

Control questions for grading test

1. The history of human MTB infection. The most important scientific findings in diagnostics, treatment and prophylaxis of tuberculosis (TB)
2. International anti-TB strategy and general principles national anti-TB programs.
3. Global, regional and national epidemiological TB trends and main risk factors.
4. Epidemiological indices (TB morbidity and mortality rate, disease incidence and prevalence, drug resistant TB and HIV-TB surveillance).
5. Mycobacterium tuberculosis complex. Pathogenic species, morphology and physiology of *M. tuberculosis* (MTB). Pathogenicity and virulence, variability of MTB.
6. Drug resistance of MTB. Genetic mechanisms and modes of drug resistance.
7. Sources of infection and transmission of the MTB and its distribution in human's body.
6. TB infection and TB disease. Latent TB infection. risk factors for TB infection and TB disease.
7. Pathogenesis of TB. Primary and post primary (secondary) TB.
8. Pathomorphology of TB inflammation. TB granuloma. Progressive and regressive pathomorphological tissue reactions.
9. Natural anti-TB resistance and adaptive anti-TB immunity. Genetic human susceptibility to TB infection. Characteristics of anti-TB immunity.
10. Post-vaccine and post-infectious anti-TB immunity. Mechanisms of host's immune response against MTB infection and the immune evasion mechanisms of the bacteria
11. Immune pathways and the role of immune deficiency for the course of TB infection. Cell-mediated (type IV) hypersensitivity reaction to MTB antigens.
12. Diagnostic approach to TB disease. Initial and advanced examination of TB patients. TB suspects.
13. Biological specimens for MTB detection. Collection of sputum samples. Induced sputum.
14. Laboratory tests for MTB detection.
15. Phenotypic identification of MTB. Drug susceptibility testing.
16. Molecular-genetic methods for detection identification and drug susceptibility testing of MTB. Rapid tests for Rifampicin-Resistant TB. Definition of RR-TB and MDR-TB.
17. X-Ray visualization methods and X-ray patterns of pulmonary TB and non-TB diseases.
18. The role of bronchoscopy in the diagnosis of pulmonary tuberculosis. Clinical indications and testing of obtained specimens.
19. The role of video-assisted thoracoscopy in the diagnosis of tuberculosis. Clinical indications and testing of obtained specimens.
20. Types of biopsy procedures used to diagnose TB. Cytological, microbiological and histological investigation of biopsy material.
21. Immunological tests for TB infection: modifications, diagnostic value and limitations of the methods.
22. Tuberculin PPD. Tuberculin skin test (TST): tuberculin dose and skin reaction. Regional and general reaction. The test technique and interpretation.
23. TB-specific antigen skin test (TBST). The test technique and interpretation. Diagnostic value and limitations of the test.
24. IFN- γ Release Assays (*Quantiferon-TB* и *T-SPOT-TB*). The test technique and interpretation. Diagnostic value and limitations of the test.
25. Primary tuberculosis. Initial period of TB infection, progressive and latent TB infection.

26. Clinical forms of primary tuberculosis. Tuberculous mediastinal lymphadenitis. Primary TB complex. Comprehensive diagnostic approach to primary tuberculosis in children.
27. Miliary TB disease. Predictors and diagnostic approach to early diagnosis of generalized TB disease. Diagnostic value and limitations for MTB detecting tests in patients with miliary TB. LAM-ELISA test.
28. Pulmonary TB dissemination. Chest X-ray findings, TB verification and prognosis.
29. Secondary pulmonary TB. Typical clinical types and diagnostic approach to TB suspects. Pulmonary TB nodules.
30. Post-primary TB lung imaging. X-ray patterns of pulmonary TB in adults.
31. Pulmonary TB cavitation. Chest X-ray findings, TB verification and prognosis.
32. Tuberculoma. Chest X-ray findings, TB verification and prognosis.
33. Pulmonary TB infiltration. Chest X-ray findings, TB verification and prognosis.
34. Acute progressive pulmonary TB disease (caseous pneumonia). High risk groups of patients. Chest X-ray findings, TB verification and prognosis.
35. Chronic progressive TB disease (chronic fibrotic TB caverns). Risk factors and epidemiological significance of patients with chronic cavities. Multiple drug resistance TB (MDR-TB).
36. Post-TB lung disease. Pulmonary post-TB sequelae and long-term management of patients.
37. Pulmonary-specific and systemic complications of pulmonary TB.
38. Hemoptysis and lung hemorrhage. Spontaneous pneumothorax. Signs and symptoms, diagnostic approach and management.
39. TB meningitis: Clinical manifestations and diagnosis. Lumbar puncture and laboratory analysis of the cerebrospinal fluid. Cerebral tuberculoma: clinical aspects, course and prognosis.
40. Extrapulmonary TB. Risk factors, pathogenesis and most common clinical types. General approach to diagnosis of extrapulmonary TB.
41. Tuberculous lymphadenitis (mediastinal, peripheral, mesenterial). Risk groups of patients and diagnostic approach. Tuberculosis of the upper airways. Clinical and X-ray indication for bronchoscopy.
42. Pleural TB - pathogenesis and clinical aspects. Physical signs and radiographic findings. Pleural puncture and pleural fluid analysis.
43. Pulmonary TB associated with pneumoconiosis.
44. TB in people living with HIV (HIV-associated TB). HIV-TB prevalence and predictors. HIV-related peculiarities of TB and clinical management. Presentation of pulmonary and extrapulmonary HIV-TB. Immune reconstitution inflammatory syndrome (IRIS). LTBI and chemoprevention in people living with HIV.
45. TB associated with diabetes mellitus, chronic non-specific respiratory diseases, lung cancer, gastro-intestinal, renal disorders, mental diseases, alcohol and narcotic addiction.
46. Tuberculosis and maternity. Diagnostic and clinical approach to TB infection and disease during pregnancy and postpartum period.
47. General principles of anti-TB treatment. Care and support for TB patients, TB diet and lifestyle behavior. General principles of anti-TB chemotherapy.
48. Anti-TB drugs. Classification, dosages and combinations of anti-TB drugs.
49. Chemotherapy regimens for drug-susceptible TB (rifampicin-sensitive, isoniazid resistant).
50. Drug-resistant TB. Rifampicin- and multidrug resistant TB. Shorter (all-oral bedaquiline-containing) and longer regimens for multidrug- or rifampicin-resistant tuberculosis
51. Side effects of anti-TB drugs. Prevention and management with drug side-effects.
52. Controlled anti-TB treatment course. Treatment adherence strategies.
53. Current surgical intervention for pulmonary TB. Clinical indications and contraindications for surgical treatment.

54. Adjunctive therapy of TB. Palliative care for TB patients.
55. Social prophylaxis of TB. Improving access to medical care for high-risk groups. The role of healthy life-style for TB prevention.
56. Immune prophylaxis of TB. BCG-vaccine. BCG vaccination strategies against TB. Method of administration and monitoring of post-vaccine reactions.
57. Adverse effects and complications of BCG immunization. Hematogenous and lymphatic spread of BCG-infection. Severe complications of BCG-vaccination (osteomyelitis, osteitis, and disseminated BCG infection).
58. Latent TB infection (LTBI). LTBI prevalence and its epidemiological significance. Diagnostic approach and preventive treatment of LTBI in targeted subgroups.
59. Sanitary prophylaxis. Characteristics of index case and TB contacts. Screening and management of TB contacts.
59. Household and other close contacts of individuals with TB disease. Respiratory separation / isolation of persons with active TB disease as a measure to limit MBT transmission.
60. Contact identification and prioritization. Contact clinical evaluation. Informational support and education of TB contacts.
61. TB infection control in health care facilities. Hierarchy of infection prevention and control measures.
62. National Tuberculosis Program (NTP). NTP strategy planning. NTP structure, its goals and objectives.
63. WHO's global strategy for tuberculosis prevention, care and control. The End TB Strategy. The Global Fund to Fight AIDS TB and Malaria
64. Systematic screening for TB disease among adults. Principles of TB screening.
65. Screening tools for TB disease among the general population and high-risk groups.
66. TB case-finding based on symptoms screening, chest radiography, and MBT detecting tests. Sensitivity and limitations of the methods.
67. Systematic screening for TB disease among children and adolescents. High predisposed subgroups and algorithms for screening. The role of immunological tests for TB infection screening in children.
68. TB screening in outpatient and inpatient settings.
69. Organization of directly observed outpatient treatment course in urban and rural areas.
70. Problem of social stigmatization of TB patients and psychological support. Rehabilitation and palliative care for TB patients.

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