**P L A N
Practical classes with 5th year students of the Faculty of foreign students
for 2019 - 2020 academic year. (spring semester)
Discipline: Phthisiology**
**Module number 1. Theoretical basis of phthisiology. Diagnosis of tuberculosis.**

Lesson # 1. The main stages of the teaching about tuberculosis, as a clinical, epidemiological and social problem. Contribution of Russian and foreign scientists to the development of phthisiology. Formation of phthisiology as a specialty and science. The place of modern phthisiology in the system of medical specialties.
Etiology and pathogenesis of tuberculosis. The causative agent of tuberculosis, morphological structure, chemical composition, enzymatic activity, reproduction. Pathogenicity and virulence of mycobacteria. Types of mycobacteria and their differentiation. Variability of the MBT. Ways of transmission infection with mycobacteria tuberculosis. Local and general reactions of the body to tuberculosis infection. Infection and disease of tuberculosis, interaction of micro- and macroorganism. Risk of disease and factors affecting the development and progress of tuberculosis.
Antituberculous immunity. Primary and secondary periods of tuberculosis infection, their immunological features. The importance of the endogenous factor in the development of tuberculosis.
Morphology of tuberculous inflammation and the characteristics of its constituent cellular elements (epithelioid cells, giant Pirogov-Langans cells, lymphocytes, neutrophils). The productive, exudative and caseous elements of inflammation. The nature of metabolic and immunological disorders in various types of tuberculous inflammation.

Lesson # 2. Factors of increased risk of tuberculosis. Features of clinical examination of a patient with pulmonary tuberculosis. The main clinical symptoms of tuberculosis and other pulmonary diseases.
Basic methods for diagnosis of tuberculosis (mandatory, optional). Stages of the diagnostic process. Informativeness and purpose of various methods for detection, diagnosis and dynamic monitoring of the state of organs and systems during treatment. Clinical interpretation of the revealed changes, their significance for the diagnosis and subsequent examination. Examination of sputum, washing water of bronchi and stomach, pleural and cerebrospinal fluid, urine, feces on mycobacterium tuberculosis (microscopy, seeding, bioassay). Methods of coloring mycobacterium tuberculosis. Light and fluorescent microscopy. Nutrient media for the cultivation of mycobacteria. BACTEC system, molecular genetic methods of research. Methods for determining drug resistance of mycobacteria. Informativity of various laboratory methods for detection of mycobacteria. Tuberculin diagnostics. The technique of setting and reading tuberculin samples, clinical and morphological features of tuberculin reaction depending on the stage of the disease and individual sensitivity to tuberculin. The concept of a bend of tuberculin sensitivity. Self-assessment of the Mantoux test with 2 TE. Allergen tuberculosis recombinant ("Diaskintest") indications for use, evaluation of the result.

 Lesson # 3. Methods of X-ray examination for tuberculosis of respiratory organs and other localizations. Indications for various types of X-ray examination for various forms of tuberculosis of respiratory organs and when preparing patients for surgical intervention. X-ray syndromes of tuberculosis and other respiratory diseases. Algorithms for the description of pathological formations in the lungs and mediastinum, clinical interpretation, goals and opportunities to identify various diseases. Self-description of radiographs. Boundary control number 1.

**Module number 2. Epidemiology and prevention of tuberculosis, organization of anti-tuberculosis services.**

Lesson number 4. . The urgency of the problem of tuberculosis in the world, tuberculosis as an international health problem. International cooperation in the fight against tuberculosis. WHO strategy in the fight against tuberculosis. Tuberculosis in developed and developing countries. Social prevention of tuberculosis. Epidemiology of tuberculosis and organization of the fight against tuberculosis. Current status and prospects of the fight against tuberculosis. The main epidemiological indicators used in the epidemiology of tuberculosis. Infection with mycobacteria tuberculosis. Morbidity as an expression of the interaction between the degree of infection and the level of resistance of the organism, determined by the social conditions of life and the cultural and hygienic level of the population. Prevalence of tuberculosis, contingents of patients with active tuberculosis (soreness). The significance of tuberculosis mortality for the evaluation of epidemic control.

Lesson number 5. Methods for detecting tuberculosis in different age groups of the population: radiation diagnostic methods, microbiological examination of sputum, immunodiagnostics. The concept of early, timely, untimely or late detection of tuberculosis in modern conditions. Mass and group examinations of the adult population, children and adolescents on tuberculosis in modern conditions. Population contingents subject to mandatory and systematic fluorographic examination for tuberculosis. Groups of people with an increased risk of tuberculosis (social, polyclinic, phthisiatric). Decommissioned contingents.

Lesson number 6. Structure and tasks of the anti-tuberculosis service. Anti-tuberculosis dispensary, organization of work. The tasks facing the dispensaries: preventive measures, organizational and methodological guidelines in the service area, the organization of timely detection of patients with tuberculosis, the organization of treatment of patients, communication with the medical institutions of the general medical network, the analysis of epidemiological indicators in the area. Medical documentation. Main indicators of the quality of TB work. Groups of dispensary surveillance and accounting of contingents of anti-tuberculosis facilities. Characteristics of the groups of dispensary accounting. Tactics of dispensary observation and accounting. Sanitary prevention of tuberculosis. The concept of the focus of tuberculosis infection. Active grouping of tuberculosis foci. Preventive work in the foci of tuberculosis infection by phthisiatricians and sanitary and epidemiological surveillance. Disinfection with tuberculosis. Means and methods of disinfection. Sanitary propaganda of knowledge on tuberculosis.

Lesson number 7. Specific prevention of tuberculosis, anti-tuberculosis vaccination and revaccination. BCG and BCG-M vaccine. Intracutaneous method of vaccination BCG. The technique of vaccination and revaccination BCG, timing, indications and contraindications. The value of post-vaccination cutaneous scurf for assessing the quality and effectiveness of anti-tuberculosis vaccinations. Organization of vaccination and revaccination of BCG in maternity hospital and children's polyclinic. Mantoux test with 2TE PPL-L as the main method of selection for BCG revaccination. Reaction of the body grafted to intradermal administration of BCG vaccine., Evaluation and recording of local vaccination reactions, evaluation of efficacy. Complications of vaccination, their causes and treatment.

Chemoprophylaxis. Routine control №2.

**Module №3. Treatment of tuberculosis patients**

Lesson # 8. General principles of treatment of tuberculosis (hygiene-dietary regimen, chemotherapy, pathogenetic and symptomatic therapy, physiotherapy, collapse therapy, surgical treatment, medical rehabilitation). Justification of the stage of treatment (inpatient, outpatient, sanatorium). Continuity of treatment. Organizational forms of treatment and methods of monitoring the effectiveness of treatment. The main principles of chemotherapy. Anti-TB drugs, classification, mechanism of action on the mycobacterial population. Pharmacological characteristics of selected anti-TB drugs. The concept of the chemotherapy regimen. Definition of stages of chemotherapy.

Lesson number 9. Clinical significance and clinical manifestations of drug resistance of mycobacteria tuberculosis. Chemotherapy regimens for patients with chronic tuberculosis with drug resistance of mycobacteria. Chemotherapy regimens for patients with pulmonary tuberculosis with multiple and broad drug resistance of mycobacteria. Adverse reactions in chemotherapy. Existing methods of pathogenetic therapy. The importance of artificial pneumothorax and pneumoperitoneum in modern conditions. Mechanism of action. Indications and contraindications.

Lesson # 10 Modern methods of surgical treatment of patients with various forms of pulmonary tuberculosis. Various types of operations: lung resections, pleuroectomy, decortication, thoracoplasty, extrapulural pneumolysis, cavernotomy, bronchial and vascular bandaging, drainage of the cavity by empyema, drainage of the cavity. Thoracoscopic operations. Features of surgical treatment of acute progressive and drug-resistant pulmonary tuberculosis. Surgical methods of treatment of osteoarticular, genito-urinary and other extrapulmonary localizations of tuberculosis. Indications and contraindications to each type of surgical interventions. Sanatorium treatment. Indications and contraindications for sanatorium treatment. Indications for treatment in sanatoriums of different climatic and geographical zones. Determination of the terms of the sanatorium treatment.

**Educational and methodical ensuring discipline**

a) main educational literature

1. Manual of tuberculosis/ R. Prasad. New Delhi 2015 P. 312/

b) additional educational literature

1. Koshechkin V.A. Phthisiatry : textbook / Koshechkin V.A. - М. : GEOTAR-Media, 2017. - 256 p. - ISBN 978-5-9704-3973-9.

2. Order MH of the Russian Federation No. 951 from 12/29/2014. About the APPROVAL of METHODICAL RECOMMENDATIONS ABOUT IMPROVEMENT of DIAGNOSTICS AND TREATMENT of TUBERCULOSIS of RESPIRATORY ORGANS.

3. Order MH of the Russian Federation No. 109 of 2003.