

# Tertiary syphilis.

The patients develop tertiary syphilis in 3-5-40 years after initial infection as a result of secondary syphilis and unless properly treated, it lasts till their death.

The affected organs are skin, mucous membranes, bones, joints, internal organs and nervous system.

- According to the scientific data, the frequency of transformation of secondary syphilis into its tertiary stage varies from 5 to 40%, and such conditions as immunodeficiency states, severe concomitant diseases, chronic intoxication, alcoholism, traumas, deficient nutrition contribute to increase of this frequency.

- Tertiary syphilis is divided into two stages: manifest or active stage (**tertiary active syphilis**) with apparent signs of diseases and latent stage (**tertiary latent syphilis**) – patients, who survived tertiary active syphilis and at the moment of examination they have no active signs, or have their marks (scars, changes of bones etc.).

# Clinical signs of tertiary period

are characterized by special **features**, which are not peculiar to the early stages.

1. First of all, syphilids of tertiary period are less contagious (this stage is almost noninfectious). It is caused by the fact, that the amount of treponema pallidum in tertiary syphilids is very low.

2. In spite of the low amount of *treponema pallidum*, the lesion foci are destructive (it results in either scar formation or resorption with formation of scar atrophy). It is the result of high sensibilization and peculiar anaphylactic reaction in tissues.

3. Lymphatic system is intact, lymph nodes are not involved in the process. There are no signs of acute inflammation, and patients have no subjective sensations

# Clinical signs

of tertiary syphilis on the skin and mucous membranes may be divided into **three groups**:

- **tubercular syphilid**
- **gummatous syphilid**
- **late tertiary roseola of Furnje** (rare sign, it has the appearance of pink ring, 5-10 cm in diameter, it results in slight scar atrophy).

## 2. Tubercular syphilid.

- On palpation we feel neatly bordered, semi-spherical, tight formations without cavity in the deep layers of derma. They are of pea or cherry size, without signs of acute inflammation (color – from dark-red to bluish), the surface is smooth and shining.



- Regress of tubercular syphilids may take **two courses**.
- The first way is so called "**dry course**", when syphilids soften with consequent resorption, flattening till the skin level and formation of hyperpigmented scar atrophy with thinscaled desquamation.

- In the other way, which is most often, tubercles after softening **necrotize** with formation of round ulcer with neat borders. Necrotic rod turns into crust, with consequent formation of the scar. Because of various depth of ulcers, “mosaic” scars develop.



# Several types of tubercular syphilids

are distinguished.

## **1. Combined tubercular syphilid.**

It is the most often type. It is localized on the skin of nose, forehead, the border of hair, extensor surface of extremities, in the area of waist. The tubercles are placed in groups, they don't merge, and there are 10-20 tubercles in each area.

- Because of jerky appearance, the elements of eruption are in various stages of development and present mixed combination of scars, tubercles, ulcers of various depth etc.

# Creeping tubercular syphilid.

Separate tubercles merge together and form large nodular infiltration, progressive appearance of new tubercles occurs on its periphery (to one side or to all directions). Seems like the infiltration creeps and it involves new parts of skin.

# Tubercular “ground” syphilid (diffuse syphilid)

- Tubercles are placed close to each other, merge together and form large plaque, 5-10 cm in diameter and it has a sharp border from the healthy skin and rises 1-2 cm above skin level. Plaque is of dense consistency and brown in color.
- Regress of diffuse tubercular syphilid develops either in “dry” course with the formation of scar atrophy or in ulceration with the scars formation.



# Diminutive (dwarf) tubercular syphilid

- Small size of tubercles (not more than a hempseed – 2-3 mm) is common. The tubercles are placed in groups and resemble lenticular papule of secondary period. Opposite to the other clinical types, the regress of diminutive tubercle occurs only in a “dry” course.



### 3. Gummous syphilid

- It is rarely seen nowadays. The primary morphologic element is a node, appearing in the subcutaneous fat (**1. isolated gumma**). It is of a cedar wood nut size, dense consistency, painless, not attached to the surrounding tissues and is easily shifted during palpation, without signs of inflammation.

- Later, gumma enlarges and reaches the size of a walnut and more and it rises above the skin level in shape of a hemi-sphere. As it increases in size, gumma attaches to the skin and surrounding tissues. The skin turns brown or dark red in color.

- As a result of softening, fluctuation develops and gumma bursts with the formation of an opening. Small amount of sticky translucent liquid is discharged from this small fistula (the liquid resembles glue or rubber – gummi arabicum – that's where it takes its name.)

- Later the necrotization of gummous rod (dirty-yellow in color with the ulcer formation, that has sharp roller-shaped, steep edges of dense consistency). After the depuration of ulcer, granulations appear and then firm, retracted in the center, star-shaped dense scar is formed.

- In case the organism has good immune system, gummous infiltration may be substituted with the connective tissue, undergo fibrosis with the consequent calcinations.

Thus, **2) periarticular nodosity or fibrous gummata** are formed in the region of large joints (knee, elbow joints). They are very dense, resistant to the specific therapy nodes and they never ulcerate.

- The third type of gumma is large  
**3) gummous infiltration.** The nodes merge and then ulceration with the development of large ulcers with uneven bottom and polycyclic outlines is formed.

Gummous process may be **complicated**:

1. Secondary infection: erysipelas, gangrene, etc.
2. Elephantiasis (lymphostasis).
3. The affection of the surrounding organs and tissues may occur in case of peripheral enlargement of gumma.



# **Tertiary lesion of mucous membranes**

## **Nasal mucous membrane**

infiltrate is formed on the border of osseous and cartilaginous tissues of nasal partition and it leads to the narrowing of the gleam. The breathing becomes difficult. After necrotic masses are detached perforation of nasal partition occurs, which sometimes is followed by falling back of the dorsum of nose (**falcatated nose**).





# Hard palate syphilids

- irradiate to the osseous tissues, destroying it. Perforation results in the formation of an aperture, joining oral and nasal cavities. Phonation changes, nasal intonation develops. Food from the oral cavity gets into the nasal cavity, that is why the patients chokes over the food.



# Tongue gummas

- appear as focal glossitis (gumma develops in the submucous layer, it is painless, then the movement of tongue from one side to another becomes difficult due to the scar) and as diffuse sclerosive glossitis (diffuse infiltration leads to the increase of the tongue; then because of traumas painful ulcers develop. The latter leads to the sclerosis, corrugation, decrease in sizes, slow-moving, trouble in speaking and eating.)





# Lesion of internal organs

- 90-95% of all late visceral pathology is of cardio-vascular system etiology.
- Syphilitic myocarditis
- Syphilitic aortitis
- Aorta aneurism.

# Lesion of liver

- is on the second place after the lesion of cardio-vascular system in the visceral pathology. Its forms are:
  1. Chronic epithelial hepatitis. At first it is a painless increase of liver, a patient develops general weakness, itching of skin. Later consolidation, corrugation of liver takes place, resulting in cirrhosis formation.

2. Chronic interstitial hepatitis. It is accompanied by the increase of liver, its painfulness, jaundice, vomiting, diarrhea, high temperature. The outcome is anemia and ascites.



3. Limited gummous hepatitis.

Gummas is formed in the outside layers of liver, then a scar develops, then a new gumma etc.

In early stages specific treatment results in good therapeutic effect

# Gummous infiltration of stomach

- with the following deformation or corrugation may develop. Analogous processes take place in esophagus, intestine, spleen, kidneys, lungs.

# Lesion of bones

- Long cortical and short bones (vertebras, bones of wrist, tarsus), flat bones (scull and sternum) can be involved.
- X-ray reveals limited periostitis as osteophyte adjacent to the bone and placed circular around the bone.

# Lesion of Nervous System

- Late latent syphilitic meningitis
- Late diffuse meningovascular syphilis
- Brain vessels syphilis

# Tabes dorsalis.

- This pathology is characterized by the lesion of dorsal roots, back columns and membranes of spinal cord.
- **Clinical features:** sudden onset of sharp, knife-like pain, which imitate stomach, cardiac attacks, hepatic and renal gripes.

- Pain appears and disappears sudden. Paresthesia develops – feeling of compression on a certain part of body, correlating with the affected segment. Lesion of craniocerebral nerves results in ptosis, anisocoria.

- Patognomonic symptom is of **Argile-Robertson**: absence of pupil reaction to the light, even though reaction on the convergence (look at the tip of the nose) remains intact.

- The development of optic nerves atrophy, lesion of auditory nerves, ataxia (the disturbance of coordination), arthropathy – increase and change of joint shape, disturbance of tendon reflexes is seen more seldom.





Рис. 3. Поражение правого коленного сустава при сифилитической миелопатии (табетическая артропатия — «сустав Шанко»): сустав деформирован, рекурвирован в нефизиологичную плоскости. Собственные наблюдения

- Lesion of spinal cord results in the disturbance of pelvic organs function: impotence, enuresis, fecal incontinence. Standard serological reactions are positive in 50-75% of patients

# Progressive paralysis

- develops 15-20-40 years after the infection. It is the result of the lesion of the substance of brain, more often in the area of front cortex, which develops following the inflammatory changes in small vessels.



- Such degenerative changes lead to the cellular atrophy, mainly in the brain cortex.
- The acute stage of the diseases is characterized by the complete degradation, progressive development of imbecility, different types of delirium, cachexy.

- There are **several outcomes** of the disease in the stage of complete development of the process:
  - loss of interest towards the surrounding people, apathy, depression
  - or euphoria, megalomania, inclination to the destructive acts, which can be dangerous for the surrounding people.

- All the changes are sudden – when the person is perfectly healthy.
  1. **Changes of personality.** Suddenly either euphoria or depression develops.
  2. **Disturbance of memory.** Loss of memory on the recent events and normal memory on events that have taken place a long time ago.

2. **Disturbance of calculation.**
3. **Disturbance of writing.** They skip letters, syllables.
4. **Disturbance of speech.** Sudden rapid or mumbling speech.