Ministry of Health of Ukraine
Poltava State Medical University
Department of internal medicine No 3 with phthisiology

Approved
at the meetihg of the Department of Internal
Medicine No. 3 with Phthisiology
Protocol № ____
"__ " _____ 20____ p.
Associate Professor, PhD _____ O. Borzykh

Methodical instructions for the independent work of students during the preparation for a practical lesson and in class

Academic discipline	Phthisiology
Module №	1
Theme of the lesson 10	Focal and infiltrative lungs tuberculosis. Caseous pneumonia. Tuberculoma of lungs. Pathogenesis, clinic, diagnostics, differential diagnostics. Curation of patients.
Course	4
Faculty	International
Specialty	Medicine

Consist by professor A.G.Yareshko

Assistent M.V.Kulish

Poltava - 2024

1. **Topicality of the theme:** Consequently, knowledge of these clinical forms, their pathogenesis, clinic, diagnostics, differential diagnostics, will be instrumental in an early exposure them, that will provide effective treatment, diminishing of amount of discharge MBT, and will warn distribution of TB. Therefore the doctor of any specialist must know these clinical forms of TB and able to diagnose them.

So as today 90 – 100% patients with chronic TB of lungs have resistant to ATP, that is why they are the basic source of dischardges of MBT and infecting of environment and people. TB is more frequent all ill chronic socially non adaptation person, which requires from medical workers timely measures, directed on the early exposure of such patients, their treatment and non-admission of distribution of exciter of TB. Patients with fibrous-cavern TB of lungs dischardge MBT, that is why they are dangerous in an epidemiology relation. Among of the first found out patients this form of disease is 1,5-2%. Mainly chronic TB is the result of inferior, uneffective treatment or presence of resistant of MBT to ATP or concomitant diseases (AIDS, diabetes mellitus, drug addiction, alcoholism), whether undisciplined, unsocially persons do not wish to treat oneself. Quite often such patients long treat oneself in therapeutic separations, a while will not find MBT in a sputum. Taking into account all of ununconcern of this disease, doctor be what profession must know the displays of TB, in good time to diagnose TB.

2. Specific objectives:

To analyse: epidemiology situation from primary TB in Ukraine, a value of different methods of inspection is in diagnostics of different forms of TB of lungs.

To explain: features of motion of primary TB, value of different methods of inspection, are in a diagnostician primary TB, features of motion of different forms of TB of lungs.

To offer: ways of diminishing of infected and morbidity among children and teenagers.

To classify: clinical classification of primary and secondary pulmonary TB.

To interpret: information x-ray inspections of patients on TB of lungs.

To draw: chart of the basic stages of pathogenesis of primary and secondary TB.

To analyze: information of laboratory inspection of sick child.

To make: planning of inspection and treatment of of different forms of TB of lungs; planning of test of Mantoua among children and teenagers.

3. Base knowledge, abilities, skills, are necessary for study themes (interdisciplinary integration)

Names of previous disciplines	Skills are got
Anatomy	To know the structure of lights, partial and segmental for children and teenagers. Groups of in thorax lymphatic knots on Sukennikov and peripheral lymphatic knots.
Physiology	To know the function of lungs. Able to interpret a spirogram
Pathanatomy	To know character of TB of inflammation (morphological субстрат). Structure of TB of granulom
Physiopathology	To know the allergic reactions of fast (anaphylactic shock) and retarded-action, mechanism of their development
X-ray diagnostic	To know the projection of stakes, segments of lungs on x-ray photography tape. X-ray signs of primary forms of TB of lungs.

Microbiology	To know the pathogenic cultures of MBT for a man, feature of structure of MBT, property. Sequence of painting of stroke on Tsil-Nilsen
	To know the types of immunity (humeral, cellular), mechanisms of their development
Propedevtics of child's illnesses	Able to collect complaints, anamnesis of disease, lives, epidemiology anamnesis; to conduct the objective inspection of sick child (review, palpation, percussion, auscultation)
Pharmacology	To know a pharmacokinetics, pharmacodynamics of ATP. Testimony, contra-indication.
Hygiene	To know the rules of the hygiene mode, which a patient on TB and doctor, persons which are in touch with this patient, must adhere to.

4. Task for independent work during preparation to employment

4.1. List of basic terms, parameters, descriptions which a student must master at preparation to employment:

Term	Determination
Focal TB	it is a clinical form of the second TB, which is characterized the presence of darkenings by a size to 1 cm in a diameter, with the general impression of bronchi-acinoses structures in 1-2 segments.
Infiltration TB	it is a clinical form of the second TB of lungs, which is roentgenologic characterized a presence in lungs of focus of specific inflammation by a size more than 1 cm in a diameter (infiltration shade) with the mainly exsudate type of tissue reactions and inclination of progress and disintegration.
Cazeuoz pneumonia	it is a clinical form of TB, which develops on a background exhaustion of reparative processes and characterized wide infiltration-necrotic and destructive changes in lungs and heavy quickly making progress motion.
Tuberkulome	it is a clinical form of the second TB, which develops in sensibilized lights as a progressive or involuted, incapsulated necrosis of pulmonary tissue.

4.2. Theoretical questions are to employment:

1. What are the features of the clinical presentation of focal TB?
2. What are the features of the clinical presentation of infiltrative TB?
3. What are the features of the clinical presentation of tuberculomas?

4.3. Practical works (task) which execute on employment:

1. How more frequent all does secreting MBT appear at focal TB of lungs?
   - А. Practically always by the method of backterioscopy.
   - Б. Never.
   - В. Often enough by the method of backterioscopy.
   - Г. Sometimes by a bacteriological method.
   - Д. By an always bacteriological method.
2. What morphological changes do prevail at focal TB of lungs?
   - А. Alterative of inflammation.
   - Б. Productive inflammation.
   - В. Necrosis.

Г. Exsudate inflammation.
Д. Pnevmofibrouz.

3. How focal TB appears more frequent
   А. At a clinical inspection.
   Б. At a prophylactic photofluorographic review.
   В. At the bacterioscopic inspection of sputum.
   Г. At an immunological methods.
4. Is there what most characteristic localization of hearths at focal TB of lungs?
   А. 1-2 segments.
   Б. 3-4 segments.
   В. 7-8 segments.
   Г. 9-10- segments.
   Д. A root is lungs.
5. Are there what most frequent complaints for patients on focal TB of lungs?
   А. Weakness, prespire, rapid fatigueability, insignificant increase of temperature.
   Б. Fever.
   В. A cough is with plenty of festering sputuim.
   Г. Pulmonary bleeding.
   Д. Shortness of breath.
6 Is there what most ordinary auscultation picture at focal TB of lungs?
   А. Dry wheezes are dissipated.
   Б. Dry wheezes are on apexes.
   В. There are not changes.
   Г. Dry and moist wheezes are on apexes.
   Д. Moist wheezes are dissipated.
7. Is there what most ordinary percussion picture at focal TB of lungs?
   А. Dulling of percussion sound is on apexes.
   Б. Dulling of percussion sound is in a center lungs.
   В. Dulling of percussion sound is in basale segments.
   Г. Timpanic percussion sound.
   Д. There are not changes.
8. Are there what most typical x-ray signs of fresh focal shade in lungs?
   А. Small or middle intensity, unclear contours, diameter, is to 1cm.
   Б. Large intensity, clear contours, diameter, is to 1cm.
   В. Had intensity, clear contours, diameter anymore 1cm.
   Г. Large intensity, unclear contours, diameter anymore 1cm.
   Д. Middle intensity, rounded form, diameter 3-5 cm.
9. To what clinical category does take a patient with the presence of the first diagnosed infiltration TB of lungs in the phase of destration and presence of secreting MBT?
   А. 1
   Б. III
   В. II
   Г. IV
   Д. V
10. What x-ray syndrome is most characteristic for the infiltration form of TB process ?
   А. Syndrome of the total darkening.
   Б. Syndrome of the rounded shade.
   В. Syndrome pathological the changed root lungs.
   Г. Syndrome of the limited darkening.
   Д. Syndrome of focal shade.
11. What most ponderable criterion of efficiency of treatment of infiltration TB of lungs in the phase of disintegration, MBT(+)?
   А. Resolve of perifocal inflammatory reaction is in pulmonary tissue.
   Б. Cicatrization of cavity.
   В. Disappearance of the phenomena of intoxication.
   Г. Proceeding in a capacity.

Д. Stopping of secreting MBT.

12. What motion is characteristic for caseous pneumonia?
    А. Sharply making progress.
    Б. First chronic.
    В. Subsharp.
    Г. With out simptoms.
    Д. Gradual, oligosymptomatic.
13. Whatever x-ray sign is characteristic for caseous pneumonia?
    А. Homogeneous shade of low intensity.
    Б. Shade is heterogeneous, can go out outside a particle.
    В. Appearance of clearing up is due to the cavities of disintegration.
    Г. Focal of bronchogenic disseminated in other parts of lungs.
    Д. The massive uneven darkening of all of particle is lungs, which separate more dense hearths can be on a background.
14. To what category does take patients with caseuos pneumonia?
    А. 1
    Б. III
    В. II
    Г. IV
    Д. V
15. What x-ray picture is characteristic for tuberculom?
    А. Intensive shade with the washed out contours, in a center with cleare and horizontal level of liquid.
    Б. Rounded homogeneous shade, with clear contours, more frequent in deep layers lights, adjoining pulmonary fabric is not changed.
    В. Rounded intensive shade in III, IV segments with uneven contours.
    Г. Homogeneous shade with hilly contours, тяжами as "rays", lymphatic knots are sometimes megascopic in roots.
    Д. Rounded homogeneous shade with clear contours, sometimes with including of lime, adjoining pulmonary tissue is not changed.
16. What tactic of treatment is most effective at tuberculem lungs?
    А. Rezekciyna surgery on a background a chemotherapy.
    Б. Chemotherapy + pathogenetic therapy.
    В. A chemotherapy is in connection with resolve therapy.
    Г. Physiotherapy is on a background a chemotherapy.
    Д. A chemotherapy is in connection with a hormonotherapy.
17. What medical tactic at by a first found out tuberculem size 3-4 cm?
    А. Urgent surgical interference.
    Б. Treatments begin with setting of ATP, then operative.
    В. Only specific conservative treatment.
    Г. Dynamic supervision.
    Д. Tuberculinotherapy.

Theme contents:

Focal tuberculosis

Focal tuberculosis is a clinical form of the second tuberculosis, which is characterized darkening a size to one to the centimeter, with a general defeat to 1 – 2 segments.

The clinic radiological select an initial form – mind-focal tuberculosis and fibrous-focal tuberculosis which is acquired end-point of all of other forms of tuberculosis.

Timely diagnostics of mind-focal tuberculosis has the special value, as an initial form of disease. Focal tuberculosis arises up on background immunity, though mionectic in default of hypersencibilisation organism.

Mycobacterium can cause specific inflammation due to endogenous (Simon's) or exogenous super infection (Abrikosov's, Ashof's). Value of endogenous reactivation for development of focal tuberculosis it is possible to understand a patient at an analysis,

sciagrams on which next to the fresh cells of inflammation there can be tracks of the carried process in lungs, in thoracic lymphatic knots (pneumosclerosis, petrifaction is a reservoir of endogenous infection) or from anamnesis is a contact with a patient, which selects mycobacterium tuberculosis (exogenous super infection – as a result of aerogene or alimented super infection).

A pathomorphological focal TB is bronchial lobules pneumonia of the limited prevalence by the size of every cell no more than from pulmonary particle with the defeat of sub segment apical bronchial tubes. Focal TB is localized in the cortical departments of lungs in 2 and in 1 and in 6 segments. Perifocal inflammation resolves, and caseous the masses are calcinated, cicatrisation, there is fibrous-focal tuberculosis.

A disease in 1/3 cases flows oligosymptomatic, and in 2/3 – with out symptoms. This form of tuberculosis can flow under the masks of heterospecific infections, neuroses, and thyrotoxicosis. The symptoms of TB intoxication show up a fervescence to 37,5° C, perspire, vessels dystoni, weakness, fatigue after a working day. There can be a cough with a few of sputum, rarely pain in a side.

At an objective inspection – review, palpation, and percussion – no changes are marked. Auscultation at disintegration of cell can be heard smalli-vesicle wheezes.

An x-ray inspection is a major informative method at the exposure of mind-focal tuberculosis. At presence of cells of exudates character of darkening of small intensity to 10 mm in a diameter, edges are unclear. The fresh cells of productive character have a diameter 3 – 6 mm, form them round, middle intensity, with clear contours. In thorax lymphatic nodes can be calcinated in roots, from where MBT and got to pulmonary tissue.

A blood test at focal tuberculosis changes rarely. There can ESR be 10 – 12 mm/hour, lymphopenia. MBT appear rarely, only in the case of disintegration of cell.

Reaction of Mantua from 2 TU PPD is normergic. Diagnostics of mind-focal tuberculosis is heavy. Anamnesis (contact with illness, tuberculosis carried in the pas), presence of x-ray changes, small clinical displays, ineffective heterospecific treatment or positive specific therapy, help in diagnostics.

Treatment is conducted combination of 4-th specific preparations: isoniazidum, rifampisinum, streptomycin sulfate, pirazinamidum during 2 months, then 2 drugs 4 month in stationary, 1,5 – 2 months sanatorium.

At correct treatment cells resolve partly, indurations partly, and then calcinated on a background small pneumosclerosis. In the case of inadequate or to absence of treatment mild-focal tuberculosis can make progress and be the source of development of widespread forms of white plague (infiltrated, fibrous-cavern, disseminated TB lungs).

Fibrous-focal a lungs TB is favorable end-point of many active forms of tuberculosis: as mind-focal, infiltrated, fibrous-cavern, disseminated TB lungs). Persons with a fibrous-focal – it is practically healthy people, and at the unfavorable terms of life, when immunity (super cooling, alcoholism, drug addiction, AIDS, saccharine diabetes, psychical diseases) goes down sharpening or relapse of tubercular process can come.

A. Strukov selects 4 periods in development of morphological changes of focal:

1. Melting of cell;
2. Development of lymphangitis;
3. Violation of wall to the bronchial tube;
4. Bronchogenesis dissemination and appearance of new fresh cells.

This form of disease has chronic motion and clinically shows up in the period of sharpening or relapse of process.

Thus clinic considerably more expression, than at fresh cells, due to para tuberculosis changes (pneumosclerosis, bronchioectasy). Complaints are about the increase of temperature of 37,5° C, spitting blood, weakness. At a review there can be falling back above and subclavicular fossas on the side of defeat, reduction of percussion sound, auscultation are dry and moist wheezes due to heterospecific inflammations in bronchial tubes.

X-ray picture there is characteristic polymorphism of cells at a fibrous-focal TB lungs on a background pneumosclerosis the cells of darkening of different intensity and size (to 10 mm) are determined, more frequent cells of high intensity.

Patients do not require with a fibrous-focal white of specific treatment lungs TB, only in the period of sharpening or relapse appoint 2 ant tuberculosis preparations (isoniasid, pirasinamid) on 2 months. So patients are for V.I the group of clinical account.

Difficulty in diagnostics of fibrous-focal tuberculosis is, but sometimes is uneasily to define activity of tubercular process. In such cases rotined following tactic:

1. To tuberculin test of Koch from 10 – 20 PPD of undercutanias is in the area of shoulder-blade.
2. Trial treatment which is conducted during 2 months specific preparations. After treatment control inspection.
3. If yet there are some doubts in relation to activity of tubercular process of patient it follows to take in V.III cohort of clinical account and to watch after a patient during 5 months.

Infiltration tuberculosis

Infiltration tuberculosis is a clinical form of the second forms, which is roentgenologic characterized the presence of darkening a size more than 1 cm in a diameter (infiltrative shade), or forming infiltrated TB a few hearth which have a tendency to confluence and localized in 1-2-3 segments. At this form often there are exudates reactions and inclination to disintegration, without symptoms flows sometimes.

Terms for the origin of infiltration tuberculosis are: overheat, super cooling, hyperinsolation, concomitant diseases (saccharine diabetes, ulcerous illness of stomach and duodenum, alcoholism, drug addiction, AIDS), psychical traumas, violations of the mode of labor and rest. The transferred factors result in the origin of immunodeficit – starting mechanism of development of tuberculosis. It follows also to remember, that contact with a patient with tuberculosis the opened form can be by reason of origin of this disease. Infiltrated tuberculosis can arise up as a result of relapse.

Infiltrated shows by itself a complex from a specific cell and perifocal inflammation. It can arise up in healthy lungs, but more frequent appears round old calcinated of tubercular cells. There is caseous in the center of infiltrate, pierced scars and lime. Cells can unite per focal inflammations, forming infiltrations. Character of infiltrate determines per focal inflammation. There is mainly granulation tissue at productive inflammation, at exudates are different on character exudates (catarrhal, serosis, seros-fibrinous, hemorrhagic).

An infiltrated TB lung develops quickly and flows for as a flu or pneumonia. The sharp period of disease with a fervescence to subfebrill can stretch from a few days to a few weeks. It is needed to know that a decline and normalization of temperature of body does not yet talk about calming down of process. The impression here can spread on the new areas of lungs and accompanied disintegration of tissue.

At infiltrated tuberculosis more frequent there is pain in the area of shoulder-blades. Pain and tension the muscle of humeral belt (symptom of Potendger's–Vorobev's) behaves to the early signs of infiltrated tuberculosis. A characteristic cough is with the selection of two-bit of sputum, spitting blood. The last is a symptom which compels a patient to appeal to the doctor.

Pathological changes at the objective inspection of patient with the initial form of infiltrated tuberculosis can be without. To the initial signs it follows to take lag at breathing of the staggered half of thorax, tension and pain pectoral and spinal muscles, strengthening of the vocal shaking, bronchophony. The degree of change of percussion of tone depends on the size of infiltration and depth of his location. At small infiltration (to 4 see in a diameter) hardness to find out the changes of percussion sound. At large infiltration TB of the breathing is more frequent hyposthenia or with a bronchial tint of breathing. Catarrhal changes are small. During coughing can be hearkened to the moist wheezes. Physical examination is more expressed

information is at disintegration of infiltration and formation of cavity, then hearkened to the moist wheezes of different caliber.

Moderate leucosytosis of 12,0-14,0x10^9/l registers in blood, undent of leucocytes formula, lymphopenia, RSE rises to 20-30 mm/hour in the sputum of bacterioscopic and MBT appear a bacteriological method.

A x-ray inspection is the basic method of diagnostics of infiltrated TB lungs. clinical-rentenologic select following infiltrations: bronchio-lobulus, round, cloudy-similar, lobit, periscissurit, caseous pneumonias.

Cloudy-similar infiltration

This type of infiltrated tuberculosis meets more frequent all, characterized malignant motion liable comfort and by a bronchogenic semination, that to progress of disease.

Roentgenologic at cloudy-similar infiltration an area is marked more frequent inhomogeneous darkening with unclear contours, at disintegration is enlightenment in a center. Alongside there can be hearth pls, and also and in the second lung, as a result of the bronchogenic sowing. From infiltrated shade of lymphangitis reaches after root. Most frequent localization of infiltrated TB in 1-,2-segments overhead lobes, and 6-th segment of lower lobes (see a picture).

Clinically patients have signs of intoxication: fervescence to 38-39°C, weakness, somnolence, absence of appetite, perspiration, especially at nightly o'clock. Objectively at percussion hearkened to insignificant shorten of percussion sound, auscultation are hearkened dry and moist wheezes.

Round infiltration

A pathological process in lungs is limited, with favorable flow, than at cloudy-similar infiltrated TB. Roentgenologic the area of darkening appears with clear contours and with "path" to root is possible (see a picture).

Clinical signs of illness in general can be absent. Discover mainly roentgenologic.

Periscissurit

It is a variety of infiltrated tuberculosis which the characteristic impression of interlobus pleura is for. Begins sharply, patients grumble about great pain, on the side of the impression, that the difficulty breathing, with raises temperature to 38-39°C, weakness, loss of appetite. Pain conditioned the impression of pleura, what rich on nervous receptors.

At the review of patient there is lag in the act of breathing of thorax on the side of the impression. There hearkened a shorten of percussion sound, auscultation – on a background the hard breathing, moist wheezes are listened, later, in the period of resolve, noise of friction of pleura appears.

Darkening of 1-2 segments appears roentgenologic, or whole fate, more intensive in an area impression of pleura and the contour of shade is expressly traced on a interlobar pleura, a line is "marked" as though (see a picture).

In sputum find bacterioscopy, bacteriological the methods of MBT.

Infiltrated tuberculosis can make progress to formation of cavities, cells of the bronchogenic sowing. Development of disseminated, fibrous-cavern, cirrhotic tuberculosis, tuberculome is possible.

In the case of favorable motion of infiltrated tuberculosis there is gradual resolve of inflammatory changes, compression of cells, and formation of fibronodular tuberculosis.

By reason of unfavorable flow of infiltrated tuberculosis with development of disseminated and fibrous-cavern tuberculosis, there is late diagnostics; chemotherapy is not enough conducted resistant of MBT to antituberculosis preparations.

It will be to differentiate infiltrated tuberculosis with a flu, heterospecific pneumonia, malignant tumors, and eosinofilic infiltration.

Proceeds of the flu are 8-10 days, but the flu-similar state at infiltrated tuberculosis is saved during 15-20 days and anymore. Then infiltration disintegrates and comes temporal clinical prosperity at that time, as a cavity is formed in lungs. The next sharpening can flow

again under the mask of flu. Therefore, if in anamnesis there are pointing on frequent cold diseases, it is needed to do a roentgenologic inspection.

At the symptoms of intoxication are more sharply expressed a flu: a chairman is pain, raises temperature to 39-40°C, general weakness, catarrh of overhead respiratory tracts.

For tuberculosis characteristic: an acceleration of ESR, moderate leucosytosis, lymphopenia, presence of MBT, is in a sputum, pathological shadow on a sciagram.

Non specific pneumonia the sharp beginning has often, a staphylococcus, pneumococcus, find in a sputum; MBT – absent, a tuberculin test is not expressed, or poorly positive; leucusytosis is expressed, change of leukocyte formula to the left. At pneumonia auscultation hearkened to the moist (crepitating) wheezes. Shade is less intensive roentgenologic, than at tuberculosis, the homogeneous, without clear contours, is localized in basal segments, resolves in 2-4 weeks of treatment heterospecific antituberculosis therapy.

It follows to differentiate infiltrated tuberculosis with malignant tumors. Information of roentgenologic inspection, loud speaker of clinic radiological changes, especially related to antituberculosis therapy help to put a faithful diagnosis, presence in the sputum of MBT or атипових cages.

Unlike the shrine of lights, at infiltrated tuberculosis shade is less intensive, inhomogeneous in which hearth pls are often, related to the root lights, due to a lymphangitis and on all of form reminds a "racket". Shade at infiltrated tuberculosis, under act of specific therapy diminishes and resolves fully. Shade at shrine lights slowly becomes greater, more intensive, not because of specific антибактеріальну therapy. A shortness of breath, cough, pain, is in a thorax, more characteristic for a germination tumors in a pleura, education an atelectasis, metastases in lymphatic knots and середостіння.

Eozinofilic infiltration it is also needed to differentiate with tubercular infiltration. Eozinofilic infiltration flows more sharply and eosinophilia is accompanied, so as reason of development is an allergy. Characteristic volatility of infiltrated pls and during the lead through of desencibilysated therapy decampment of pls without remaining changes, normalization of the clinical state.

Treatments sick conducted infiltrated tuberculosis in the conditions of permanent establishment of antituberculosis dispensary to stopping of secreting mbt and complete resolved of infiltrations pls and compression of cells. Appoint 4-5 antitubercukosis preparations: isoniasidum+ rifampicinum + streptomycin + pirasinamidum – every day; etambutolum through a day on a background nosotropic therapy. If during the 5-ти months of treatment not effective (destruction does not heal, tubercolom appeared on the city of infiltration), offer surgical treatment (resection of segment, fate).

Lobitis

Lobitis it is heavy clinical form TB. The sharp beginning is with the sharply expressed symptoms of intoxication. In the global analysis of blood characteristically an acceleration of ESR is to 40-50 mm/hour., moderate leucositosis, lymphopenia, displacement of leucositis formula to the left.

An objective inspection allows setting percussion massive inflammation. Auscultation hearkened to the moist wheezes. In the sputum of bacterioscopic and bacteriologically find out MBT.

Darkening of all of fate (more frequent overhead) is roentgenologic marked with the areas of enlightenment and expressed pleura changes (see the fig.).

Caseouz pneumonia

Caseouz pneumonia (fleeting TB) is a clinical form of primary or second TB, which develops on a background exhaustion of reparation processes and characterized wide infiltratin, necrotic and destructive changes in lungs and heavy quickly making progress motion.

Frequency of caseouz pneumonia in the structure of pulmonary TB is not relatively large, but in connection with the expressed growths of its frequency in the last few years and worsening of epidemiology situation from TB in the world II convention of doctors.

Pathogeny: develops as second TB as a result of relaps of endogenous infection or massive superinfected high-viral MBT, for people with mionectic immunological defence and exhausted or limited reparative backlogs and hyperreactivity of tissue lungs. Caseouz pneumonia is formed from lobar infiltration, subsharp dissemination TB, when observed hypersencibilisation of tissue, which immunodeficit does pulmonary tissue very sensible to the toxic action of MBT, biologically active matters, destructive enzymes of leucocytes which are complemented trombovasculitis, stipulating deep trophic violations as a result of which massive vast caseous necritic develops lungs with violations of tissue lungs, tearing away caseous and by education many, large or giant cavities. Thus often there is an axsufflation of caseous the masses in basal segments.

Clinic: beginning of illness is sharp, with high t° and by the expressed symptoms of intoxication – look like croupous pneumonia. Complaints: stethalgia, cough with excretions of sputum, weakness. A skin is pale with a cyanoticic tint. Breathing is frequent superficial, tachicardia.

For a percussion sound the characteristic expressed dullness. Auscultation expressed breathing, hard bronchial breathing is hyposthenic, at obstructive of part bronchial tube – it is absented, perifocal-large-calibre moist wheezes. Flowing of illness rapid progressive and, if not to begin treatment in good time, acquires fleeting character and a man perishes for 3-4 months. In the conditions of modern ATP therapy a prognosis for life often remains doubtful, for recouver – having no the prospects.

A diagnosis is based on information of clinical inspection of patient. In haemogram find out leucositosis 12-15 $\times$ 10^9/l and anymore, lymphopenia, eosinopenia, high RSE – 40-50 mm/hour hypochromic anemia. In urine displays of intoxication are an albumen, red corpuscles, leucocytes, hyalin cylinders.

In sputumi plenty of MBT.

Tuberkulin test of Mantoua, as a rule, negative or poorly positive. Sciagraphy: lobar caseous pneumonia appears as infiltration shade of high intensity which engulfs all of fate, darkening is heterogeneous with the numerous or large areas of destructions, pulmonary picture in darkening not determined. In the lower stakes of both lungs find out the hearth and lobular darkenings of bronchogenic origin, which can meet also, forming the areas of destruction of lungs.

Differential diagnosis: caseous pneumonia conduct with croupous pneumonia, which is begun with the defeat of overhead respiratory tracts, herpetic pouring out. A temperature is more permanent and arises up after fixed the patients of cold factor. At pneumonia лейкоцитоз 20 $\times$ 10^9 /l is anymore expressed and anymore. X-ray is shade of croupous pneumonia has homogeneous character. A decision value has finding of MBT in sputum.

Treatment: appoint 3-4 antiphthisic preparations (isonoasid, Rf, streptomycin, pirazinamid, etambuthol) to stabilizing of process desintoxication therapy, inhibitirs of proteaz (amben, pamba), vitamins. Often does not guarantee curing. At forming of large CV it is rotined chirurgic treatment (resection of fate, lungs).

Tuberculom (tumorsimilar tuberculosis).

Tuberculom is the clinical form of the second tuberculosis, which develops in sensibilized lungs as a progressive or regressive different form and proves formations of the incapsulated necrosis of pulmonary tissue.

In the structure of clinical forms of first found out patients, tuberculom are 3-4 %, and among the contingents of clinical account – about 5-7 %.

Pathogeny: Tuberculom develop as a making progress process or as regressive from infiltration, focal or to dissemination tuberculosis. Thus around caseous pulmonary tissue

forms a capsule from connecting tissue, insulating caseous from healthy tissue. Tuberculom can be formed also at progress of focal or the limited infiltration tuberculosis, when round a capsule there is fresh inflammation with necrotic of tissue and next encapsulation of necrosis. Sometimes such periods of sharpening repeat oneself once or twice, as a result tuberculom acquires слоїсту structure. If the group of cells is subject encapsulation, tuberculom acquires conglomerate structure. At development of tuberculom from infiltration tuberculosis, especially, if treatment is begun in good time, a structure of tuberculom can be homogeneous. A substantial role in pathogeny of development of tuberculom is played by sencibilisation of perifocal pulmonary tissue and relative maintainance of general immunological resistant of organism.

Classification of tuberculom.

In dependence on the pathoanatomical structure of tuberculom divide by infiltration-pneumonic, слоїсті, conglomerate and pseudotuberculom (cavities, filled a pus).

On the morphological structure of tuberculom are an area of necrosis of pulmonary fabric, tailings of which as elastic fibres, walls of bronchial tubes, vessels, are in caseous. Caseous can have various consistency from dry творожистого to the viscous festering. There are MBT in caseous. Around caseous is formed одношарова capsule from connecting tissue, the internal surface of which is covered by the epithelioid and giant many nuclear cellulars of Pirogova-Langhansa.

46 % cases of tuberculom localized in I-ii and VI segments, in 4 % – in other. In 82 % cases they are located subpleural.

Clinical motion of tuberculom is characterized of fases. Select an active phase (infiltration, disintegration, semination) and phase of stability (not active). Clinical symptoms in the phase of stability absent and appear only in the phase of sharpening of process. Sharpening begins an exsudate reaction in an area draining a bronchial tube in the cult of which the wave of blood is saved and angioectasy is formed. Dificult of outflow of blood creates the terms of the permanent poorly expressed inflammation in a mouth draining a bronchial tube. Therefore activating of tuberculom is often begun with forming of destruction with bleeding or bleeding. Often there is an axsufflation of caseous in bronchial tubes, that stipulates the bronchogenic semination of lungs. The symptoms of active tuberculosis appear thus: intoxication, fervescence to subfebril or febril numbers, signs of defeat of bronchial tubes are a cough with the selection of sputum, bleeding. Can appear stethalgia as a result of distribution of inflammation on a pleura, on a background the symptoms of intoxication of small general weakness, worsening of appetite, sleep.

General state of patient out of sharpening little variable. At the phisical inspection of patient with tuberculom, does not appear, it is though possible to find shortness of percussion sound and finely and midele wheezes at the beginning of sharpening. Therefore a large value in diagnostics of tuberculom, has MBT in sputum, frequency of exposure of which considerably rises in the period of sharpening and disintegration of tuberculom, .

A skin sensitiveness to the tuberculin often has normergic character (5-20 mm), sometimes hyperergic.

In hoemogram of change often absent or show up not considerable leucosotosis and increase of RSE.

A value is important in diagnostics of tuberculom, has a roentgenologic inspection of patient. In the idle phase of tuberculom, without sharpening, when it is in a latent period which can proceed by years, find out tuberculom, only roentgenologic. As in an idle phase, setting tubercular nature of such shadows hardness, that is why in x-ray diagnostici tuberculom, take into account the following:

1) favourite localisation tuberculom, are 1, II and the VI segments in 96 % cases;
2) cortical is disposed, near-by pleura sheets;
3) have the rounded or oval form.

In size of tuberculom, divide by shallow – to 2 cm, middle – 2-4 cm and large 4-6 cm and anymore in a diameter. As a rule, large tuberculom, or an increase of its sizes at the supervision of it in a dynamics is the sign of activity of process.

Roentgenologic tuberculom, is characterized darkening in lights of small and middle intensity, with clear contours, inhomogenous structure.

The structure of shade of tuberculom, can have homogeneous or heterogeneous character. Heterogeneity of shade of tuberculom, can be conditioned вкрапленням at the caseous lime of calcium at to calcination necrosis. Petrificat is rarely disposed subcapsular, more frequent are a few areas of calcinated, which form encrustation for as a "mulberry berry".

Heterogeneity of shade of tuberculom, can be conditioned the presence of area of destruction which arises up as a result of відторження caseous. A brightening area has a серпоподібну form and disposed eccentrically, in an area draining a bronchial tube. At progress destruction can acquire lancardtsimilar form. At the complete tearing away of caseous the reserved round shade, conditioned the capsule of cavity, appears on the city of tuberculom. It can спадатись and scarsing, and at progress can pass to the cavern lung TB.

Destructive changes in tuberculom are the sign of activity. In 65 % cases of tuberculom has a "path" to Rout for the step of which hearth changes can be disposed. The substantial sign of tuberculom is a background which is characterized the presence of cells (80 %) and only in 20 % cases of tuberculom isolated, a background is not changed.

A dynamics which is the unique roentgenologic sign of activity of tuberculom has a decision value in diagnostics of and вираженність . Jumboizing shade of tuberculom, disappearance of clearness of contours, as a result of perifocal inflammation and appearance of decleen is the signs of progress of tuberculom. Diminishing of size of shade, increase of its intensity clearness of contours testify to its regressive, that it is possible to look after in the process of treatment. Resolved of tuberculom comes never. Cicatrization of and tuberculom by scarring it is possible only in the case of disintegration of tuberculom and complete liberation it from caseous.

Strategy of treatment of tuberculom consists in the leadthrough of intensive therapy basic ATP during 4-6 months with the use an ultrasound for the facilitation of evacuation of caseous, and nosotropic facilities. If tuberculom did not cicatrize, a surgical delete is possible it with subsequent continuation of treatment ATP in the conditions of sanatorium and ambulatory.

Materials are for self-control:

A. Task for self-control (tables, charts, pictures, graphic arts):

B. Task for self-control

1. For a patient 27th years at a fluorography inspection in the II segment of right first found out lights low-intensity focal shads with unclear contours. Complaints are not. Objectively without pathology. A blood test is within the limits of norm.
   What clinical form of tuberculosis is suspected for a patient? With what diseases in the first turn does it follow to conduct differential diagnostics?
2. For a patient 27 years at a fluorography inspection in the II segment of right first found out lights low-intensity focal shadows with unclear contours. Complaints are not. Objectively without pathology. A blood test is within the limits of norm.
   What category does it follow to take a patient to? What etiotropic therapy does it follow to appoint a patient?
3. For the patient of 20 years at a prophylactic review by a fluorographic method in the apex segments of both lights certainly single low-intensity focal shad with unclear contours, middle sizes. Complaints are not. Objectively without pathology. A blood test is within the limits of norm. The diagnosis of white plague is set.

What clinical form of white plague found out for a patient?

4. The patient of 34th illness sharply. The temperature of body rose to 39° of C, a cough appeared with mucus sputum to 50 ml on days. To the contact with patients it is not set on TB. It is ill saccharine diabetes. Above all of overhead particle of right lungs, shortening of percussion sound is determined, the vesicular breathing is hyposthenic with single moist wheezes. Roentgenologic: an overhead particle of right is lights the inhomogenous is black-out, the areas of clearing up are marked. In sputum of MBT(+).

What type of infiltration found out for a patient?

Literature

Basis:

1. Phthisiology : a teaching manual / B.F. Moskalenko, V.I. Petrenko, G.O. Timoshenko – Kiev: Medicina, 2012. – 216 p.
2. Phthisiology : textbook / V.I. Petrenko, O.K. Asmolov, M.G. Boyko [et al.] ; edited by V.I. Petrenko. – Kiev : AUS Medicine Publishing, 2015. – 416 p.

Supplementary

1. Tuberculosis : manuel for teacher, students and doctors / A.G. Yareshko, M.V. Kulish. – Poltava : Poltava Literator, 2011. – 156 p.

Information resources

1. Childhood TB for Healthcare Workers: an Online Course. – Access mode: https://childhoodtb.theunion.org/courses/en
2. WHO: tuberculosis. – Access mode: http://www.who.int/tb/en/