ventricle of the human heart.The study materialsconsisted of papillary muscles and false chordae tendineae found in the cavities of the left ventricles of 20 humans' hearts. Light and electron microscopy methods were used.Results of the study. Electron microscopy showed that the papillary muscles and false chordae tendineae were externally lined with a single layer of endothelial cells that lay on a continuous basal membrane. In the center of the endotheliocyte was an elongated oval nucleus filled with an electron-transparent nucleoplasm with euchromatin located in the center and heterochromatin which occupied a peripheral position in the nucleus. A few general organelles, a large number of pinocytic vesicleswere localized in the cytoplasm of the endothelial cell. The lumenal surface of the endothelial cell contained submicroscopic projections in the form of individual microvilli. The peripheral collagen-elastic layer was localized under the endothelium. This layer was formed by loose fibrous connective tissue with elastic fibers within, which quantitatively prevailed over collagen fibers and fibroblastic cells. The electron microscopic examination of false chordae tendineae revealed that the elastic fibers, located side by side were circularly oriented in relation to the axis of the chordae, whereas collagen fibers formed thin bundles. Between collagen and elastic fibers fibrocytes were identified, which had a strongly elongated irregular shape, i.e. an elongated nucleus along the cell in which heterochromatin predominated, a reduced volume of cytoplasm with less development of organelles. The basis of the papillary muscles was constituted by contractile cardiomyocytes, which had an elongated cylindrical shape; they were interconnected with each other by intercalated discs and formed functional fibers that anastomosed and constructed a three-dimensional network.Moreover, the Purkinje cells,the elements of the conduction system of the heart, were identifiedamong contractile cardyomyocytes. Thin layers of loose fibrous connective tissue with blood vessels were localized between the bundles of cardiomyocytes. In 28% the central core of false chordae tendineae was formed by ordered, densely packed, linear oriented bundles of collagen fibers; cells of the fibroblastic row were localized between and along the way of collagen fibers. In 25% of cases,false chordae tendineae which basically were formed only by striated cardiac muscle tissue, except the contractile cardiomyocytes, the Purkinje cells were also identified. The central core of false chordae tendineae in 47% of cases was formed not only by the bundles of densely packed, linear oriented collagen fibers and cells of the fibroblastic row, but also contained contractile cardiomyocytes forming irregularly shaped cords.

Cardiomyocytesthe most frequently were localizedin the form of islets in places of attachment to the wall of the left ventricle, to the papillary muscles, or stretched along the whole chordae, dividing it into two halves. Thus, an in-depth study of the morphology of myoendocardial formations of the human heart will increase and improve methods of diagnosis and treatment of malformations and heart diseases because it is exactly what practical medicine needs today.

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PREDOMINANCE OF PHOSPHORUS (P) GROWTH RATE IN THE STUDY OF THE DYNAMICS OF CHANGES IN THE MACROELEMENT COMPOSITION OF THE UPPER JAW GERM OF FETUSES

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Mineralization of bone tissue of the upper jaw germ in prenatal human ontogenesis is the result of the course of histogenesis processes and determines its formation (Oshurko A.P., Oliinyk I.Yu., 2017). Methods of flame atomic emission and atomic absorption analysis reveal opportunities for modern researchers to examine the features of the structure and quality of maxillofacial bones by studying the content of trace elements (Oshurko A.P. et al., 2018). The results of such investigations are often crucial for choosing prevention methods even at the early stages of prenatal ontogenesis (Ponomarenko S.I., 2015; Ferros I.N. et al., 2015). At the same time, the determination of quantitative indicators of the macroelement composition of the upper jaw tissue of human fetuses is a significant contribution to the development of quantitative morphology (Vareniuk I.M., 2009; Slabyi B.O., 2017).

The study aimed to study the age-related dynamics of bone density indices of the upper jaw germs of human fetuses in prenatal ontogenesis by the content of macroelements; to conduct a statistical analysis of the data obtained, which significantly improves the study of the quantitative morphology of the human upper jaw.

The study involved the upper jaw germs of 130 human fetuses aged 11-40 weeks of intrauterine development, who died from causes unrelated to diseases of the maxillofacial region. Bone sampling for the study of macroelements (P, Na, Ca, Mg, S) was performed on both sides of the upper jaw germs of fetuses from different areas that had the most macroscopically pronounced density. Methods of macroscopy, morphometry of research objects, turbidimetric method, the method of flame atomic absorption, determination of metal ions and statistical method with the use of statistical groupings have been used in the study.

We have carried out a general analysis of the growth rate between all (1, 2, 3, 4) comparison groups. A negative growth rate was found among all macroelements, except phosphorus (P) – the increase of which is 67.14 % (Fig), which indicates an increasing need for this macroelement and these data confirm its positive distribution dynamics for the formation of the fetal body.

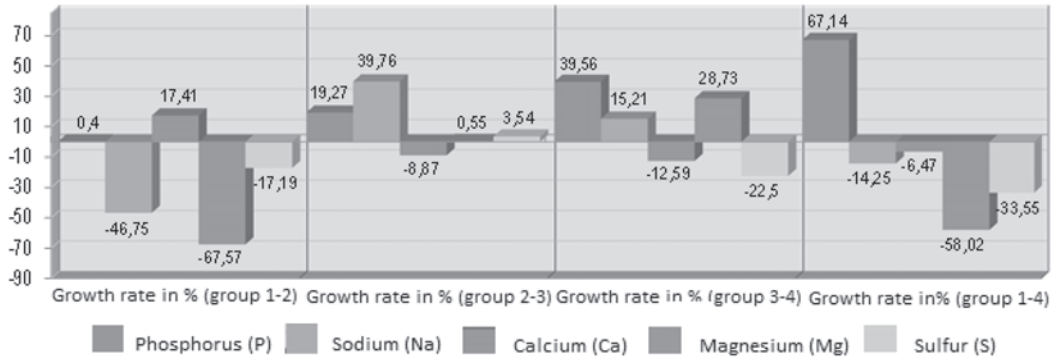

Fig. Generalizing image of the growth rate of macroelements (P, Na, Ca, Mg, s) in prenatal ontogenesis of the upper jaw germs of human fetuses, %.

Thus, the study of the dynamics of bone density of the upper jaw of human fetuses depending on the mineral composition and the presence of established synchronicity of these processes allows us to state that the change in density is evidence of changes in the content of individual mineral elements, but the main building material is macroelements (Ca, P, Na, Mg, s) with a predominance of phosphorus growth rate (P).

Popova I.S.

USAGE OF IMMUNOHISTOCHEMICAL MARKERS FOR COMPLEX DIAGNOSING OF HUMAN BREAST CANCER PROFILE

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According to official statistic data, breast cancer (BC) is the most common oncologic disease among women in Ukraine, accretion of which increases in 3% each year and remains the reason of death in oncologic patients in 17,3% of diagnosed cases (Tamm T. et al, 2020). Nowadays, diagnostic opportunities allow one to estimate immunohistochemical (IHC) profile and differentiation degree of BC, besides a typical histopathological estimation. Data provided by IHC method is used for choosing a target adjuvant treatment and make prognosis for metastases or survival rate (Vallejos C.S., 2010).

The aim of this study is to analyze the usage of IHC markers while diagnosing BC. Investigations are being conducted at Scientific and diagnosing laboratory at Bukovinian State Medical University. Diagnostic panel for obtained biopsy or postsurgical material included Ki-67, c-erB-2/Her-2/neu, progesterone (YR85) and estrogen (SP1) markers. IHC studies were performed on primary breast tumors, which were fixed in formalin and embedded in paraffin. Staining was