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## **ANAPLASTIC THYROID CANCER AMONG OTHER HISTOLOGICAL THYROID CANCER**

Anaplastic (undifferentiated) cancer is one of the rarest and most aggressive forms of malignant tumors of the thyroid gland composed wholly or partly of undifferentiated cells, characterized by rapid extraorganic invasive growth, a high rate of metastasis and very poor prognosis. It is believed that undifferentiated carcinoma arises from poorly differentiated forms, which in turn developed from papillary or follicular carcinomas, and can also occur spontaneously. Epithelial origin of each case of undifferentiated carcinoma of the thyroid gland must be confirmed by immunohistochemical study, while today there is no single approach to the interpretation of histological types of anaplastic cancer, and therefore, the aim of our study was to analyze the histological features of undifferentiated forms of thyroid cancer among other cancers this localization.

**Material and methods.** The study was performed with the operational material from patients with thyroid cancer . The ratio of men and women was 4.5:1. The average age of patients with undifferentiated carcinoma was 64.37 years. We studied the microscopic structure of tumors.

**Results and discussion.** Assessing the relative weight of the different histological types of thyroid cancer, it should be noted that our findings are consistent with the available data on the subject of literature. Thus, the most common in our study, histological type is papillary cancer - 54.8 % of cases. An important factor in the development of this pathology is the radiation. It is shown that more than 80 % radiation-origin cancer was papillary thyroid cancer, and they are detected more frequently in patients exposed as children. Follicular cancer is enough difficult for a diagnostic form of thyroid cancer. This explains the lack of coordination of statistical data in the incidence of this tumor -

5-40 %. Some authors believe that the difference in the statistics due to different content of iodine in the soil and water of different regions. The incidence of follicular carcinoma in non-endemic areas is an average of 5-10 % of malignant tumors of the thyroid gland, but in iodine-deficient areas, its frequency increases to 25-40 %. In our study, the proportion of follicular cancer was 22.6 % of cases. Medullary carcinoma accounts for 5-12 % of malignant tumors of the thyroid gland. There are two forms of medullary thyroid cancer - sporadic and familial (hereditary). In most cases, medullary carcinoma is sporadic, familial form of the share accounted for 10 % of all cases. The familial form of medullary carcinoma is usually part of syndromes of multiple endocrine neoplasia (MEN-2A, MEN-2B). The patients, in addition to medullary carcinoma in these syndromes can be detected pheochromocytoma, parathyroid hyperplasia associated with C- cell hyperplasia, hyperplasia of the adrenal medulla, mucosal neuromas, ganglioneuroma digestive tract. In our study, the incidence of medullary thyroid cancer was 14.6%. The least rarely seen type of epithelial cancer based on the results of our study was to anaplastic carcinoma, the percentage of which was 8 %. This is consistent with the data of other authors, according to which the undifferentiated (anaplastic) carcinoma is up to 10 % of all malignant neoplasms of the thyroid gland. It is estimated that more than often, these tumors are found in areas of endemic goiter, that is, in the genesis of their particular role belongs to iodine deficiency. It is also the impact of external radiation. In particular, we show that the pre-irradiation can reduce the time of tumor development, and promote the transformation of differentiated to undifferentiated tumors.

In all cases, the subsequent histological confirmation of non-differentiated thyroid cancer tumor growth is characterized by a rapid increase in the size of the neck in the area of the thyroid gland with invasion of soft tissue , trachea , esophagus, jugular vein , the growth in the mediastinum, compression of the neurovascular bundle, often with manifestations of compression syndrome. Rapid growth of local tumor invasion into surrounding tissues and organs, early and widespread metastasis are major clinical differences between anaplastic carcinoma of differentiated forms of thyroid cancer. The duration of the disease from its earliest manifestations to the development of severe clinical presentation varied from several weeks to several months.

Based on the macroscopic study, and after a sightseeing microscopy serial sections of thyroid tissue samples with different histological types of cancers by analogy our with a number of studies, a so-called morphological point of malignancy - as a criterion for assessing tumor progression.

Anaplastic cancer has the most severe invasive properties of all the estimated parameters. In second place after it is papillary carcinoma. However, it should be noted that in a heterogeneous group of malignant papillary carcinomas were the most solid and diffuse sclerosing variants. It is through these forms in the group of papillary cancers sum total of morphological parameters of malignancy score was so high.

C- cell carcinoma is intermediate between undifferentiated and differentiated forms of cancers. This type of malignant lesions of the thyroid gland has a relatively high degree of severe infestation in its own capsule, a high frequency of metastasis to the lymph nodes. According to the literature, metastases in regional lymph nodes of the neck revealed a half of patients with medullary carcinoma.

The severity of the mitotic activity of the tumor cell population thyroid cancers is different. The highest mitotic index was in anaplastic cancer. A large number of mitosis is revealed also in the follicular cancers, despite their relatively monomorphic cells. Medullary carcinoma cells have the lowest mitotic activity. In the course of our work established the presence of spindle cell, giant cell and squamous cell cancers of the thyroid gland, in some cases, the tumor had a mixed structure. Common to all three forms had a high mitotic activity, presence of necrotic fields, high invasiveness in thyroid tissue and beyond. In this case, the comparison of histological and clinical data patterns relationship has been established.

It should be noted that the presence of histological preparations third portions differentiated structure, may indicate the relationship with the previously preceding pathological processes. This assumption is in tune with the opinion of many authors, is celebrated in a large number of observations anaplastic cancer development against the background of pre-existing thyroid disease, including malignant tumors. This suggests that anaplastic carcinoma is often the final stage of the transformation of differentiated forms of thyroid cancer, particularly papillary and follicular adenocarcinoma.

That can be explained by the predominance of the study group in elderly patients. High frequency of poorly differentiated cancers in them, apparently due to a decrease in differentiation of thyroid cancer in its long-term course. In addition, it is important the fact that more than half of the patients had previously endocrinologists at the hub and polynodular euthyroid goiter, thyroid enlargement over 1 year to several decades.

Thus, it can be argued that the anaplastic cancer occurs mostly among elderly patients. The most malignant type of thyroid cancer is undifferentiated (anaplastic carcinoma). This histologic variant of cancer has the highest rates of degree of invasiveness, proliferative activity, the level of morphological and functional activity of the nuclei .In the course of our work revealed the presence of three histological forms of undifferentiated thyroid cancer: spindle cell, giant cell and squamous cell cancers.