

diseases, in conjunction with a combination of approaches in vivo and in vitro, will be recognized appropriately in the near future.

Sheremet . .

DIFFERENTIAL DIAGNOSIS OF NODULAR GOITER ON THE BACKGROUND AUTOIMMUNE THYROIDITIS AND DIFFERENTIATED THYROID CANCERS

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In modern literature there are many publications dealing with a study of nodular goiter combined with autoimmune thyroiditis (NGAIT) morphology. However, some issues remain unresolved including the question of the role of autoimmune thyroiditis (AIT) in the development of tumor processes. According to the literature, AIT leads to metaplasia processes in the thyroid epithelium, hyperplasia of lymphoid tissue, which undoubtedly can be considered as an optional precancerous condition.

The information that papillary cancer and lymphomas occur three times more frequently in patients with NGAIT confirms this idea.

The total accuracy of clinical, instrumental and laboratory diagnostic methods for the establishment of morphological origin of nodular new growths in the TG even in the most daring conclusions does not exceed 80%. This result cannot be satisfactory either for surgeons (unjustified over diagnosis of thyroid cancer) or endocrinologists (inadequate and ill-timed selection of patients for surgical treatment). Unfortunately, the chemical reagents used in the preparation of drugs for morphological studies by a standard method, block most of the antigenic determinants. That is why immunocytochemical and morphological studies of the biopsy material are performed on individual drugs, which lead to additional needle biopsies and prevent from the morphological identification of the cells reacting with antibodies. Instead, the best for PCE is the option when cytomorphological and immunocytochemical study is carried out consistently on the same smear of a puncture material. One of the mechanisms of malignant transformation and progression is a cell cycle dysregulation with apoptosis inhibition and proliferation activation.

It is quite necessary to solve these problems, because the correct choice of treatment strategy, timely surgical treatment and therefore the patient's survival largely depend on the accuracy of PCE. That is why our aim was to study the processes of proliferation and apoptosis in thyroid puncture material under NGAIT using immunohistochemical method of investigation as well as determining the proliferative activity index.

We examined 75 women with nodular NGAIT and 12 patients with differentiated thyroid cancer during 2016-2019. While preparing the smears we used a method of restoration of antigen determinants activity designed and patented in V. I. Komisarenko Endocrinology Institute laboratory. It enabled us to combine cytomorphological and immunocytochemical researches in one cytological preparation and provided a possibility to compare morphological and immunocytochemical characteristics of certain cellular elements.

The results of immunohistochemical reaction were evaluated by means of semiquantitative analysis, proposed by A.K. Khmelnytskyi, according to the intensity of color "+ -" - small "+" - poor, "++" - moderate, "+++" - pronounced. Assessment of immunoreactive cells was calculated by the formula $(Fas, FasL, Bcl-2, P53, Ki-67) = N1 / N2 \times 100\%$, where N1 was the number of immuno-positive cells to Fas, FasL, Bcl-2, P53, Ki-67 receptors, N2 - the total number of the cellular nuclei per 1 square millimeter. Morphometric analysis was performed by means of the microscope Bresser BioScience Bino (Germany) with a digital camera Nikon DS-Fil, personal computer with installed software NIS-Elements F 3.2.

The results showed the degree of proliferative activity in the thyroid tissue NGAIT. A high proliferative activity of lymphoid tissue, moderate proliferative activity in the area of thyrocytes lymphoid infiltration and low - outside. Marked expression of Fas and FasL in t thyrocytes in areas of lymphoid infiltration indirectly indicates that when there NGAIT immunologically caused apoptosis thyrocytes. This has been an increase in the expression of FasL in patients punctate DTC,

whereby significantly in malignant tissue ($P < 0.01$). This process can be explained FasL probability of participation in the program "death signal" to p53, which is part of the pathogenesis of activating apoptosis in response to any external stress. Increasing the number of immunoreactive cells expressing Ki67 in the area of lymphoid infiltration and destruction thyrocytes, evidence of follicular epithelial regeneration is as a compensatory-adaptive response of a body. In the study differentiated cancers DTC found a high frequency of expression of Ki-67 in the follicular (100%) and papillary (78.95%) thyroid cancer. First of all, the highest expression of the power of a marker characteristic of follicular thyroid cancer.

Severe Bcl-2 expression in lymphocytes prevents the entry of cells into apoptosis and prolongs cell survival. There was high expression of p53 protein in the nuclei and follicular lumens of the thyrocytes, could be explained by mutations in the gene p53, which allowed cells to find tolerance apoptotic action of effector immune system. In tumor tissue DTC noted the greatest increase expression levels of p53 and Ki-67 in paranodular cells compared with benign tissue and altered in patients NGAIT.

Thus, compared with known methods of differential diagnosis, the proposed study allows at a preoperative stage, with a high probability to differentiate NGAIT from DTC, by examining extracts from tissues of the thyroid gland, which, in turn, determines the volume of surgery and treatment program. NGAIT - nodular goiter combined with autoimmune thyroiditis, TG – thyroid gland, PCE – preoperative cytological examination, DTC - differentiated thyroid cancer.

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CHANGES IN THE PROPERTIES OF THE OPTICAL DENSITY OF VENOUS BLOOD PLASMA IN PATIENTS WITH INFLAMMATORY-DESTRUCTIVE INTRAABDOMINAL PATHOLOGY

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The necessity to make quick decisions, often based on a fairly small amount of data, is one of the peculiarities of diagnosis in emergency abdominal surgery. The use of informative methods of examination (computed tomography, magnetic resonance imaging) is often limited, sometimes impossible, due to the necessity of special training, the presence of certain contraindications, lack of appropriate technical support, etc. Therefore, the search of new informative means that diagnosis remains a topical issue today.

To evaluate the possibility of using the determination of the optical density of venous blood plasma for the diagnosis of acute inflammatory-destructive intra-abdominal pathology, 60 patients were examined. In patients administered to the hospital, venous blood was taken by puncture of the ulnar vein. The optical density of venous blood plasma was measured by an Agilent Cary 100/300 Series UV-Vis spectrophotometer. It was established that in the infrared spectrum there was a number of characteristic maxima of the values of the optical density of blood plasma, which were localized at wavelengths $\lambda = 310, 350, 430, 610, 670, \text{ and } 750 \text{ nm}$. Optical density rates varied, depending on the type of underlying disease and complications. In the case of inflammatory-destructive intra-abdominal processes, the optical density of venous blood plasma increased at wavelengths $\lambda = 470 - 755 \text{ nm}$. Changes in the parameters of optical density differed, depending on the characteristics of the underlying disease and complications and had common patterns in the perforation of hollow organs, abscesses, peritonitis, destructive uncomplicated diseases.

Thus, determination of optical density is a promising area for improving the diagnosis of acute surgical pathology of the abdominal cavity.