

There were counted only the LV with the tumor emboli inside. The LV which were positive only for anti D2-40 were considered to be the preexisting vessels, and that LV which were positive for both of the antibodies were considered to be the newly-formed, tumor-derived vessels. LV were found in intratumoral and peritumoral areas. All intratumoral LV were small and flattened, without lumen. Lymphatics placed at the periphery of tumor nests were relatively large and perfusable (with well distinguished lumen). There were found 24 lymphatics with emboli inside. All of them were placed in the peritumoral area. Were detected 11 (45,83%)LV with proliferated endothelial cells. Size of proliferated LV were smaller than size of preexisting lymphatics. There were not found any correlation between the distance of proliferated and preexisting LV from the invasive front of the tumor. Relatively few studies addressed to lymphangiogenesis in neoplastic lesions of the uterine cervix. From them, some addressed to the prognostic value of the lymphovascular invasion in relation with lymph node status and systemic metastasis. It was found that metastases is significantly higher in patients with lymphovascular invasion than in cases without, as otherwise expected. D2-40 is a specific and the most sensible marker for lymphatic endothelial cells. Ki-67 is a nuclear marker which is positive in dividing cells. LV with metastatic emboli were found only at the periphery of the tumor mass. These data show that peritumoral LV are involved in metastatic spreading of tumor cells. Formation of new LV begins with proliferation of their endothelial cells. We use Anti Ki-67 to highlight these mitotically active cells. The size of LV with Ki-67 positive cells were smaller than the size of preexisting LV, which shows that these lymphatics are younger. The high amount of newly-formed LV with emboli inside proves that tumor derived lymphatics participate in metastatic dissemination. Conclusions. 1) Lymphovascular metastasizing in squamous cell carcinoma of the uterine cervix occurs through peritumoral LV 2) neoplastic cells disseminate either through preexisting LV and newly-formed.

## Morphological features of lymphatic microvessel density depending on stage of cervical neoplasia

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Incomplete characterization of the uterine cervix cancer from molecular point of view represents the main problem for the use of a proper therapy in this disease. Few data are available about D2-40 expression in lymphatic endothelial cells and also in tumor cells from uterine cervix cancer. The aim of the present work was to study the involvement of lymphatics in tumor progression of the uterine cervix lesions. There were investigated targeted biopsies of the uterine cervix and specimens taken from conization in patients with macroscopically detectable lesions. We used D2-40 immunostaining to highlight lymphatic vessels from squamous cell metaplasia (n=17), cervical intraepithelial neoplasia (n=11), carcinoma in situ (n=3), microinvasive carcinoma (n=4) and invasive carcinoma (n=19) using Avidin-Biotin technique (LSAB+). Type and distribution of lymphatics in different lesions of the cervix were analyzed. Type and distribution of LVs (lymphatic vessels) in the normal uterine cervix. In the superficial lamina propria of the normal cervix, LVs were very rare and small or even absent. In all normal cases, LVs, if found, were located at some distance from the epithelium. In the deep lamina propria we noticed the presence of D2-40 positive vessels with density that ranged between 5 and 6.6 vessels/ $\times 200$ , with an average of 5.8. In the muscle layer, LMVD (lymphatic microvessel density) ranged between 5.3 and 7, with an average of 6.15. Type and distribution of LVs in precursor lesions. In squamous cell metaplasia the distribution and number of LVs was not significantly different from results found in the normal cervix. A significant increase in the number of LVs was found in cases with cervical intraepithelial neoplasia high-grade. In these cases, we noticed the presence of many LVs located close to the epithelium and was associated with a

significantly increased expression of D2-40 in basal cells. LMVD in CIN ranged between 10.3 and 19.3 with an average of 14.8 vessels/ $\times 2005$ . Lymphatics in microinvasive and invasive carcinoma. Intratumoral LVs were found in both microinvasive and invasive carcinoma. Intratumoral LVs were very rare, small, with narrow lumen, irregular wall and without content of tumor cells. Peritumoral LVs were significantly more numerous, large, sinuous, and occasionally contained tumor cells. LMVD in cases with invasive carcinoma ranged from 0 to 12.3, with an average of 6.15. In microinvasive carcinoma, LMVD has values ranged between 3 and 11, with an average of 8.15. We found significant correlation between lymphatic microvessel density and tumor grade and particular distribution of the lymphatics linked to histopathologic type of the lesions. Our results showed differences in the distribution and D2-40 expression in lymphatic vessels and tumor cells from the cervix lesions linked to histopathology and tumor grade.

## Several Anatomical Features of the Orbits According to the Skull Sizes

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The orbit is not only as a receptacle for the eye, but also as one of the main communicative structures, that has numerous communications with the facial and brain skull areas and formations. The aim of the study: to examine the volume of orbits, the area of the natural openings of the skull. The material of the study: 26 human adult skulls of both sex, without features of mechanical damage and diseases of the skeleton from the craniological collection of the human anatomy department of the EI "Grodno State Medical University". Craniometrical examination was performed according to standard methods accurate within 0,1 mm. We studied: the orbital height, the width, the depth and the volume, the area of the openings. The results of the study: the right average orbital volume – 22,89 cm<sup>3</sup>, the left – 24,72 cm<sup>3</sup>; the area of the right canalis opticus – 19,5 mm<sup>2</sup>, the left – 18,14 mm<sup>2</sup>, the right foramen rotundum – 8,5 mm<sup>2</sup>, the left – 7,55 mm<sup>2</sup>; the right foramen ovale – 24,79 mm<sup>2</sup>, the left – 24,4 mm<sup>2</sup>; the right foramen caroticum externum – 34,46 mm<sup>2</sup>, the left – 34,54 mm<sup>2</sup>.

## Study of Ultrastructure in Mitochondria of Acinar Cells in Demarcation Line in Experimental Pancreatic Necrosis

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The objective of the study was to analyze the ultrastructure in mitochondria of acinar cells in demarcation line in experimental pancreatic necrosis. Investigations were done on 3 dogs. Pancreatic necrosis was formed by injection of 1% potassium permanganate solution in pancreatic parenchyma. Materials for electronic microscopy were taken from animals 3 hours after potassium permanganate injection. In comparison to the mitochondria of pancreacyte in peripheric area, in demarcation line these organelles had a round, global form, whereas extended mitochondria weren't found. Instead of a correct mutually parallel arrangement, most of the crists were reduced, in disorder, or even absent. Mitochondrial matrix was light as used for globe extension. The volume of mitochondria increased in demarcation line, but the common length of internal membranes was double reduced. The length of internal mitochondrial membranes mostly adequate reflects the respiratory status and synthesis of ATP in pancreacytes. Mitochondria of acinar cells in demarcation line are characteristic for