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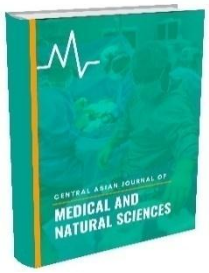

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The Significance of Pathohistological Study for Determining the Amount of Surgical Intervention for Various Tumors

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Abstract: The presented article presents research data that characterizes the diagnostic significance of urgent intraoperative morphological examination (SIMI). The role of this method is substantiated for morphological verification of the process and determination of prognosis factors in order to determine the volume of intervention, as well as for prescribing adequate postoperative therapy. The article describes the results of an urgent intraoperative morphological study conducted in 203 patients hospitalized for surgical treatment in the clinical bases of BukhGosMI for the period 2022.

Key words: urgent intraoperative diagnosis, morphological verification, cytology, surgical material.

Relevance: There is no doubt that histological examination is the basis for the treatment of oncological diseases, without which modern oncology is unthinkable. For high-quality morphological verification of the diagnosis, especially for intraoperative diagnosis, it is necessary to obtain informative surgical material, correct execution of accompanying documents indicating anamnestic data, the stage of the process, the nature of preoperative treatment, the timing of its implementation, macro- and microscopic examination of the surgical material. For this purpose, the use of urgent intraoperative morphological diagnostics (SIMD) is often required - cytological and histological, which is a key link in the diagnosis of oncological diseases. However, according to the World Health Organization (2019), from 6 to 50% of patients in the world are misdiagnosed, on the basis of which inadequate treatment is prescribed[1,3,5].

Recently, there has been a tendency to reduce the number of urgent morphological studies during surgery. This is probably due to the widespread use of minimally invasive methods for obtaining material in preoperative diagnostics for the purpose of morphological verification of the process, determining prognostic factors for the course of the disease and indications for prescribing adequate therapy. Thanks to the development of methods for clarifying morphological diagnostics, such as immunohistochemistry (IHC), cytochemistry and molecular genetic methods, knowledge about tumors is expanding[2,4,6]. However, the importance of urgent morphological examination remains undoubted. Despite its great significance, SIMD has limited capabilities for clarifying some diagnoses, such as histogenesis and degree of tumor differentiation (primary or metastasis), diagnosis of skin tumors, soft tissue and bone sarcomas, malignant lymphomas, tumor nodes of a polymorphic structure, and assessment of therapeutic pathomorphosis[7,8,9].

According to the literature (1-6), the accuracy of SIMD when examining lymph nodes reaches up to 98-99%, depending on the object and its location. It should be noted that an erroneous diagnosis in SIMD is possible, either false-positive or false-negative. SIMD for breast formations is currently used extremely rarely, since the morphological diagnosis is the result of a study of preoperative trepanobiopsies. The exception to urgent morphological examination is in cases of discrepancy between cytological and histological diagnoses and when the preoperative diagnosis is uncertain. In case of breast cancer, an urgent cytological examination is performed during resection of its lower and upper edges, the submamillary zone, and sometimes the medial and lateral edges are examined. SIMD remains indispensable in oncology, as it is able to clarify information about the nature of the pathological process, the degree of its spread, the condition of the surrounding tissues and the margins of resection, which is so necessary when choosing an adequate surgical intervention. However, if the diagnosis is unclear and the amount of material obtained is small, one should not seek intraoperative morphological examination at any cost, especially when it comes to rare tumors and non-invasive cancer. It should be noted that the sensitivity of the histological method for SIMD is 98%, the specificity is 98%, while the sensitivity of the cytological method for SIMD is 95%, and the specificity is 96%. Cases of overdiagnosis with histological examination are up to 1%, and with cytological examination up to 3%. Also, underdiagnosis occurs in up to 9% of cases. Conclusions in presumptive form with urgent histological examination are 2%, with cytological examination up to 11%. In 12% of the results of intraoperative morphological examination of tissue samples, the dissection edges show the need to expand surgical intervention. Uninformative material during urgent examination reaches 2-5%, mainly during urgent cytological examination.

Purpose of the study: To analyze the results of urgent pathohistological studies performed on tumors of the mammary, thyroid and salivary glands.

Material and methods: An urgent intraoperative study included materials obtained during operations for various tumors of the mammary, thyroid and salivary glands in the department of pathological anatomy of the Bukhara branch of the Russian National Medical Research and Medical Center for the period from January to November 2022. A total of 203 urgent histological studies were carried out. Of these, studies on breast formations amounted to 54.7% (105 patients), on thyroid tumors - 33.5% (68 patients), on formations in the salivary glands - 14.8% (30 patients). Among those surveyed, 42% were city residents, 58% were rural residents. By age category: 24% of patients were under the age of 40 years, 33% of patients were from 40 to 60 years old, 43% of patients were aged 60 and older. An urgent intraoperative study was carried out using the CRYOSTAT KD-2950 device (Manufactured in Korea, 2020, No. 19132 Series A). Hemotaxillin-eosin, 96% alcohol, was used to stain the tissue. The sent material from the surgical field was first examined macroscopically and the most pathological area was identified, the consistency of the tissue, its color and size were determined, and the resection margins were also examined. Depending on the size, a platform was prepared for freezing the material. Tissue sections were frozen at -35 -40 degrees. After obtaining sections, the tissue was stained with hematoxylin-eosin, and the results were then interpreted. The research time took on average 15-20 minutes.

Results: In cases where in some cases the tumor was subjected to cryodestruction, it was difficult to interpret the cancerous tumor and there was a need to combine the histological picture with the conclusion of the cytological examination.

The histological landscape of malignant tumors of the mammary gland was as follows: the frequency of occurrence was dominated by invasive carcinoma, which occurred in every third patient with malignant tumors of the mammary gland (32.6% - in 16 patients), lobular cancer in 26.5% (in 13 patients). In 14 patients, infiltrative carcinoma was detected (28.6%), in 6 patients carcinoma in situ was diagnosed (12.3% of cases). Benign breast formations were represented by cystadenoma in every

fifth (21.4%) case (12 patients), phylloid fibroadenoma in every fourth (25.0%) case (14 patients), proliferative fibroadenoma in every third (33.9 %) case (in 19 patients). Intracanalicular and pericanalicular fibroadenomas occurred in almost the same frequency: in 10.7% and 9% of cases, respectively. The leading place among thyroid tumors was occupied by thyroid adenoma, which was diagnosed in 31 patients and accounted for 45.5% of all cases. Adenomatoid goiter also prevailed in terms of frequency of occurrence. This morphological picture was found in the intraoperative material of 16 patients with thyroid formations (23.5% of cases). Papillary (9 patients) and follicular (12 patients) carcinomas were also diagnosed in 13.2% and 17.6% of cases, respectively.

The histological picture of the intraoperative material sent from patients with salivary gland tumors was presented as follows: polymorphic adenoma among them was found in 11 patients, which accounted for 36.7% of all cases. The morphological structure of half of all cases among patients in this category was monomorphic adenoma, which was diagnosed in 50% of cases (15 patients). Adenocarcinoma was detected in 4 patients (in 13.3% of cases).

Conclusion: Thus, urgent intraoperative morphological examination is the main diagnostic method, in which it is possible to determine the histological structure of the tumor, as well as the nature and degree of differentiation of the tumor process. In case of pathological results of histological examination, surgical tactics change towards radical surgical intervention. Despite the fact that SIMD has been used for more than 100 years, this method still plays an important role in the choice of surgeon tactics during surgery, avoiding repeated operations, as well as unnecessary and unnecessarily extensive surgical interventions.

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