PATIENTS CO-INFECTED WITH HEPATITIS B AND PULMONARY TUBERCULOSIS

[1]Masharipova Sh.S., [2]Masharipov S.M., [1]Yoqubov Q.Y., [1]Saidov B.O., [1]Sotliqova J.R.

[1]Urgench State Medical University, Urgench, Uzbekistan
[2] Alfraganus University, Tashkent State Medical University, Tashkent, Uzbekistan

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Abstract. The problem of hepatitis B in patients with drug-resistant pulmonary tuberculosis represents a serious medical and social challenge. In recent years, the incidence of both hepatitis B and tuberculosis has shown a steady increase, especially among populations with a high prevalence of drug-resistant forms of infection. This co-infection significantly complicates the clinical course of the diseases, leading to prolonged treatment, higher rates of adverse drug reactions, and reduced therapeutic effectiveness. The combination of viral and bacterial infections exerts a synergistic negative effect on the liver and immune system, thereby increasing the risk of chronic complications and mortality. Given the growing epidemiological importance of this problem, studying the clinical and immunological features of hepatitis B in patients with drug-resistant tuberculosis is of great practical relevance and scientific interest.

Introduction. The problem of hepatitis B in patients with drug-resistant pulmonary tuberculosis represents a serious medical and social challenge. In recent years, the incidence of both hepatitis B and tuberculosis has shown a steady increase, especially among populations with a high prevalence of drug-resistant forms of infection. This co-infection significantly complicates the clinical course of the diseases, leading to prolonged treatment, higher rates of adverse drug reactions, and reduced therapeutic effectiveness. The combination of viral and bacterial infections exerts a synergistic negative effect on the liver and immune system, thereby increasing the risk of chronic complications and mortality. Given the growing epidemiological importance of this issue, studying the clinical and immunological features of hepatitis B in patients with drug-resistant tuberculosis is of great practical relevance and scientific interest.

The aim of the study was to assess the clinical characteristics and immunological status of patients with drug-resistant pulmonary tuberculosis co-

infected with hepatitis B, in order to identify factors influencing the course and outcomes of the disease.

Materials and research methods: 263 patients with pulmonary tuberculosis were subjected to a comprehensive examination at the Khorezm regional Tuberculosis dispensary. Among these patients, 163 patients were diagnosed with a drug-resistant form of pulmonary tuberculosis, and 100 had a drug–sensitive form of pulmonary tuberculosis. Patients with drug-resistant pulmonary tuberculosis ranged in age from 18 to 67 years. There were 107 men (65.6±3.7%) and 56 women (34.4±3.7%). 114 (69.9±3.5%) patients were diagnosed with fibrous-cavernous pulmonary tuberculosis, 37 (22.7±3.2%) with infiltrative pulmonary tuberculosis, and 12 (7.4±2.0%) with disseminated pulmonary tuberculosis. All patients showed resistance of Mycobacterium tuberculosis to anti-tuberculosis drugs, including 132 patients with secondary and 31 with primary resistance. Patients with drug-sensitive pulmonary tuberculosis ranged in age from 19 to 88 years. There were 66 men (66.0±4.7%) and 34 women (34.0±4.7%). In patients with drug-resistant pulmonary tuberculosis, fibrous-cavernous form was detected 2.3 times more often. (69,9±3,5%; 30,0±4,5% respectively). On the contrary, among these groups of patients, the infiltrative form of pulmonary tuberculosis was detected 2.7 times less frequently. (22,7±3,2%; 62,0±23,6% respectively).

Clinical and echographic studies of the liver and gallbladder revealed liver pathology in 89 (54.6±3.8%) patients with drug-resistant pulmonary tuberculosis, and pathology of the gallbladder in 51 (31.3±3.6%) patients. A combination of liver and gallbladder pathology was detected in 33 (20.2±3.1%) patients with drug-resistant pulmonary tuberculosis. Pathology of the hepatobiliary system was not detected in 32 (19.6±3.1%) patients. These studies in patients with drug-sensitive pulmonary tuberculosis revealed liver pathology in 25 (25.0±4.3%) patients and gallbladder pathology in 6 (6.0±2.3%) patients. In 2 (2.0±1.4%) patients with drug-sensitive pulmonary tuberculosis, a combination of pathology of the hepatobiliary system and gall bladder was revealed. No pathology of the hepatobiliary system was detected in 44 (44.0 ± 4.9%) patients.

The main symptoms characteristic of liver pathology were expressed in 44 patients with a stable form of tuberculosis. Thus, asthenovegetative syndrome was noted in 25 patients, dull pain in the liver – in 14, dyspeptic disorders – in 18, liver enlargement – in 33, enlarged spleen – in 17, vascular asterisks on the skin of the abdomen – in 8, "liver palms" – in 24, jaundice of the skin – in 7, pruritus of the skin – in 12 patients. These symptoms are less pronounced in people with a sensitive form of pulmonary tuberculosis. Thus, asthenovegenerative syndrome was noted only in 5, dull pain in the liver – in 3, dyspeptic disorders – in 6, liver enlargement – in 21, enlarged spleen – in 1, vascular asterisks on the skin of the abdomen – in 1, "liver palms" – in 6, jaundice of the skin – in 1, pruritus of the skin – in 3 patients.

The pathology of the hepatobiliary system was diagnosed based on clinical and laboratory studies, including echography on an INTERSCAN device (Germany) operating in real time with 3.5 and 5.0 MHz sensors.

When performing echography of the hepatobiliary system, the size, contours and shape of the edges of the liver, its elasticity and mobility, sound conductivity and echostructure of the parenchyma, the pattern of the intrarenal vascular network, the gallbladder, its contours, wall thickness and the presence of stones were determined. Statistical processing of the research results was carried out on an IBM compatible computer using the Microsoft Excel software package for statistical calculations.

Results and discussions: Previously unrecognized liver diseases were diagnosed using clinical laboratory and echographic studies of the hepatobiliary system. When studying the comparative frequency of detection of pathology of the hepatobiliary system in patients with drug-resistant form and with drug-sensitive form of pulmonary tuberculosis, it was found that pathological changes in the hepatobiliary system are detected more often in patients with drug-resistant form of pulmonary tuberculosis. Thus, liver pathology in the form of hepatitis B in patients with drug-resistant pulmonary tuberculosis is 2.1 times more common, gallbladder pathology is 5.2 times more common than in patients with drug-sensitive pulmonary tuberculosis (54.6% and 25.0%; 31.3% and 6.0%, respectively, $P<0.001$; $P<0.01$).

The combination of liver and gallbladder pathology was detected 10 times more often in patients with drug-resistant form than in those with drug-sensitive form of pulmonary tuberculosis (20.2% and 2.0%, respectively, $P<0.001$). Patients without pathology of the hepatobiliary system were detected 2.2 times less frequently among patients with a stable form of pulmonary tuberculosis than among those with a sensitive form of pulmonary tuberculosis (19.6% and 44.0%, respectively, $P<0.001$).

Conclusions: In patients with drug-resistant pulmonary tuberculosis, liver pathology in the form of hepatitis B was 2.2 times more common, and gallbladder pathology was 5.2 times more common than in patients with drug-sensitive pulmonary tuberculosis.

Comprehensive clinical and echographic studies of the liver and gallbladder revealed hepatitis B liver pathology in 89 (54.6±3.8%) patients and gall bladder pathology in 51 (31.3±3.6%) patients. Echography of the hepatobiliary system expands the possibilities of early diagnosis of this pathology in patients with drug-resistant pulmonary tuberculosis. In chronic hepatitis and cirrhosis of the liver, liver echography provides additional criteria for the disease (dilation of the portal vein, enlargement of the spleen, detection of foci of high echogenicity) with an accuracy of up to 100%.

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