

Possibilities of ART in the diagnosis of tuberculosis

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Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis* (MBT). Each infectious disease is cyclical. The cyclicity of tuberculosis is 300 years. The last pandemic began in the 90s of the XX century. The peak of the outbreak of tuberculosis in Russia was in 2000 (incidence 90.7 per 100,000 people). Further, the stabilization of morbidity was noted and in recent years there has been a tendency to decrease. In 2011, the incidence of tuberculosis in the Russian Federation was 73.0 per 100,000 people. In subsequent years, there will be a decline in the incidence of tuberculosis, regardless of vaccination and new methods of treatment and monitoring of patients with tuberculosis.

Currently, practical medicine has a wide range of methods for detecting MBT, which differ in their sensitivity, specificity, and, therefore, in the scope of application, but there are methods that are approved by the Ministry of Health of the Russian Federation, but are not adopted by phthisiatricians. One of these methods is the Autonomic Resonance Test (ART).

When diagnosing tuberculosis by the ART method using test pointers available in the Medical Selector of the IMEDIS Center, it is possible to answer a number of questions.

1. Is there a living MBT in the patient's body?

Testing with *M. tuberculosis* comp.

2. What types of mycobacteria are present?

We test using drugs: *M. tuberculosis*, *M. bovis* var., *M. africanum*.

3. What are the MBT strains?

We test using drugs: *M. tuberculosis* H37Rv, *M. tuberculosis* Erdman, *M. tuberculosis* MNC1394, *M. tuberculosis* clinical.

4. How much?

We test using drugs: *M. tuberculosis* +, *M. tuberculosis* ++, *M. tuberculosis* + + +, *M. tuberculosis* 1 col., *M. tuberculosis* 2 col., *M. tuberculosis* 3 col.

This information corresponds to the data of the culture method for isolating MBT by sowing on solid and liquid nutrient media.

The advantage of ART is the ability to conduct daily monitoring of treatment on a daily basis, in contrast to the expensive culture method, which is carried out at least once a month.

5. Office form?

In the body of a patient with tuberculosis, MBT finds itself in a wide variety of conditions, depending on the state of the body, its protective reactions and the impact of various environmental factors.

Many researchers have described morphological variants of MBT that differ from the typical rod-shaped form: coccoid - first described in 1883 by Malassez, Vignal, actinomycotic - described in 1888 by II Mechnikov, granular - described in 1907 (Much H.) formed during prolonged

stabilization of tuberculosis or under the influence of antibiotic therapy, older in age, ultrafine (filtering) - described in 1910 A. Fontes are isolated from patients who took anti-tuberculosis drugs for a long time. The "frequency-wave" form of MBT was revealed in 2008 by the author using the ART method.

The coccal form of MBT can be tested through the drug Tetracyclinum D30, granular - through the drug Beck's disease D6 or Sarcoidosis D0, ultrafine - through the drug Interferon D30, actinomycotic - through the drug Monilia albicans D24, frequency-wave - through the drug Tuberculosis D60.

6. In which authorities? (Localization of MBT in the body)

We test the M. tuberculosis drug through various organ products, first through the Lungs, because in tuberculosis, the lungs (tops) are primarily affected - good oxygenation and silicon deficiency. In the absence of treatment, after 1.5–2 months, other organs are affected (peripheral lymph nodes, kidneys, bones, eyes, genitals, intestines, etc.).

7. What microorganisms form a biofilm around the MBT? A biofilm is an aggregate of bacteria that are stuck together with the help of a protective adhesive matrix they produce. Biofilms form almost anywhere. If bacteria are spread alone, they often do not cause serious trouble and are easily destroyed. However, when combined to form a biofilm, they can cause a lot of problems.

Acid-resistant bacteria are tested through drugs: M. tuberculosis AF +, M. tuberculosis AF ++, M. tuberculosis AF +++, M. tuberculosis 1/100, 1/200, 1/300 and, if the result of ART is positive, we are tested through drugs acid-fast bacteria that can form a biofilm around the MBT.

8. Is there any resistance to anti-tuberculosis drugs (PTL) and which?

We test using drugs: M. tuberculosis MDR, M. tuberculosis XDR, M. tuberculosis XXDR, M. tuberculosis sensitive, i.e. we conduct a drug susceptibility test (DST) in vivo. Testing through PTL drugs, 1 and 2 rows are determined by DST for a specific drug.

9. What structural changes have formed in the lungs? We test through the drugs: Tuberculoma and Caverna and confirm with radiation diagnostics (FLG, X-ray, MSCT, ultrasound).

Having answered the questions posed, we have derived an algorithm for diagnosing tuberculosis by the ART method and have complete information about the causative agent of tuberculosis, about the affected and structural changes in the organs of this patient, we have selected the PTL individually, we can monitor the treatment within the time frame we need. We performed differential diagnostics. Spending 30–45 minutes on diagnostics.

Output

The ART method is competitive in comparison with other methods currently used in medicine for the diagnosis of tuberculosis, in terms of sensitivity, specificity, informational value, and financial and time

the cost of making a diagnosis.

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