

## ETHICAL ISSUES IN TUBERCULOSIS COMORBIDITY WITH CANCER

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An increased number of patients who have tuberculosis (TB) comorbidity with cancer leads to a number of ethical problems. Approaches to treatment of oncological diseases in patients with TB have not been developed yet limiting provision of care to patients with comorbidities. The priority of TB treatment leads to a loss of time spent on treatment of oncological diseases and occurrence of vicious circles when progression of an oncological disease prevents from an effective treatment of TB and initiation of cancer treatment. At the same time, interaction of anti-tuberculosis and antitumor drugs has not been studied, limiting their simultaneous administration. Long-term diagnostics of TB represents an ethical problem. The set problems can be solved during scientific research on TB prevention in cancer patients, treatment of patients with comorbidities and interdisciplinary interaction in practical healthcare on an individual basis.

**Key words:** treatment of tuberculosis, treatment of oncological diseases, comorbidity, ethical issues

**Author contribution:** Khokhlov AL — setting a problem, discussion of key ethical issues, planning and discussion of the article; Chelnokova OG — consultations with patients, study of literature on the topic, systematization and generalization of data, participation in discussion of results, writing and formatting of the article; Skrypnik NV — supervising patients, studying literature on the topic, participating in discussion of the results and writing an article; Dmitrieva AP — studying literature on the topic, participating in discussion of patients and results, and writing an article.

**Compliance with ethical standards:** meeting of the ethics committee was not held, as the questions to be discussed included practical experience of observing patients in real clinical practice and compliance with ethical standards.

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## ЭТИЧЕСКИЕ ВОПРОСЫ ПРИ КОМОРБИДНОЙ ПАТОЛОГИИ — ТУБЕРКУЛЕЗ И ОНКОЛОГИЯ

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Увеличение числа больных с коморбидной патологией туберкулез и онкологические заболевания ведет к возникновению ряда этических проблем. В настоящее время не разработаны подходы к лечению онкологических заболеваний у больных туберкулезом, это ограничивает оказание помощи больным с коморбидной патологией. Приоритет лечения туберкулеза приводит к потере времени по лечению онкологических заболеваний и возникают порочные круги, когда прогрессирование онкологического процесса не позволяет эффективно лечить туберкулез и начать лечение онкологического заболевания. В то же время не изучены вопросы взаимодействия противотуберкулезных и противоопухолевых препаратов, что ограничивает их одновременное назначение. Этическую проблему составляет длительный период диагностики туберкулеза. Решение поставленных проблем возможно в условиях научных исследований по профилактике туберкулеза у онкологических больных, лечения коморбидных пациентов и междисциплинарного взаимодействия в практическом здравоохранении с персонализированным подходом в каждом случае.

**Ключевые слова:** лечение туберкулеза, лечение онкологических заболеваний, коморбидность, этические проблемы

**Вклад авторов:** А. Л. Хохлов — постановка проблемы, обсуждение ключевых этических вопросов, планирование и обсуждение статьи; О. Г. Челнокова — консультации пациентов, изучение литературы по теме, систематизация и обобщение данных, участие в обсуждении результатов, написание и оформление статьи; Н. В. Скрыпник — курация больных, изучение литературы по теме, участие в обсуждении результатов и написание статьи; А. П. Дмитриева — изучение литературы по теме, участие в обсуждении пациентов и результатов и написание статьи.

**Соблюдение этических стандартов:** заседание этического комитета не проводилось, так как материалом для обсуждения послужил практический опыт наблюдения пациентов в реальной клинической практике с соблюдением этических норм.

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A steady increase of patients with malignant tumors of various localizations is one of the modern medical problems. Life expectancy of patients with malignant neoplasms and that of cured patients is increasing [1, 2]. These patients develop secondary immunodeficiency while getting the treatment, as the used drugs and methods result in a prolonged decrease in immunity. In addition, oncological

diseases are developed alongside with decreased immunity and worsen immune disorders. This is the background for endogenous reactivation of TB. Patients receiving immunosuppressive therapy and people with malignant neoplasms have an increased risk of becoming infected with TB [3]. According to our observations and opinions of some authors, the incidence of patients with newly found

TB and malignancy is increasing with a general decline in TB incidence [4, 5].

Currently, there is a shortage of practical treatment experience in patients with comorbidities and malignancy. No documents regulate treatment of these patients. Let's consider the first comorbidity case, when a patient, who is diagnosed with cancer and receives treatment for it, develops tuberculosis. It has become practice when tuberculosis is considered the principal disease and prior to cancer treatment we need to cure TB. The epidemic risk of patients is the main argument in favor of this treatment strategy. Meanwhile, bacterial excretion occurs in a half of cases only. Patients are stigmatized by the oncology service. Drug-susceptible tuberculosis and drug-resistant tuberculosis are treated for up to 6 months or for up to 24 months respectively. Effectiveness of TB treatment can depend not only on the use of TB drugs but on the body's condition as well. The process becomes chronic against the background of immunodeficiency and decreased reparative processes. Meanwhile, malignancies commonly progress, and a fatal outcome occurs. The issue of withdrawal of treatment of an oncological disease in the presence of TB has a lot of different aspects. Until now, a combination of TB drugs and anti-cancer preparations has not been studied yet, and it can be admitted that unfavourable effects will be summed up and a doctor will face an ethical dilemma. Both diseases must be treated to save the patient's life but the treatment is not regulated, and a high risk of serious adverse effects is prognosticated. The patient faces a situation when all forces previously thrown to the fight against cancer, which was equal to a struggle for life, suddenly lose their relevance for the doctor, but not for the patient, and all forces are now thrown to the fight against TB. In addition, administration of anti-tuberculosis drugs to a person with a weakened body, previous antitumor treatment and a tumor often results in poor drug tolerance and further exacerbates the situation in the presence of both diseases, both clinically and ethically.

The problem can be solved with the help of scientific studies devoted to treatment of patients who have TB comorbidity with oncology. Combined efforts of oncologists and phthisiologists should now be aimed at developing individual treatment strategy for both diseases. For example, antitumor therapy and surgical treatment methods against the background of tuberculosis therapy can be used in limited forms of tuberculosis without bacterial excretion. In case of common and destructive forms of tuberculosis with bacterial excretion, it is advisable to conduct anti-tuberculosis

therapy and decide whether cancer therapy is possible on an individual basis.

Organizational issues about the patient's place of treatment and provision of drugs are equally complex and important. The priority of TB as an infectious disease leads to hospitalization of comorbid patients to TB departments, often against the background of diagnosis. It also violates ethical standards as cancer patients are vulnerable to the exogenous infection present at tuberculosis departments. It can be necessary to determine the need in separate beds for patients with such comorbidities in tuberculosis facilities and get possible pharmacological support. Even in the absence of bacterial discharge, surgical treatment should be carried out at a tuberculosis facility in the presence of a team of oncologists and be followed by joint patient management. This is due to the risks of acute tuberculosis progression after surgical interventions.

Another ethical problem is an extensive period of diagnostics, which is often longer than 3–4 weeks, and subsequent rejection of TB diagnosis in a patient with cancer, which sometimes lasts for more than one month for objective reasons. The situation is observed in the lack of bacterial discharge and non-typical picture of TB associated with immune deficiency. Loss of time and TB overdiagnosis are the causes of cancer progression if treatment is postponed or discontinued. In such situations, the time of examination for tuberculosis should be shortened. It is possible when the examination process is clearly organized.

The opposite clinical situation with comorbidity occurs when an oncological disease develops in a patient with active tuberculosis. Such examples point at an even larger conglomerate of bioethical issues. The patient has two mutually aggravating diseases, and test for cancer is difficult due to the epidemic risk for the patient. Oncology is planned to be treated in case of the patient's convalescence. It is a rarely occurring phenomenon due to some previously described reasons. In case of progressive oncological disease, the patients are left without help or the help is provided late leading to unfavorable conditions.

Thus, during examination and treatment, patients who have TB comorbidity with oncology come across some ethical problems with the limited time and scope of oncological care, long-term diagnosis, and low effectiveness of tuberculosis treatment. The problems can be solved only using scientific research to prevent TB in oncological patients, treatment of comorbid patients and interdisciplinary interaction in practical healthcare with a patient-specific approach in every case.

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