

**Aim:** To analyze the expression of EMT-associated protein markers and certain drug resistance proteins for assessing tumor prognosis in patients with CRC.

**Material and methods:** To assess the effectiveness investigated markers was formed to oversee a group of patients, which included patients from January to May 2013 patients with CRC (n = 20), which in combination with surgical treatment had a course of radiotherapy and polychemotherapy courses, which included 5-fluorouracil in combination with cisplatin. Each of patient got 3 to 4 courses of adjuvant PCT mode. Radiation and chemotherapy were conducted no later than the 3 weeks after surgical treatment, by stages, patients were divided as follows: T3N0M0 - 10, T3N1M0 - 5, T4N0M0 - 3, T4N0-1M0 - 2 patients. The observation period was 5 - 7 months, during which 3 patients died - 2 through disease progression, one patient died of a heart attack. Each patient in the postoperative period, before the combined treatment was conducted Immunohistochemical analysis of tumor markers as: associated with drug resistance - topoisomerase II alpha, ERCC1 and EMT associated markers – transcription factor TWIST,  $\beta$ -catenin, E-cadherin. Analysis of the results was performed by the classical H-Score method.

**Results:** It was found that the expression of the TopoII-alpha is absent in 85% of cases and is not informative as to predicting tumor process or sensitivity of possible metastasis to specific drugs. The most informative marker was protein  $\beta$ -catenin (localized in the cytoplasm). With the high amount of  $\beta$ -catenin-positive cells in the tumor were not observed disease recurrence at 1 year after surgery. It was shown that in 37% of patients with E-cadherin expression also revealed disease-free period of 1-year observation. Only 10% of patients with expression of E-cadherin in association with the transcription factor TWIST manifested continuation disease with hepatic metastases. We found that in the absence of expression of all studied markers associated with EMT and with drug resistance disease recurrence is already observed 1 year after surgery. This fact may indicate a significant dedifferentiation of tumor cells to the level of CSC that requires further analysis of CD133 expression as a marker of CSC. Also, the data suggest that TWIST expression in tumors of patients may be a prerequisite for the selection their group at high risk of recurrence process, since this protein is a marker of aggressive phenotype. Was found that about 50% of patients have a ERCC1-positive tumors, indicating the ineffectiveness of platinum therapy for them. We also showed that almost all patients with ERCC1 expression in tumor observed and  $\beta$ -catenin expression, that is associated with the absence of disease recurrence at 1 year after surgery.

**Conclusions:** Studies in tumors of patients with CRC such markers as ERCC1, proteins associated with EMT and CSC have a high predictive value.

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**OUTSTANDING HOME SURGERY VN, SHAMOV AND FORENSIC-MEDICAL SIGNIFICANCE OF HIS CONTRIBUTION OF STUDY OF BLOOD TRANSFUSION.**

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**Introduction.** At the present stage of development of medicine blood transfusion (blood transfusion) is a widespread manipulation in all countries of the world. Technique of its performance as well as goals and objectives of its using have been studied in depth and

substantially devoid of issues. Thanks to this manipulation millions of lives were saved, including cases that took place during wars and major natural disasters. However, the first significant step in the study of blood transfusion was made only in the XVII century, when the English physician William Harvey discovered blood circulation in human body. At the same time there was the first attempt to transfuse blood. It aroused interest of scientists and physicians and they started working in this direction actively. In the Soviet Union, practice of blood transfusion only became widely used in the 20s of the last century. The first science-based blood transfusion was made on June 20, 1919 by the Soviet surgeon VN Shamova, who was the head of the Department of Surgery of Kharkov Medical Institute. Development of the issues related to the new trend in medical practice became one of the major themes in the work of this outstanding scientist.

**Results.** The study began from research which provided the opportunity to get standard determining serum for determining izoagglutinatsionnyh groups, without which it was impossible to continue the development of the blood transfusion service. Much time the scholar devoted to immunobiological aspects of the blood donation overflow developing the questions related to "universal donor". Special studies showed that blood of a corpse does not become infected for many hours and due to this fact it was proposed to cadaveric blood transfusions (hereinafter fibrinolizirovannuyu). Advocating the method of blood transfusion, V.N.Shamov spoke at the Congress of Surgeons (1928, 1930) reports on results of research and their application in practice. On the initiative of V.N.Shamova Ukrainian Institute of Hematology and Blood Transfusion was founded in Kharkiv (1930) and it became an essential contribution to the development of this work. During the Great Patriotic War V.N.Shamov was deputy chief surgeon of the Red Army specialized in blood transfusions. He paid a lot of effort and attention to the establishment of all parts of the service, including harvesting, storage and transportation of blood. It was established that after treatment in hospitals 72.3% of patients back into service. In many ways, it contributed to a well-organized blood transfusion service. Head of the Main Military Medical Directorate of the Red Army E.I.Smironov wrote that "these results are unfading monument of selfless service of health workers to the homeland during the war, among which the most prominent place belongs to V.N.Shamov."

**Conclusion.** The case, which V.N.Shamov devoted his life continues to serve the community till the present day.

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## **DIAGNOSTIC VALUE OF MORPHOLOGICAL SIGNS IN FORENSIC MEDICAL EXAMINATION ON CAUSES OF DEATH FROM DROWNING**

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**Introduction:** Recently the main direction in improvement of the forensic diagnostics of the death cause has become the research of maximum number of diagnostic features that are found in every kind of death. Drowning is one of the most common and difficult to diagnose types of mechanical asphyxia. According to the WHO, the frequency of drowning is 1.1-1.3 cases per 10,000 people, with mainly young people, which are sufficient grounds for considering this type of death a real social issue. Diagnostics of the cause of death from drowning is one of the topical problems of forensic science and practice. However, the existence of a large number of diagnostic features and using of modern instruments and