of a coronarospasm agent - pituitrin and  $\beta_1, 2, 3$  isoprenaline adrenomimetic for 3 days. The investigated drugs were administered intraperitoneally 20 minutes after the injection of isadrin for 3 days at the above stated doses. The presence of myocardial infarction was confirmed by electrocardiographic study, as well as the presence of troponin I in blood plasma. The directivity and severity of pathobiochemical processes in the cardiac tissue, as well as the effect of the studied drugs on them, were studied through the enzyme-linked immunosorbent assay concentration in the heart homogenate of nitrotyrosine, homocysteine, in blood plasma - ST2. Results: Systematic administration of a corona-spastic agent to laboratory animals led to a gradual, progressive ischemic lesion of cardiomyocytes. Biological marker of myocardial infarction Troponin, ST2 I was registered on day 3 after the administration of pituitrin and isadrin in the blood plasma of the control group. Using selective receptors modulators and reference preparations (thiotriazoline, capicor) in experimental therapy of rats with experimental myocardial infarction promoted the normalization of biochemical processes in cardiomyocytes. However, the effect of the drugs under study was unidirectional, with varying degrees of evidence. All the drugs reduced marker products of oxidative stress with statistical reliability. The most pronounced effects were displayed by the selective modulators of estrogen receptors - toremifene and tamoxifen, which decrease of ST2 in blood plasma (by more than 46%) provides the realization of the cardioprotective properties of IL 33. In addition, SERM can limit the development of oxidative and nitrosyl stresses, leading to a decrease in the concentration of homocysteine and nitrotyrosine in the heart. Interaction of these effects of tamoxifen citrate under conditions of acute cerebral ischemia led to a pronounced cardioprotective effect, increasing the percentage of surviving animals to an average of 75%. The cardioprotective effects of selective estrogen receptor modulators established by us are an experimental foundation for the relevance and prospects of further research in this direction.

## **PHYSICAL DEVELOPMENT OF CHILDREN IN CONDITIONS OF ATMOSPHERIC POLLUTION**

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Aim and objectives. Hygienic evaluation of indicators of physical development of children who live in conditions of anthropogenic pollution of atmospheric air of modern industrial cities. Materials and methods. To study physical development of children, medical examination of school-age children in 3 regions of Zaporizhzhia has been conducted: in a conventionally pilot region and in the 2nd and 3rd research regions. The study of physical development of children included the specification of height and weight, chest circumference and excursion. Results: Body length of boys of 7-10 years old in the research regions was 4,5 cm (3,44%) longer in comparison with the indicator of the boys in the pilot region, as for the girls, the length was 4,3 cm (3,31%) longer. The average indicator of weight of children of the research regions also exceeded the indicators of children of the pilot region: about 3,3 kg (11,93%) among the boys and 2,7 kg (10,17%) among the girls. Chest excursion in the research regions was lower: 5,27 and 6,37 cm ( $p < 0,05$ ) correspondingly, and 5,12 and 6,07 ( $p < 0,05$ ) among the girls correspondingly. It has been identified that there are more disharmonically developed children in the research regions than in the pilot region (31,6%, 33,4% and 25,31% correspondingly). Conclusion: Younger pupils who live in the atmospherically polluted regions, the activation of growing processes, probable exceeding of the weight indicators, chest excursion decrease have been identified. It is well-known that in modern circumstances delayed and accelerated development of children should be considered as a factor of pathology emergence.