Pulmonary nodular tuberculosis
Pulmonary nodular tuberculosis

- is a secondary form of tuberculosis with morphological substrate in the form of nodular lesions with size up to 1cm localized in apical merged segments S1, S2, bilaterally, asymmetrical
- Frequency - below 20%
Pulmonary nodular tuberculosis

- is a limited form with small clinical manifestations, were even asymptomatic
- The onset of the disease is often insidious, asymptomatic
- Sometimes there is a discrete symptom, the patient does not pay attention
- This is manifested by a feeling of discomfort with periodic feverish in the evening, fatigue, loss of appetite, unexplained weight loss, dry cough or reduced expectoration
Physical signs

- can be positive symptoms:
  - **Sternberg** (the pain at the palpation in the regions shoulder girdle)
  - **Vorobiov - Pottendjer** (rigidity in the same area)
  - at the percussion - shorter of the field Kroening
  - Rough breath sounds in supra- and subclavicular areas is hear unique dry rales
  - Other systems are without modification
  - These clinical signs mimic myositis, cervical osteochondrosis
Nodular pulmonary tuberculosis

- recent nodulary tuberculosis
- fibro-nodular tuberculosis
Recent nodular tuberculosis

- in 1.2 segments
  unilateral or bilateral
  asymmetric localized
  nodules, round
  shadows (or
  “densities”) of low
  intensity, with
  imprecise contour,
  with sizes till 1 cm in
  recent form
Recent nodular tuberculosis
Recent nodular tuberculosis
Fibro-nodular tuberculosis

- nodules has medium and high intensity with clearly defined borders on background of pneumofibrosis (apex decrease in volume, pleural adhesions).
Diagnosis

- **AFB** - in sputum is rarely found
- **IDR Mantoux 2 UT** is normoergical
- **Analysis of blood** - rule were moderate changes of indices
Differential diagnosis

- Bronchopneumonia
- Post inflammation pneumoﬁbrosis
- Peripheral apical carcinoma (Pancoast tumor)
Pulmonary infiltrative tuberculosis
Pulmonary infiltrative tuberculosis

- is a form of pulmonary secondary tuberculosis, morphological substrate are nodulary lesions with necrosis in the center, surrounded of perifocal inflammation, more than 1 cm, frequently located in the upper segments of the lungs (S1, S2, S6, S10)
Diseases and conditions, which weaken immunity

- Malnutrition
- Alcoholism
- HIV/AIDS
- Diabetes
- Gastrectomy
- Chronic renal insufficiency
- Silicosis
- Leukemias
- Immunosuppressive drug treatment is a factor that facilitates the development of TB disease
The onset of disease

- Insidious
- Catarrhal
- Hemoptoic
- Acute
Insidious onset

- is gradual development of fatigue, anorexia, weight loss, and other vague complains
- Later, low-grade intermittent fever develops and is commonly associated with excessive night sweats
- The temperature elevation tends to occur in the late afternoon
Catarrhal onset

- is characterized by gradual increase of productive cough and occasional blood streaking in the sputum
- Fever and night sweats also are noted
Hemoptoic onset

- the presenting symptom is hemoptysis either with or without other symptoms already mentioned
Acute onset

- Occasionally
- Influenzalike with high fever, chills, myalgia, and productive cough
- Pleuritic pain may occur, often without pleural fluid but sometimes ushering the appearance of effusion
Clinical presentations

- The clinical picture in these patients often mimic virtually any respiratory condition, such as:
  - Pseudoinfluenza
  - Pseudopneumonia
  - Pseudobronchitis
  - Pseudohaemoptysis
- In addition to these cases of intoxication syndrome (loss of appetite, unexplained weight loss, night sweats, fever, fatigue) will be held and broncho-pulmonary syndrome (cough, especially for 3 weeks or longer, with or without sputum production, coughing up blood (hemoptysis), chest pain, dyspnoea
Clinical presentations

- Classically diurnal fever, with non-febrile period early in the morning, which is gradually rising throughout the day, achieves his peak in the late afternoon or evening.
- Night-time defervescence is often accompanied by diaphoresis leading to drenching night sweats.
- Both fever and night sweats are more common among patients with advanced pulmonary TB, often with significant parenchymal disease and cavitary lesions.
Clinical presentations

- Cough may be absent or subtle early in the disease course
- A mild non-productive cough commonly occurs initially in the morning and may be confused with a “smoker’s cough” by clinician and ignored by the patient
- The morning cough is a result of accumulation of secretions during the sleeping hours
- During disease progression, cough often becomes more continuous throughout the day and may become productive of yellow or yellow-green and occasionally blood-streaked sputum
- Nocturnal coughing is associated with advanced pulmonary disease, often with cavitations
Physical examination

Physical examination of an individual with pulmonary TB is usually non-specific

- Classic findings are pallor, cachexia, tachycardia
- The extent and the form of the disease in the lung parenchyma determine the presence of non-specific pulmonary signs
- At the beginning of the disease, lung auscultation is of little help. Few crackles can be noticed on auscultation after deep inspiration and also ronchi and tubular sounds.
- The most common auscultation findings are:
  - coarse crackles in the area corresponding to the lesion (generally apical and posterior)
  - wheezing and ronchi in the area of compromised bronchi
  - clinical signs of lung condensation in the forms with caseous pneumonia
  - decreased vesicular murmur and broncophony or tubular blow when pleural effusion is present
  - as well as the classic amphoric breath sounds near cavities
The types of Infiltrates

- **Limited:**
  - broncho – lobular (Grawe)
  - round infiltrate (Assman) and ovalar infiltrate (Redeker)

- **The middle extending:**
  - nebulously infiltrate (Rubinstein)
  - infiltrate in form of triangle (periscisurit)

- **Extended:**
  - lobar infiltrate (lobit)
  - caseous pneumonia
Broncho - lobular (Grawe)

- an opacity their size varies from 1.5 to 2 cm in the upper segments (S1 S2)
Broncho - lobular (Grawe)
Round infiltrate Assman is a round shadow with a diameter approximately 2-4 cm, often homogeneous, low intensity, and have irregular borders localized in subclavicular space.
Nebulously (cloudy-like) infiltrate, Rubinstein

- Patchy shadows, or infiltrations, with irregular borders, not clearly defined, preferentially are located in the upper lobes
- Opacity has a size of 5-6 cm, with an area of lucency in the centre
- This infiltrate is often accompanied by haemoptysis
Nebulously (cloudy-like) infiltrate, Rubinstein
Triangle shaped infiltrate (periscisurit)

- the form of marginal triangle, was described by Sergeant - based on the chest wall and apex to hilum, bottom side is formed by interlobar pleura, situated in the superior lobe. The most common symptom, which lead patient to the doctor is pain in the chest
Lobar infiltrate (lobitis)

- Was described by L. Bernard, with pronounced clinical manifestations - syndrome of intoxication, cough with sputum, breathlessness, chest pain, haemoptysis. Objective - thoracic excursion is decreased on the involved side, tactile vocal fremitus is increased, dullness, tubular breathing, reduced râles of small caliber
Lobar infiltrate (lobitis)
Lobar infiltrate (lobit)
Caseous pneumonia

- huge opacity, heterogeneous, medium intensity, with multiple sectors of lucency (honeycomb) and dissemination in the rest of the lobes in both lungs
Caseous pneumonia
Caseous pneumonia

- the most extensive and severe form of infiltrative tuberculosis. This form develops in people with compromised immunity, with multiple social and medical-biological risk factors
- Pronounced syndrome of intoxication as well as the bronchopulmonary
- Physical exam is an expressive. Observed a habitus ftizicus - haggard, eyes gleaming, hectic flush
- In the lungs hear râles of different caliber
- The evolution process is rapid progressing, the diagnosis is unfavorable, often finishes with death or develops of fibrous-cavernous tuberculosis
Diagnosis

- **AFB** in sputum positive
- The Mantoux test is negative
- **Analysis of blood** for advanced tuberculosis - anemia, with moderate leucocytosis deviation to the left), eosinophilinopenie, lymphocitopenie, monocytosis, ESR accelerated
Differential diagnosis

- Bronchiectasis with episodes of acute infection
- Chronic bronchitis or chronic obstructive pulmonary disease
- Asthma
- Lung cancer
- Mitral stenosis