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Distribution, Etiology and Pathogenesis of Nasal Cavity Hemangiomas

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Annotation: Hemangiomas are tumors that are made up of blood vessels associated with the vascular system, but have a greater level of growth potential than the surrounding normal tissues. The growth of hemangiomas is characterized by its autonomy, not being dependent on the normal development of the body's tissues, and often harms them as they grow and decay into the tissues in question.

Keywords: haemangioma, polydex, anise oil, pathology.

Introduction. Hemangiomas can damage almost all organs and tissues of the body, but the mucous membrane of the skin, subcutaneous tissue, mouth and nasal cavity is the most common starting point for angiomatous growth [1]. In scientific circles, the question of what is hemangioma: a real tumor or pathological congenital development of the vascular system has been solved for a long time [4].

One of the first to try to solve this issue was Virkhov, who in 1863 put forward the fissural theory of the development of hemangioma. This theory was based on the fact that many of the hemangiomas damage the skin around the pores of the face and the front surface of the neck. This fact made it possible to assume that a vascular tumor in such localization develops as a result of embryogenesis abnormalities [7].

In 1878, Cohnheim proposed an embryonic or murtacian theory of the emergence of hemangiomas, according to which hemangiomas develop from murtacs that are "lost" or over-mobilized during embryonic formation.

According to the theory of “tissue integrity” proposed by Albrecht in 1904 [9], hemangiomas are embryogenetic “tissue integrity” – gamartomas.

E.A.Puchinina defines hemangiomas as the product of the development of dystopian mesenchymal murtaks, in which one or another element of the vascular wall prevails [8].

R.Gudrun writes about the tumor nature of hemangiomas. He has shown that these derivatives differ from varicose veins and aneurysms by proliferation of endothelial cells specific to angiomas. This opinion is supported by a number of authors [10].

I.A.Talalaenko, K.G.According to seleznevs, a large part of the hemartoma - type developmental defect, and only a small part belongs to Real tumor-blastomas, but the authors note that in angiomas, regardless of their origin, the growth of vessels and the formation of new branches by budding can be observed. They consider it difficult to distinguish real tumors arising from veins from the aforementioned non-tumor derivatives and propose to consider them together.

A.H.Shikham, S.I.Shehadi isolated hemangiomas and developmental defects of blood vessels, which develop as a result of the peculiarities of cell activity, according to their descriptions and developmental characteristics. Microscopic examination of hemangiomas showed proliferation of endothelial cells, while the developmental defect of blood vessels is characterized by flattened endothelium. Many authors have identified high mitotic activity in tumor cells, so have also noted the likelihood of spontaneous regression of hemangiomas, which is fully consistent with the tumor nature of the disease [11].

The etiology of hemangiomas is not currently a matter of debate. I.Bardach, W.According to Panje (1981) studies, hemangiomas are not angiodysplasias, but are in vascular tumors. In accordance with his theory, hemangiomas are real tumors, the development and growth of which is associated with the

intensive proliferation of angiogenic elements (angioblasts, low-differentiated components of the vascular wall), which are present in tissues and, undoubtedly, have been maintained since the early stages of embryonic development. In the proliferation of angiogenic cells and, as a result, in the intensive new formation of microtomirs observed in real hemangiomas, there is a self-excitatory and self-sustaining process, on the basis of which the interaction of hemangioma cells lies. A.I.Abrikosov, A.I.In their studies, the strukovs [1] noted the presence of a continuous mass of specific vessels in the stroma of the three layers of the vessel walls (endothelium, periendothelial veil, adventitial layer) and weak connective tissue. In light-optical Studies, a capillary hemangioma, a combination of developed plots in the type of cavernous hemangiomas, has been identified, which are diffusely located in the derma, forming lumps at the subcutaneous base. Multiple sclerosis foci can often be seen in stroma [8]. Regarding the morphological origin of these tumors, one can conclude with certainty that the nature of the hemangiomas is a tumor, not a dysplastic one. In addition to solving the issue of the tumor nature of hemangiomas, the literature discusses the question of whether these tumors give birth or occur in the process of organism growth. Especially this problem is discussed in otolaryngology.

J.Winerman, A.Man, L.Zaidel lar has noted a close association between the emergence of hemangiomas and the embryogenesis of the vascular system . The murtag of the vascular system is initially formed from the mass of angioblast cells, which combine to form a network of capillaries - a model of the vascular system of any somatic sphere [6]. According to their theory, the emergence of hemangiomas is considered a consequence of a complex violation of the embryogenesis of the vascular system. It reflects the role of injuries, infections and hormonal disorders, which are secondary morphogenetic factors that contribute to the development of hemangioma in the fetal intrauterine life cycle or in an already formed organism.

Currently, it has been proven that the appearance of vascular tumors is associated with the development of the vascular system in the embryonic period. It is known that embryonic angiogenesis goes through a number of successive stages:

- lacunar stage, begins in the Mesoblast (initially extra -, then intra-embryonic), in which vascular lacunae are formed by endothelial evolution of peripheral elements in the cell islands, while their central cells form primordial globules;
- reticular stage, which occurs with the onset of blood circulation and is accompanied by a functional difference between the arterial and venous sector, at this stage their morphological difference is not yet expressed;
- truncular stage, at this stage, parietal curtains are formed in various branches of the arterial, capillary, venous, and functional and morphological reorganization of the primary capillary network occurs with the formation of a single arterial-capillary-venular network that supplies blood to various tissues and organs.

In the Postnatal period, angiogenesis continues and is carried out by the formation of vascular murmur from the endothelium of the earlier capillaries. The angioperithelial complex is a complex of mesenchymal cells located around capillaries and venules and capable of differentiation in different directions (pericytes, osteoblasts, fibroblasts, adipocytes, chondroblasts, smooth muscle cells, etc.) [5]. The process of vascular development and angiogenesis is complex, and several modulators of these processes are known. Modulators include angiopoietin (Ang) and receptor tyrosine kinases called vascular endothelial growth factor (VEGF). Changes in this system, both at the molecular level and at the chromosome level, can lead to uncontrolled growth of blood vessels. Therefore, the rapid growth of tumors can be explained by insufficient levels of angiogenic inhibitors.

Currently, genetic factors play a leading role in the formation of vascular tumors [4]. Often their familial, innate, slow-developing nature has been noted. Injury, venous stasis, abnormal presence of certain parts in the embryonic capillary network (which disappears in the truncular stage of angiogenesis in the normal sense), parietal cellular dysplasia, proliferation and the development of neoplasia are considered factors that contribute to their development. In most cases, the tumor goes without signs for a long time, which can be observed in this state for many years [10].

Statistics on the relative frequency of hemangiomas are incomplete, since many patients with vascular tumors lack a doctor's appointment. According to various authors, among other tumors, the frequency of hemangiomas is 1-7% [46, 279]. Hemangiomas are located in the facial area from 60% to 80% of the total number. Among the good quality tumors in this area, LOR is ranked first in the incidence of vascular tumors of its members [50, 104].

Ye.A.According to Puchinina (1972), hemangioma often damages the mucous membrane of the nasal cavity (78%), less often the larynx (16%). U.L.According to lutfullaev (1989), the nose is damaged in 18% of cases and the larynx in 8% of cases[11].

According to world literature, 30-45% of women during pregnancy and in the postpartum period consult an otorhinolaryngologist with non-specific signs such as runny nose, rhinorrhea, nosebleeds or anosmia, this condition is observed especially in the III trimester of pregnancy and during lactation, which is associated with dilation of blood vessels due to an increase in the amount of estrogens in the blood and with an increase in the reactivity of the mucous membrane in the nasal cavity.

In rare cases, the manifestation of the disease is manifested by impaired vision, headaches and a feeling of local fullness in the nose.

There are several theories of pathogenesis, which are often associated with tissue damage and hormonal factors (pregnancy, oral contraceptive intake) [1].

The formation of estrogens up to 20 weeks of pregnancy depends on the activity of the trophoblast and ovaries. Since the 20th week, the synthesis of estrogens is carried out by the placenta with the active participation of the fetus.

The fetus produces neutral steroids, a precursor to estriol. The main predecessor of steroids is cholesterol in the mother's blood, from which pregnanolone is formed in the placenta, and about 20% of it is excreted in the urine as the final product of metabolism - pregnandiol. In the fetal body, progesterone serves as the starting point for the synthesis of neutral steroids in the adrenal glands and liver of the fetus. These neutral steroids are the main precursors to the formation of estriol in the placenta, which is the main hormone of the fetoplasentar system.

The biological effect of estrogens (estriol accounts for 85% of all estrogens) during pregnancy is focused on the growth of the uterus, contributing to hyperplasia and hypertrophy of the uterine muscle fibers. In addition, estrogens cause the mammary glands to grow, but the leading role of estriol is to regulate uterine-placentar circulation. Exactly such an effect of estrogens can be associated with hormonal theory. In the pathogenesis of hemangioma, the main role is assigned to sex steroids. Estrogen and progesterone play a key role in initiating disorders that occur during tumor development [9]. The above changes are manifested in the disruption of the processes of mitosis and apoptosis, that is, the programmed processes of cell division and death are disrupted, resulting in the formation of a tumor. A tumor or neoplasm is an uncontrolled growth of cells of a living organism, in this case their activity is disrupted and genetic information changes. Harmful cells, which require more and more space, marginalize healthy cells and prevent them from functioning normally. In combination with blood, unhealthy cells enter different parts of the body. Settling in a new place, they become involved in the work of healthy neighbors and begin to actively produce their own species [7].

S.V.According to Sinebogov (1998) [4] about 80% of hemangiomas are diagnosed at birth or in the first month of life, and 95% in children under 1 year of age. V.A.Kozhevnikov (1999) shows that hemangiomas in children are 45.7% [5].

Conclusion: vascular tumors in children are second among good quality respiratory tract tumors in terms of incidence (after recurrent papillomatosis). However, the occurrence of this disease at mature age is not excluded. is determined.

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