Rare Variants of Obturatory Artery

O.A. Horustovich, D.A. Volchkevich

Academic adviser: Volchkevich D.A., M.D.
Grodno State Medical University, Belarus

Even more often at performance of morphological researches it is possible to meet a variant of structure of certain organ, having differences from the classical description in textbooks and grants. In such cases it is expedient to inform on it applied medicine, in order to avoid difficulties and complications during diagnostics and treatment. The vascular channel, likely, concerns to most variable system in human body. Presence of "a death crown" is one of "nonclassical" variants of the given vessels. The obturatory artery was a subject of special attention of anatomists and surgeons after publication in the middle of XIX century of cases of its wound at operations concerning the restrained femoral hernias. On literary data the frequency of occurrence "abnormal" a. obturatoria, departing from branches of external iliac artery, can fluctuate from 1,3% to 25% of cases. The origin of the obturatory artery from inferior epigastric meets in 2,6-14,8%. On our data, the obturatory artery is considered one of the most variable pelvic vessels (variability coefficient - 11,6%). In most cases (66%) the given vessel concerns to the system of internal iliac artery, however, its most frequent source (33%) is inferior epigastric artery originating from a. iliaca externa. We find out a number of origins of the a. obturatoria, earlier not described in the literature: 1) a corner between internal iliac and umbilical arteries (in newborns); 2) one trunk with the inferior gluteal artery; 3) one trunk with a iliolumbal artery. Thus, results of our research have shown, that in spite of the fact that more often the obturatory artery originates from branches of the internal iliac artery; nevertheless the inferior epigastric artery is the most frequent source, of all possible. The given fact is necessary for considering, at carrying out of surgical manipulations in the region of a groin.

The origin of lymphatic vessels involved in metastasizing of neoplastic cells in squamous cell carcinoma of the uterine cervix

Vitalie Mazuru

State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

In many human malignant tumors the lympho-vascular metastasizing represents the main way of tumor-modified cells spreading. Lymphatic vessels invasion by the neoplastic cells leads to the involvement of regional lymph nodes (RLN) in tumor process. It is well known that metastatic damage of RLN correlates with poor outcome. Tumor cells secrete biological active substances that lead to the appearance of newly formed blood network which keeps up the metabolic activity inside the tumor. Tumors also produce growth factors for lymphatic endothelial cells. Until now it is not clearly established, tumor cells invade the preexistent peripheral lymphatic vessels or invade the new-formed vessels which are formed during tumoral lymphangiogenesis. To establish the origin of lymphatic vessels (LM) involved in metastatic spreading of neoplastic cells in squamous cell carcinoma (SCC) of the uterine cervix. There were investigated the postoperative material taken from patients with SCC of the uterine cervix (n=39). All material was stained with hematoxylim Harris and eosin. For immunohistochemical (IHC) procedure were selected only the cases with intravascular tumor emboli (n=30). Two monoclonal antibodies were used: anti D2-40 (RTU clone, DakoCytomation, Denmark) to highlight the LV and anti Ki-67 (DakoCytomation Carpinteria, CA, USA) for identification of proliferated endothelial cells. The IHC reaction was performed in accordance with Avidin-Biotin technique (LSAB+/Double Stain). Nuclei were stained with Lillie's modified Hematoxylin. The entire IHC procedure was performed with DakoCytomation Autostainer.

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 preesisting 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 peritumoralLV 2) neoplastic cells disseminate either through preexisting LV and newly-formed.

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

Cazac Victor, Stratan Nadejda

Academic adviser: Vitalie Mazuru, Senior lecturer
State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

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/×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