SPECIFIC (GRANULOMATOUS) INFLAMMATORY DISEASES OF MAXILLUFACIAL REGION

TUBERCULOSIS

ACTINOMYCOSIS

SYPHILIS

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Plan

- 1. Tuberculosis. Etiology, pathogenesis, developmental features.
- 2. The clinical picture of different forms of tuberculosis.
- 3. Diagnosis, treatment, prevention of tuberculosis.
- 4. Actinomycosis. Etiology, pathogenesis, classification.
- 5. The clinical picture of actinomycosis.
- 6. Diagnosis, treatment of actinomycosis.
- 7. Syphilis. Etiology, features of the disease.
- 8. The clinical picture of syphilis.
- 9. Diagnosis and treatment of syphilis.

Tuberculosis

Tuberculosis (TB)–is a specific, chronic, infectious granulomatous disease caused by Mycobacterium tuberculosis.

Mycobacterium is a rod shaped, non spore forming, acid fast, aerobic bacilli.

Robert Koch first described M.tuberculosis, the causative agent of tuberculosis in 1882.

Mycobacterium tuberculosis is carried airborne particles called droplet nuclei that are generated when persons with infections TB disease cough, sneeze, shout, sing or talk.

Tuberculosis

- Disease is distributed by patients with the open form of a tuberculosis of a respiratory organs.

- Micobacteria which were secured at tussis, can get in respiratory routes in the drop way or together with a dust, be swallowed, get on a skin or a mucosa in the contact way.

- In development of a tuberculosis the big value has immunodefence and resistance of an organism micobacteria of a tuberculosis, and also a functional state of different members and systems (central nervous, endocrine, etc.), conditions of life, work, food and life of the patient as environmental factors play the important role in formation of adaptable mechanisms of the face and leave traces on development of disease.

Tuberculosis

- The tuberculosis can amaze any system and a member of an organism, remaining thus with the common disease.

PATHOGENESIS

- In certain diseases the acute inflammatory response, dominated by neutrophils, is transient and quickly replaced by an immune-based cellular reaction, which is characterized by aggregations of macrophages and lymphocytes. The macrophages often form discrete clusters called **granulomas.** A pattern of this kind is therefore frequently called **granulomatous inflammation.** It is an example of a chronic inflammatory response, as persistence of the damaging agent leads to concurrent tissue damage, inflammation and repair.

A granuloma in TB is termed a "tubercle"

In the context of TB, aggregates of macrophages, i.e. the granulomas, are often called **tubercles.**
Each tubercle has an area of caseous tissue necrosis at its centre. This is characterized by its homogeneity, and no ghost pattern of the original tissue structure remains. Viable mycobacten are present within the necrotic debris. To the naked eye, this **necrotic** tissue resembles cream cheese, hence its descriptive caseous **necrosis.** The reason for the necrosis at the centre of tubercles is uncertain, as it is not seen in the centre of granulomas caused by other agents.

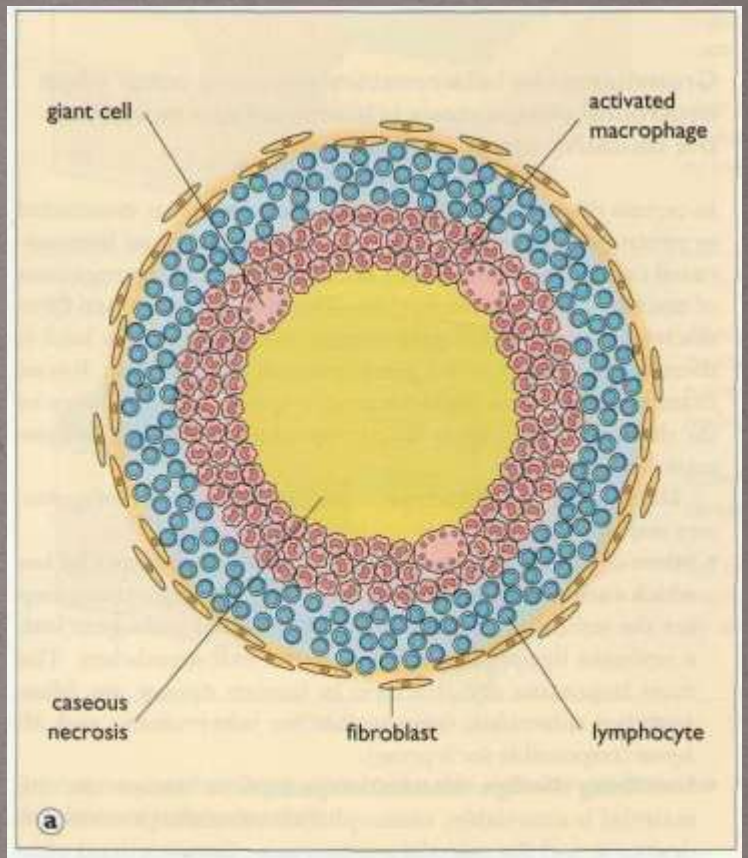


Fig. 5.19 A tuberculous granuloma.
In (a) the typical structure of a tubercle is shown diagrammatically. A central area of amorphous caseous necrosis is surrounded by a zone of activated macrophages, in which multinucleate macrophages (Langhans' giant cells)

CLASSIFICATION OF THE TUBERCULOSIS

- PRIMARY AND SECONDARY

- LESION AT THE TUBERCULOSIS
  - Mucosas
  - Jaws
  - Skins
  - A hypodermic fat
  - Lymph nodes
  - salivary glands

The primary tuberculous limphadenitis

- The initial tubercular lesion is usually shaped in region of lymph nodes and makes 60,8 %.
- In pathological process are involved submandibular, top cervical, parotidea and submental nodes more often.
- The exogenous infection contamination can penetrate into lymph nodes through integuments of a head and the face, mucosa gums, cheeks, and a nasopharynx, through tonsils of lymphoid pharyngeal ring Pirogova-Valdejera.

Forms of the tuberculous limphadenitis

- Hyperplastic - tuberculous granulomas are formed (sometimes with caseous necrosis)
- Fibro –caseous (infiltration) - total caseation, numerous granulomas, fistulas
- Fibrous (indurative) - scar induration of the affected lymph nodes and surrounding tissues

Clinic of tuberculous lymphadenitis

- Gradual enlargement of the lymph nodes;
- Weakness, low-grade fever, sweating;
- The lymph nodes of the neck, submandibular and submental areas are more often affected; defeat unilateral;
- Lymph nodes are tuberous, dense-elastic consistency; can be soldered into packages;
- A characteristic sign is periadenitis, with palpation - pain, fluctuation;
- Fistulas and ulcers may form;
- In the blood - leukocytosis, an increase in ESR

Tuberculous of the skin

- The initial tuberculosis cutis (tubercular chancre) - meets at children's age more often. On a skin there are anabroses or ulcers with a little bit dense bottom.

Tuberculous of the skin

- The tubercular lupus - an initial element is a hillock (lipoma)

Рис. 1. Туберкульозний вовчак

Lipoma

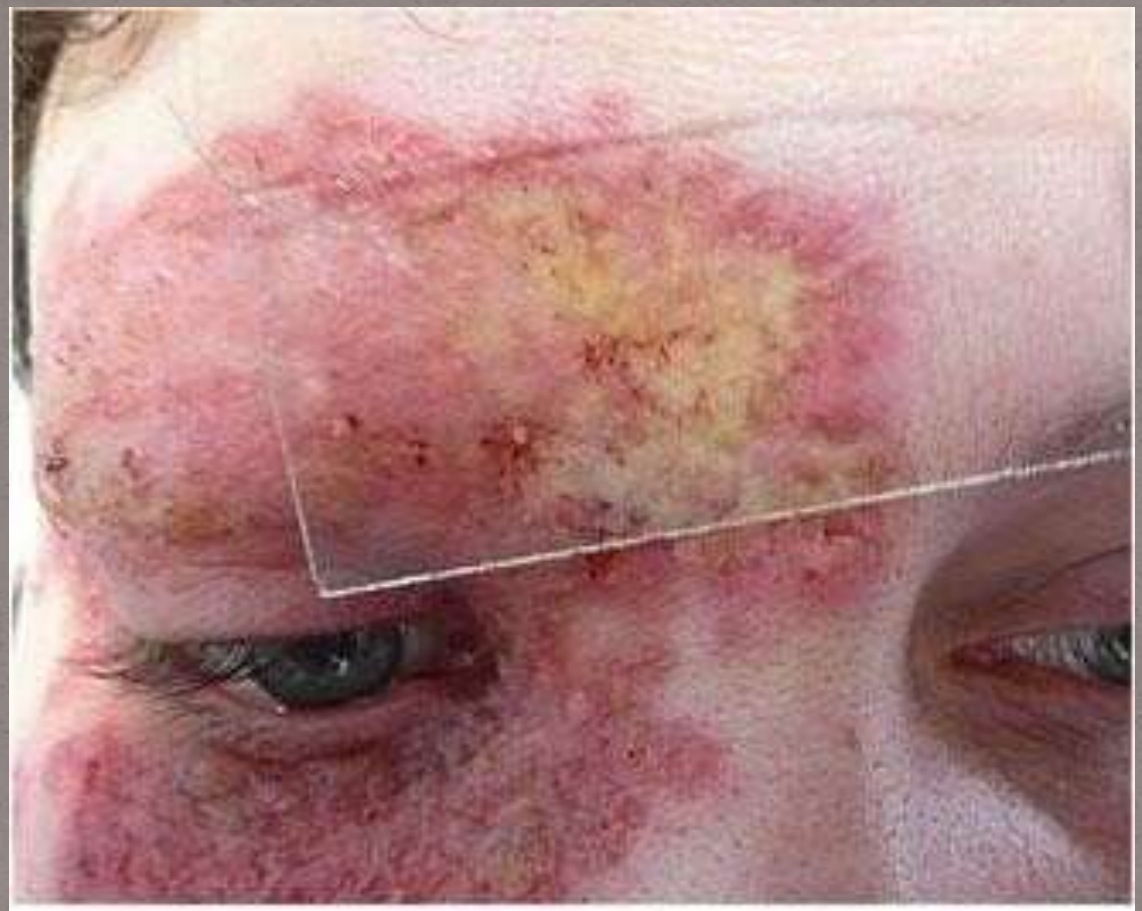


Рис. 2. Туберкульозний вовчак. Симптом яблучного желе

SCROFULODERMA

- A scrofuloderma (colliquative tuberculosis) - is characterized by appearance of intradermal units, the dimension 1-3 sm.

SCROFULODERMA

Рис. 6. Колікативний туберкульоз (скрофулодерма)

TUBERCULOUS OF THE SKIN

- The warty tuberculosis - is characterized by appearance a painless nodule of pink-cyanotic colour with perifocal inflammatory infiltrate.
- The miliary-ulcerative tuberculosis - is characterized by appearance of fine yellow - red nodules which quickly ulcerate, merge among themselves and form superficial ulcers. They localize around natures foramens: nose, mouth, eyes.

TUBERCULOUS ULCER OF THE TONGUE

Tuberculosis of the jaws

- The tuberculosis of jaws arises at transition of process from a mucosa of an oral cavity or at hematogenous (lymphogenous) diffusion of micobacteria from different tissues.
- Clinically the tuberculosis of jaws reminds a chronic osteomyelitis with presence of fistulas or ulcers. At cytological research of pus or a surface of ulcers it is possible to find mycobacteria of tuberculosis.

TUBERCULOUS SIALADENITIS

- Primary tuberculosis of parotid gland presents in two forms: first acute inflammatory lesion imitating sialadenitis, consisting small or large abscesses which is more common.
- Second presentation is chronic tuberculous lesion which is circumscribed.
- It may present as a periauricular fistula or as an abscess.

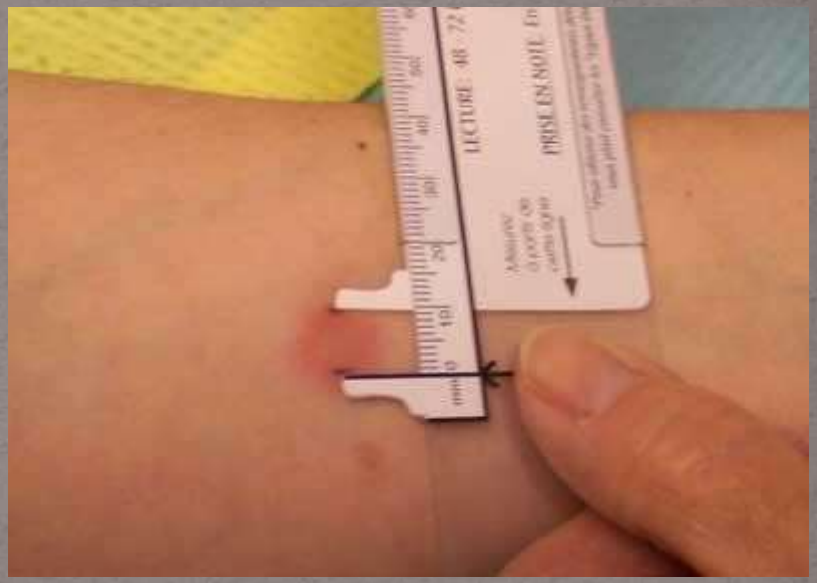
Primary tuberculosis masquerading as gingival enlargement

- The gingiva are fiery red, irregular, granular and unusual in appearance

Diagnostics of tuberculosis

Mantoux test

Interpretation of result



Treatment

- Dissection of purulent focuses
- Sequestrectomy
- General treatment in a tuberculosis dispensary

Conclusions

- The dentist need to be aware that TB may occur in the oral cavity, especially in the lower socio-economic groups.
- Early diagnosis and treatment planning may help in a preventing complications and death resulting due to this common infectious multi systemic disorder.

Actinomycosis

Actinomycosis – is a chronic bacterial disease.

It is caused by Actinomyces israelii, an anaerobic or microaerophilic, gram-positive bacterium. On rare occasions, other Actinomyces species may be involved, or a related aerobic bacterium, Nocardia asteroides, may be responsible for a similar clinical picture. A. israelii is a normal inhabitant of the oral cavity in a majority of healthy individuals. It is usually found in tonsillar crypts, gingival crevices, carious lesions, and non-vital dental root canals.

Actinomycosis

- Actinomycosis is not regarded as a contagious disease, since infection cannot be transmitted from one individual to another. Infections usually appear after trauma, surgery, or previous infection. Tooth extraction, gingival surgery, and oral infections predispose to the development of this condition. Evidence of other important predisposing factors has been slight, although actinomycotic infections have been recorded in osteoradionecrosis of the jaws and in patients with serious systemic illness.

Ways of penetration actinomycete

- odontogenic
- stomatogenic
- contact
- rhinogenic
- tonsilogenic
- otogenic
- hematogenic
- lymphogenic

Pathological anatomy

- In reply to penetration in tissues ray fungi is formed specific granuloma.

- Characteristically – is presence of xanthome cells

CLINICAL FORMS OF ACTINOMYCOSIS

- Cutaneous
- Subcutaneous
- Mucous
- Submucous
- Actinomycosis of jaws
- Generalized form
- Subcutaneous intermuscular (profundus)
- Actinomycosis lymphatic nodes
- Actinomycosis periosteum of jaws
- Odontogenic actinomycotic granuloma
- Actinomycosis organs oral cavity

Cutaneous form of actinomycosis

Subcutaneous form of actinomycosis

ACTINOMYCOSIS

- Mucous form
- Submucous form

CERVICOFACIAL AKTINOMYCOSIS

This is the most common and recognized disease
Patient may present with an acute form of disease characterized by the formation of a painful pyogenic abscess with trismus and fistuals that drain the characteristic sulfur containing granules
More commonly patients present with a painless indurated mass at the angle of the jaw of submandibular region with 1 or several draining sinus tract that discharge sulfur granules

Diagnostic

- Diagnosis usually relies on the clinical picture and the presence of sulcur granules either observed macroscopically or microscopically.
- No serologic test or skin test for actinomycosis is available.
- Polymerase chain reaction has been used for diagnosis in some research laboratories.
- Fine-needle aspiration, biopsies, ultrasound-guided aspiration can be successfully used to retrieve clinical materials for diagnosis.

Treatment

Long-term, high-dose penicillin is the required antibiotic regimen for this disease. Intravenous penicillin (10 to 20 million units per day for 4 to 6 weeks) followed by oral penicillin (4 to 6 gm per day for a period of weeks or months) is a standard regimen for actinomycosis. Tetracycline and erythromycin have also been used to effect cures. Additionally, drainage of abscesses and surgical excision of scar and sinus tracts is recommended to aerate tissue and to enhance penetration of antibiotics.

Syphilis

Syphilis is the chronic contagious venereal disease, caused Treponema pallidum (Spirochaeta pallida) which amazes all members and tissues and is characterized by progressing flow.

It is acquired by sexual contact with a partner with active lesions, by transfusion of infected blood, or by transplacental inoculation from an infected mother.

CLASSIFICATION OF THE SYPHILIS

INITIAL SECONDARY TERTIARY

seronegative seropozitive

Clinical Features

The incubatory term makes 3-4 weeks and finish of formation of an initial syphiloma.

When the disease is spread through contact, the infectious lesion of primary syphilis, known as a chancre, forms at the site of spirochete entry, with the subsequent development of painless, non-suppurative regional lymphadenopathy. The chancre heals spontaneously after several weeks without treatment, leaving the patient with no apparent symptoms.

INITIAL SYPHILIS

- There is a chancre on the tongue
- In 5-7 days after appearance chancre are enlarged regional lymph nodes, there is a syphilitic scleradenitis

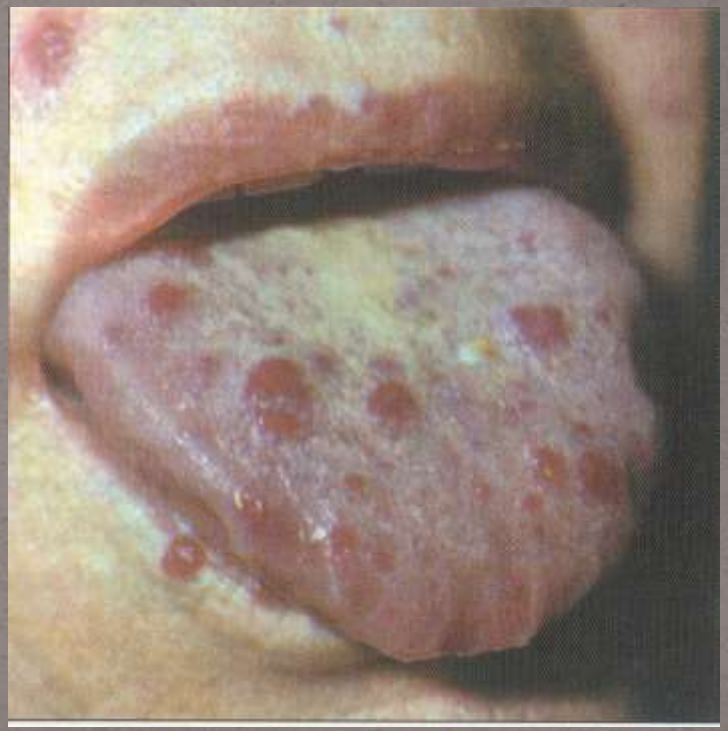
The secondary syphilis

- In untreated syphilis, secondary disease begins after about 2 to 10 weeks. The spirochetes are now disseminated widely and are the cause of a reddish-brown maculopapular cutaneous rash and ulcers covered by a mucoid exudate (mucous patches) on mucous membranes. Elevated broad-based plaques, known as condyloma, may also be seen on skin and mucosal surfaces. Inflammatory lesions may potentially occur in any organ during secondary syphilis. These lesions may persist for as long as 8 weeks before spontaneous remission occurs. Patients enter a latency period, during which there may be one or more relapses of disseminated disease.

THE SECONDARY SYPHILIS

ROSEOLAS

PAPULES



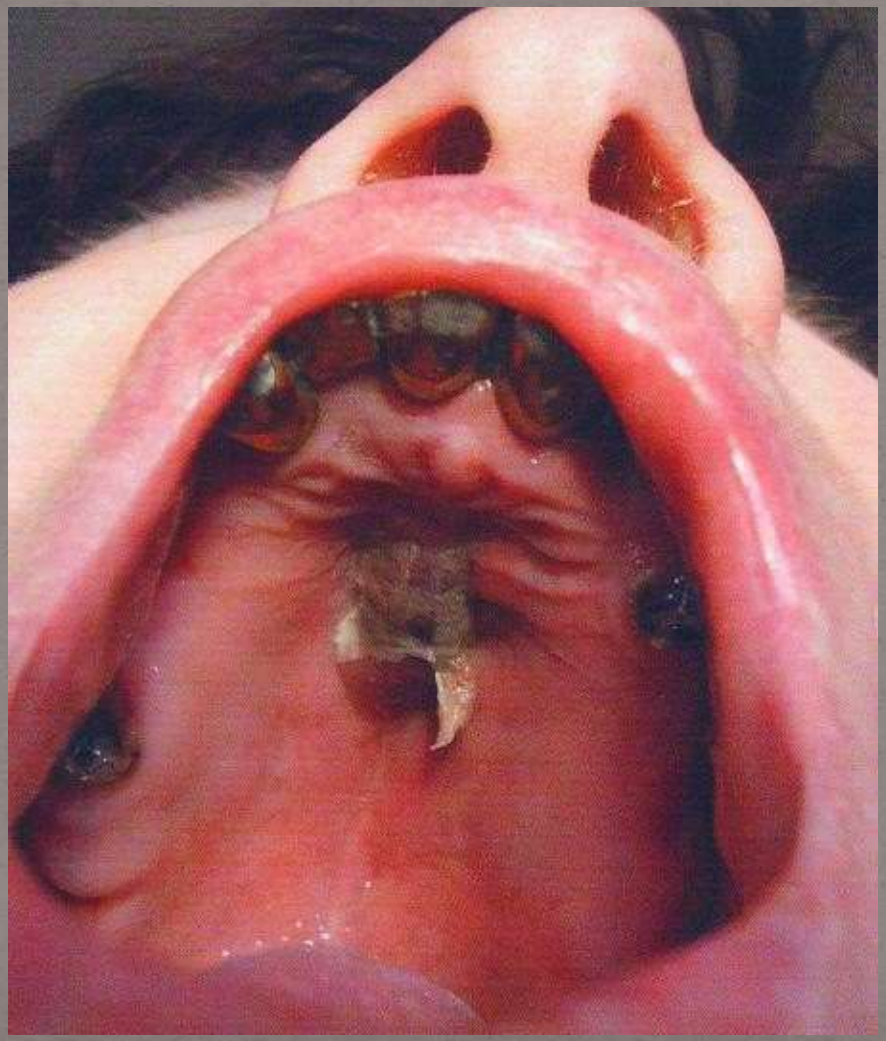
LEUKODERMA

THE TERTIARY SYPHILIS

- Tertiary or late-stage disease develops in about one third of latent syphilitics who go untreated. Manifestations take many years to appear and can be profound, since there is a predilection for cardiovascular and central nervous system involvement.
- It is characterized by appearance nodular and gummatous formations.

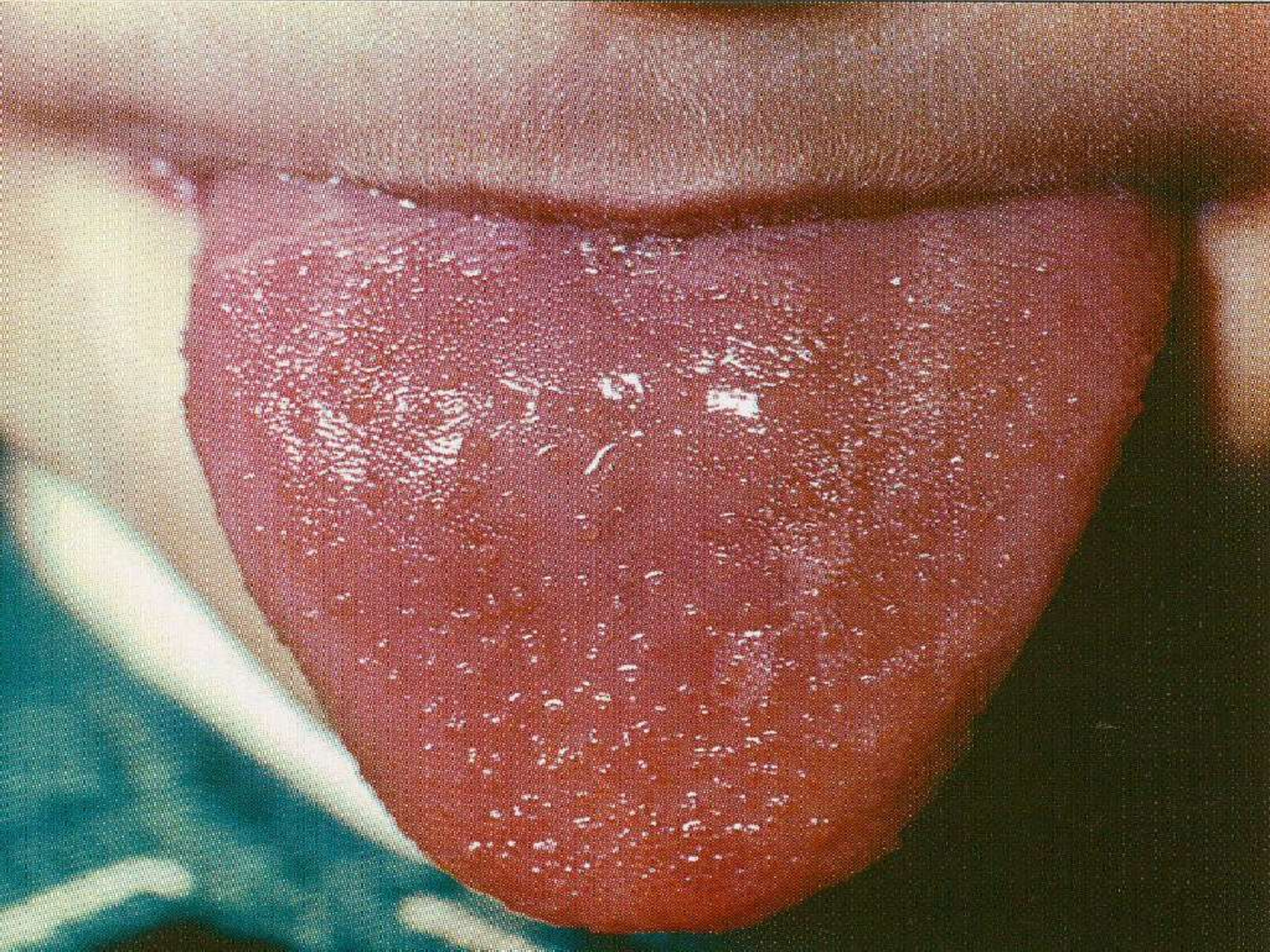
GUMMATOUS FORMATIONS

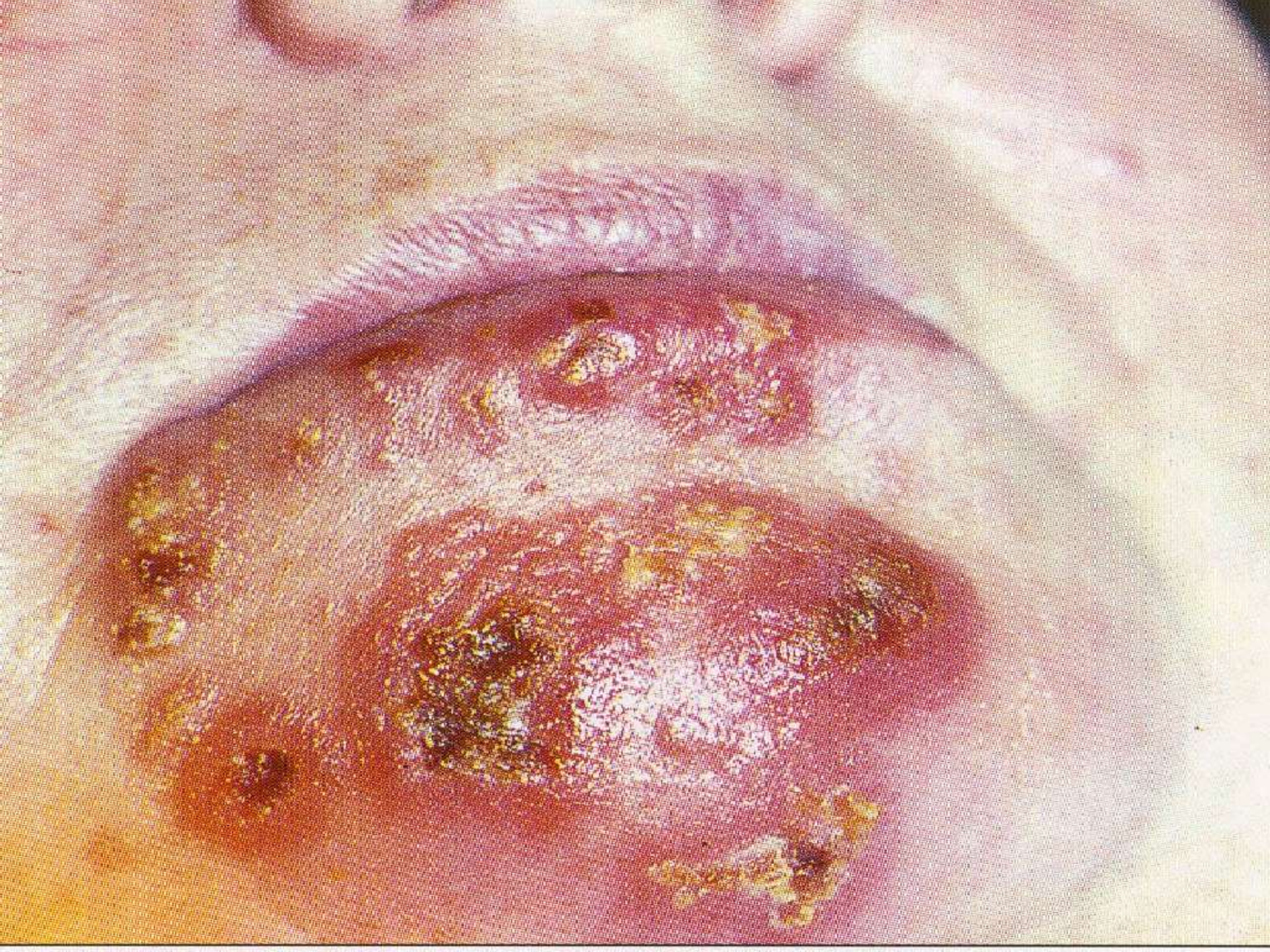
GUMMATOUS FORMATIONS



Treatment

- Treatment consists in a correct establishment of the diagnosis and a direction of patients in the specialized (venerologic) hospital. Local treatment is directed on an antiseptic care of syphilitic elements and ulcers. At development of a syphilitic periodontitis there is a mobility of teeth. It is carried out under indications, their treatment. It is necessary to sanify teeth and carefully to keep up hygiene of an oral cavity. Surgical treatment of deformations can be carried out only after ending of specific treatment and a conclusion of the venereologist.





Complications