Ministry of Education and Science of Ukraine
V. N. Karazin Kharkiv National University

SECONDARY SYPHILIS: DIAGNOSIS, DIFFERENTIAL DIAGNOSIS, CONFIRMATION OF DIAGNOSIS, TREATMENT. TERTIARY AND CONGENITAL SYPHILIS: DIAGNOSIS, DIFFERENTIAL DIAGNOSIS, CONFIRMATION OF DIAGNOSIS, TREATMENT

Methodical recommendations
for independent preparation for practical classes
for the 4th year higher medical education applicants
in the discipline «Dermatology, venereology»

Electronic resource

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Secondary syphilis: diagnosis, differential diagnosis, confirmation of diagnosis, treatment. Tertiary and congenital syphilis: diagnosis, differential diagnosis, confirmation of diagnosis, treatment : methodical recommendations for independent preparation for practical classes for the 4th year higher medical education applicants in the discipline «Dermatology, venereology» [Electronic resource] / compl. D. M. Dorosh, T. I. Lyadova, O. V. Volobuyeva, K. V. Pavlikova. – Kharkiv : V. N. Karazin KhNU, 2024. – (PDF 31 p.)

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The methodical recommendations were developed by the team of teachers of the Department infectious diseases and clinical immunology of V. N. Karazin Kharkiv national university of the School of medicine. An indicative map of the applicants work for higher medical education is provided, with clear, consistent and detailed recommendations for preparation at each stage of the practical training. The list of basic theoretical questions and practical skills, structure and content of topics, test modules for the initial and final level of knowledge control are given, the basic and additional literature is specified, there are references to the electronic resources of department's educational materials in the annexes.

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CONTENTS

ESTIMATED MAP OF WORK FOR HIGHER MEDICAL EDUCATION APPLICANTS FOR PRACTICAL CLASSES PREPARATION

	PREPARATORY phase:
1.	To know the **interdisciplinary integration** of practical classes topics with acquired theoretical knowledge and practical skills in basic disciplines (medical biology, medical and biological physics, Latin language, human anatomy, normal and pathological physiology, biological and bioorganic chemistry, pathological anatomy, microbiology, virology and immunology, pharmacology, philosophy etc.). Acknowledge the terminology (including Latin transcription).
2.	**Motivational characteristic** and **substantiation of the topic** of the practical lesson **on behalf of the formation of clinical thinking**, in particular for the further development of skills in knowledge application in diagnosing of the main symptoms and syndromes and the possibilities of modern laboratory and instrumental methods of internal organs examination in the process of further study and future professional work.
3.	To give better insights into the types of student's educational activity, information provided on the reference stands of the department: thematic calendar plans of lectures, practical classes and extra-curriculum independent work of the 4th year higher medical education applicants corresponding to the curriculum of the model and working program of the discipline «Dermatology, venereology».
4.	Utilization of the basic and additional **educational and methodical literature:** ● **textbooks and tutorials** (printed and electronic versions), which are listed in these guidance after the theoretical section; ● **educational and methodological materials of the department** (methodical recommendations for independent preparation for practical classes for the 4th year higher medical education applicants in the discipline «Dermatology, venereology» and methodological recommendations for independent student's work); ● attendance of **lectures** (on-site supply of the educational process using multi-media presentations during lectures) - according to the thematiccalendar plan. Usage of **printed publications** for classes preparation, they can be obtained from the library and / or **electronic versions of it** available on the official site of the V. N. Karazin KhNU http://www.univer.kharkov.ua/en/departments (navigation for sections: .../Faculties / Departments / Infectious diseases and clinical immunology) - ref. Annex 1; and in the open interactive database of the electronic archive of the Repository of the V. N. Karazin KhNU resources

	http://ekhnuir.univer.kharkov.ua (navigation: Faculty of Medicine / Educational editions, Medical Faculty) - ref. Annex 2. It is advisable to note the main issues in the form of notes
MAIN phase: Practical classes duration is 4 academic hours, they are held at the **clinical base** — Municipal non-profit enterprise «State Dermatovenerologic Dispensary №1» of Kharkiv municipal council. (Kharkiv, Tsilinogradskaya Street, 50) – see Annex 3. **ATTENTION!** Its forbidden to attend department classes without a medical uniform, replaceable shoes, medical cap, mask, shoe covers, stethofonendoscope.	
1.	To achieve the educational goal of practical classes and mastering the theoretical part of the subject, it is necessary to **LEARN** and **ASKNOWLEDGE** the answers to **the main theoretical questions** of the lesson's topic (ref. to the list of the main theoretical questions) that will be checked by the lecturer through an oral and / or written survey (correction, refinement, additional answers) on the main phase of practical classes conduction.
2.	**TO BE ABLE TO** solve with explanations of theoretical, multiple choice (for control of the initial and final level of knowledge), situational tasks proposed for the mastering of the topic.
3.	**TO MASTER PRACTICAL SKILLS on the topic** ● Take active part in the teacher's demonstration of the methodology of patient's examination, and to assign practical skills near the patient's bed under the supervision of a teacher. To perform the patient's examination, interpret the received laboratory and instrumental investigations data, be able to use tools needed. ● Make syndromic diagnosis. To perform a differential diagnosis, to analyze the principles of the treatment, to give prescriptions for essential medicines prescribed.
4.	**EXECUTE** obligatory tasks foreseen for independent student work
FINAL phase:	
1.	On the basis of theoretical knowledge and practical skills mastering on the topic to form clinical thinking and syndromic diagnosis making skills for further study in the medical profession.

Purpose and main tasks of the work on the topic of the practical lesson

SECONDARY SYPHILIS: DIAGNOSIS, DIFFERENTIAL DIAGNOSIS, CONFIRMATION OF DIAGNOSIS, TREATMENT. TERTIARY AND CONGENITAL SYPHILIS: DIAGNOSIS, DIFFERENTIAL DIAGNOSIS, CONFIRMATION OF DIAGNOSIS, TREATMENT

Increase the level of knowledge on the etiology, pathogenesis, classification, clinical features and diagnosis of patients with allergodermatoses: the main clinical and instrumental methods of examination, to teach students of higher medical education in the 4th year of training modern tactics of management of patients with venereal pathology.

MAIN QUESTIONS

As a result of studying the 4th year higher medical education applicants

must KNOW (the main theoretical questions):

1. current understanding of the pathogenesis of secondary, tertiary and congenital syphilis;
2. peculiarities of immunity;
3. course of secondary, tertiary and congenital syphilis; in the human body;
4. factors affecting the duration of syphilis;
5. clinical signs of secondary, tertiary and congenital syphilis;
6. characteristics and variety of clinical manifestations of secondary syphilis the skin, tertiary and congenital, affection of internal organs and mucous membranes in case of syphilis;
7. treatment.

must BE ABLE (basic practical skills on the topic of the practical lesson):

1. deontological properly collect general and sexual medical history of the patient;
2. classify the diseases;
3. conduct a comprehensive examination of the patient in the proper manner;
4. analyze the results of laboratory tests of a patient with syphilis; differentiate between the clinical manifestations of the different periods of syphilis.

Tests to control the INITIAL LEVEL OF KNOWLEDGE

1. A specific lesion of secondary syphilis is:
   A. Chancres
   B. Syphilids
   C. Gumma
   D. Syphilitic granuloma
   E. Ulcers

2. A 22-year-old female patient, single, complains of skin rash on the trunk and extremities without subjective sensations. Objective data: the general condition of the patient is satisfactory, the body temperature is 36,6˚C. There are pale pink symmetrical spots up to 1 cm in diameter without a tendency to consolidation on the skin of the trunk, upper and lower extremities. Genital organ examination: a round ulcer with firm borders, painless, in the stage of epithelization is found on the skin of the right vulvar lip; moderate polyadenitis. There is an enlarged (to 1,5 cm) painless and movable on palpation lymph node in the right inguinal region. What is the provisional diagnosis for this patient?

A. Epidermoid cancer
B. Primary syphilis
C. Soft chancre
D. Chancriform pyoderma
E. Secondary syphilis

3. A 25-year-old female patient, single, complains of hoarseness, which appeared without any causes. The patient does not smoke. She saw a painless "wound" on the left vulvar lip, which healed in 5 weeks without any treatment. Objective data: the general condition of the patient is satisfactory, the body temperature is 36,6˚C. There are small (up to 1 cm in diameter) pale pink spots, which disappear when one presses with a slide on the lateral surfaces of the trunk. On the left vulvar lip there is a fresh scar (of round shape, 0.7 cm in diameter). An examination of the pharynx showed that the tonsil mucosa is red with a copper tint. The focus has clear borders without purulent incrustation. There is a moderate polyadenitis. What is the provisional diagnosis of this patient?

A. Epidermoid cancer
B. Secondary syphilis
C. Soft chancre
D. Chancriform pyoderma
E. Erythema nodosum

4. A patient is a 21-year-old pregnant woman. Her syphilis tests are strong positive. Objective data: condylomata lata in the perineum region, single grouped maculopapular spots of the upper trunk, syphilitic leukoderma of the neck. The viscera and neurologic system are not affected. What stage of syphilis is observed in this patient?

A. Secondary recurrent syphilis
B. Latent syphilis
C. Primary seropositive syphilis
D. Tertiary syphilis
E. Early secondary syphilis

5. From 2000-2020, what has been the trend in the overall annual number of cases of syphilis?

A. Increased
B. Decreased
C. Stayed about the same
D. Increased for first 5 years, then steadily decreased

6. A 19-year-old woman presents for a new maculopapular rash on her trunk, which includes the palms of her hands and soles of her feet. She has no other medical problems, takes no medications, and denies illicit drug use. She has never been tested for sexually transmitted infections (STIs) before. She has had three male partners in the past 6 months with intermittent condom use. One of her male partners also has sex with men. A clinical diagnosis of secondary syphilis is make and laboratory testing is ordered to confirm the diagnosis of syphilis. Which one of the following is TRUE regarding the laboratory diagnosis of syphilis in this woman?

A. Approximately 50% of persons with secondary syphilis have a negative B. Treponema pallidum enzyme immunoassay (EIA)
C. The degree of elevation in the enzyme immunoassay (EIA) titer can accurately distinguish primary from secondary syphilis
D. A reactive treponemal test does not require any further confirmatory testing
E. A reactive nontreponemal test should be confirmed by a treponemal test

7. In the case of syphilitic lesion of placenta the significant alterations are observed:

A. In maternal placenta
B. In fetal placenta
C. The significant alterations are not observed
D. All mentioned above is correct
E. All mentioned above is false

8. Which of the following does not refer to the probable signs of the late congenital syphilis:

A. The shortcut little finger
B. Parenchymatous keratitis
C. The absence of xiphoid process
D. Dental dystrophies
E. "Olympian" forehead

9. A 69-year-old male patient complains of an ulcer of the penis. Objective data: a round ulcer with clear margins and a smooth bottom is on the skin of the glans penis. It has a freshly color with gray-yellowish bloom in the center. The skin around the ulcer is without any changes. One can palpate swollen lymph nodes in the right inguinal region, they are painless and movable. There are a lot of small pink spots on the upper trunk, which do not bother the patient. What is a possible diagnosis?

A. Secondary syphilis
B. Primary syphilis
C. Epithelioma spinocellulare
D. Chancriform pyoderma
E. Scabies

10. A 30-year-old male patient complains of head and eyebrow hair loss that begun 2 weeks ago without any cause. The patient has no somatic pathologies. Objective data: multiple small foci of hair loss and round foci of sparse hair on the back of the head and temporal areas. The skin n these foci is without any changes. There are some lenticular thickened copper-colored papules on the skin of the upper trunk without any inflammatory changes around them. What is your preliminary diagnosis?

A. Alopecia areata
B. Seborrheic alopecia
C. Secondary syphilis
D. Trichophytosis capitis
E. Lichen ruber planus

Standards of answers: 1–B, 2–E, 3–B, 4-A, 5–A, 6–D, 7–B, 8–B, 9–A, 10–C.

STRUCTURE AND CONTENT OF THE TOPIC

SECONDARY PERIOD OF SYPHILIS.

Secondary period of syphilis (*syphilis II secundaria*) - stage of the disease, which is caused by hematogenous spread of *Treponema pallidum* from the place of primary focus throughout the body, which is characterized by polymorphic rash (spots, papules, pustules) on the skin and mucous membranes, and determined staging of the clinical course and the possible affection of the internal organs and the nervous system.

Clinical picture. Secondary period of syphilis begins when the hematogenous generalization of syphilitic infection is being realized. This usually occurs in 9-10 weeks after infection with *Treponema pallidum* or 6-7 weeks after the appearance of hard chancre. The appearance of skin rash indicates the beginning of the secondary period of syphilis. At this time roseolous rash appears on the skin and mucous membranes.

General features of clinical course of the secondary period:

- absence of subjective feelings and violation of the general condition of the patient; rash is highly contagious;
- the clinical manifestations are resolved independently without treatment; total duration of secondary syphilis - 2-4 years;

- all serological reactions are strongly positive;
- rash is presented by macular, papular, pustular and pigmented syphilides (true polymorphism), as well as syphilitic alopecia;
- rash does not occur simultaneously, but jerky, that is, within 2-3 weeks, and is at different stages of evolution (false polymorphism) in case of regression; rash is not acute inflammatory, its color is pale pink or brownish.

Most often at the beginning of second period (*secondary recent syphilis*) abundant roseolous rash appears, which is often polymorphic (roseola, papules), and is not prone to merge.

The rash is symmetrical. Some have ulcerative hard chancre or the signs of primary syphiloma (pigmented secondary macule either fresh scar) and scleradenitis. After 1-2.5 months rash fades and only the positive serological reactions remain, secondary latent period begins. Later relapse of clinical manifestations of the disease with a very varied course occurs secondary recurrent period.

Unlike the secondary recent syphilis, there is less eruptions on the skin at this stage of disease, they are larger, tend to group, are paler, more often located in large folds of skin, in trauma places, in areas with increased sweating; polyadenitis does not almost happen.

Serological tests of blood are positive in 98% of patients, although the titer of Wasserman reaction is lower than in secondary recent syphilis. There are cases of lesions of the internal organs, the nervous and endocrine systems, sensory organs, bones, joints.

Roseolous syphilide - most typical rash in case of secondary recent syphilis. It is placed symmetrically on the side of the chest, abdomen, back, front surface of the upper extremities and hips. The rash is multiple and focused. The color of roseolas varies from pink to yellow-brown. Roseolas are round with a diameter of 8-12 mm, not shelled, they do not itch and disappear at diascopy. They become more visible after intramuscular injection of penicillin (Jarish-Herxhimer reaction). Without treatment they exist for about 3-4 weeks, and then disappear. They are rare on the palms and soles, as well as on the face. In case of secondary recurrent syphilis roseolas are larger, but not so bright, often spherical, tend to group, their quality is not large.

Differential diagnostics of roseolous syphilide. During the differential diagnostics one should exclude macular rash in some infectious diseases, which are accompanied by severe general condition, high body temperature, conjunctivitis, enantemy, laryngitis, tracheitis, bronchitis.

Papular syphilide may be also in the secondary recent syphilis, but the appearance of papules is more characteristic of secondary recurrent syphilis. In the case of secondary recurrent syphilis the number of papules is smaller, they tend to group together and are found on the palms and soles.

Papules size varies from 2 mm (lenticular syphilide) to 12 mm (*nummular syphilide*). Hypertrophic papules – wide condylomas appear in the places of constant friction (in the folds, on the genitals).

Typical signs of syphilitic papules:

- color is red or copper-red; dense, round;
- are mostly located isolated from each other; clearly localized from the surrounding skin, without inflammatory crown around the edge;
- cause no subjective feelings; in case of regression of papules, a kind of peeling, which starts from the center and extends to the periphery, leaving a Biett's horn-crown - collar is observed;
- sometimes the well-defined papules resembling corn are observed on the palms and soles;
- under the influence of maceration and friction, lenticular papules placed on the external genitals and skin folds grow and become moist and erosive.

These papules are most contagious; due to irritation of the bottom of the erosive papules, vegetation wide condylomas of pale pink color, resembling a cauliflower, gradually develop.

Differential diagnostics of papular syphilides. Syphilitic papules should be differentiated from papular rash at various dermatoses: psoriasis, lichen planus, parapsoriasis, molluscum contagiosum and other. Wide syphilitic condylomas shall be distinguished from: pointed condylomas, hemorrhoidal varicose veins, eruptions in case of vegetating acantholytic pemphigus.

Pustular syphilide is observed rarer. Unlike true pustules, a swab of the infiltrate, not acute inflammatory rim is placed at the periphery. Depending on the symptoms they distinguish syphilitic impetigo, acneiform syphilides (syphilitic blackheads), varioliform syphilide, syphilitic ecthyma, syphilitic rupias. Their form depends on the location of eruptions, elements size, the degree of their decomposition.

Differential diagnostics of pustular syphilide. During the differential diagnostics of syphilitic ecthyma with pyoderma one shall consider the lack of an inflammatory rim and normal pustulation, presence of the red-bluish dense infiltrative swab at the periphery, which did not break up, the presence of other symptoms of syphilis, as well as data of clinical history and confrontation.

Pigmented syphilide (syphilitic leukoderma) is observed in the secondary recurrent syphilis. It is vaguely demarcated, incompletely hypopigmented leukoderma. It occurs in patients who have darkly pigmented skin. Leucoderma firmly holds and disappears within 6-12 months, and sometimes even within 1.5-2 years even with the full treatment, it is often combined with syphilitic alopecia.

Differential diagnostics of pigmented syphilide. Differential diagnostics should be carried out with the secondary leucoderma after psoriasis, parapsoriasis, seborrhea, versicolor tinea. In case of all these pathologies first of all a rash appears on the skin, and change in pigmentation is a direct consequence of its evolution. In addition, serological tests for all of these pathologies are negative.

Syphilitic alopecia is observed in the secondary recurrent syphilis. Six months after infection, multiple patches of hair loss of 5mm to 20 mm in diameter appear and spread gradually on the entire scalp. There are three types of alopecia fine focal, diffuse and mixed. It appears suddenly and progresses rapidly. It often affects the

frontal-parietal and occipital areas. Hair recover and grow in 1 -2 months after resolution of infiltrates.

Differential diagnostics of syphilitic alopecia. It should be differentiated from alopecia areata.

Syphilides of mucous membranes are common in patients with secondary syphilis and are sometimes the only obvious symptom of this disease. Rash is macerated and eroded, and highly infectious. It affects the mucous of lips, cheeks, tongue, throat, vocal cords, straight intestine, female genitals. areas. Roseolous syphilides on the oral mucosa present circular redbluish clearly delineated formations of small size - 0.5-0.7 cm. They do not cause subjective feelings, disappear without a trace. They often affect the tonsils, the front and rear handles, the tongue and soft palate (syphilitic erythematous angina) or larynx (syphilitic erythematous laryngitis). The most common manifestations of secondary syphilis on the mucous membranes include papular rash - flat, well-demarcated, with no peripheral inflammatory rim, of deep red color, it usually does not bother the patient.

Differential diagnostics of syphilides of mucous membranes. Ona shall differentiate papular syphilitic angina along with such diseases angina, diphtheria, lichen ruber planus, ulcerative stomatitis, flat leukokeratosis. Standard angina is accompanied by increased body temperature, rapid swelling and hyperemia of the throat, tonsils, handles, soft palate, indeterminate limits of affection, great soreness.

TERTIARY PERIOD OF SYPHILIS

Tertiary period of syphilis (*syphilis tertiaria*), or latent syphilis (syphilis tertiaria seu gummosa), this is a serious chronic systemic infectious disease, in which case the destructive pathological changes with a violation of their functions develop in the affected organs. Tertiary syphilis develops in 5-15 years after infection.

General features of clinical manifestations of tertiary period of syphilis: manifestations of tertiary syphilis have undulating clinical character, and holding for several months, spontaneously regress, followed by a period of relative calm. In the presence of clinical symptoms active tertiary syphilis is diagnosed, in the absence thereof-latent tertiary syphilis. Term of existence of tertiary syphilides -months and years.

Manifestations of tertiary syphilis bear infectious and allergic nature. Intensity of specific immunity in the tertiary period is gradually reduced. All the elements of the rash do not have *Treponema Pallidum* due to which tertiary syphilides are noncontagious. Subjective acute inflammatory feelings are missing.

Changes in the skin, mucous membranes and internal organs, bones and joints, nervous, cardiovascular, endocrine systems, bear organic destructive nature. A small number of tertiary syphilides on the skin and mucous membranes:

- nodules are numbered in tens;
- gumma - single, tertiary roseola of Fournier is very rare.

Rash has monomorphic nature. Asymmetric arrangement of rash. Inflammation of tertiary syphilides with the formation of infectious granulomas, which are situated in the vital organs, break their structure and function, bear productive nature.

Development and regression of tertiary syphilides takes place slowly with the formation of ulcers, scars and ulerythema.

Classical serological tests in a third of patients with tertiary syphilis are negative. The results of specific reactions (IFT, TPIT, TPHA, PCR), which are almost always positive in the tertiary period, have diagnostic value. Manifestations of tertiary syphilis respond well to regress under the influence of treatment against syphilitic infection.

Clinical picture. Manifestations of tertiary syphilis are observed on the skin, mucous membranes, the internal organs, the locomotor system. Tertiary affections of skin are manifested by two morphological elements of rash: dermal nodules (*nodular syphilide*) and hypodermal nodules (gumma) - *gummatous syphilide* that differ only in the size and depth of affection, because in both cases anatomopathologically this is an infectious granuloma. The so-called late, or tertiary, roseola of Fournier is vary rare.

Nodular syphilide (superficial gumma, tertiary papule, syphilis tuberculosa). Morphological element of the rash is a nodule in the form of sharply outlined dense infiltrate up to 0.5-0.8 cm in diameter, embedded in the dermis. The nodules are located in limited areas of skin scattered or grouped. Nodular syphilide has elevated hemispherical surface of brownish-red or bluish-red color. First, it is smooth, and eventually it is covered with scaly crusts.

Evolution of syphilitic nodules is carried out in two ways: the nodule may dissolve and disappear, leaving a pigmented scar atrophy; and in other cases, there is a decomposition of the tissues of the nodule and the formation of sharply demarcated round painless ulcer. Further due to the presence of healthy skin between the individual small scars, the so-called star-shaped scar is formed on the place of ulcer.

There are such clinical varieties of nodular syphilide: aggregated, serpiginous (creeping), dwarf, diffuse ("platform"). Aggregated nodular syphilide (syphilis tuberculosa aggregata) is characterized by the focused placement of nodules which do not merge with each other. Serpiginous (creeping) nodular syphilide (syphilis tuberculosa serpiginosa) is characterized by the merge of the individual nodules with the formation of specific infiltrate. The ulceration and scarring of old elements is realized along with the appearance of new nodes. Dwarf nodular syphilide (syphilis tuberculosa nana, tertiary papule) -small nodules with a size of a millet or hemp seed, which are located in separate groups in a small area. Nodular syphilide in "platform' (diffuse nodular syphilide, syphilis tuberculosa en nappe seu diffusa) is formed by the close adjoining of the individual nodules to one another and looks like a bottle-shaped infiltrate of 5-10 cm.

Differential diagnostics of nodular syphilide. It should be carried out with tuberculous lupus, which differs by a soft consistency of nodules (positive symptom of "probe"), and a symptom of "apple jelly" during diascopy). In case of tuberculoid leprosy nodules are arranged in a ring. Basalioma is usually single, often located on the face skin, has a clear edge. The ulcer, which is not tending to scarring, unlike syphilide, is formed in the core of the focus.

Gummatous syphilide (syphilis gummosa, gumma subcutanea, syphilis nodosa profunda, syphilitic gumma). Gummas are presented by the clearly separated dense painless nodules that in the process of evolution ulcerate to form star-shaped scar or in the rare cases are absorbed, leaving a scar atrophy. Gummas appear gradually as a separate dense and painless nodule with intact skin over it. Then, the skin over it gradually becomes dark red. Gumma breaks the hole with the release of the small amount of adhesive tenacious ropiness liquid of dirty yellow color, resembling acacia gum (hence the name - gumma). Further, a dense compact mass, called gummy stem, is formed. Then, gummy ulcer with vertical edges is formed. Some time later, starshaped scar is formed.

Differential diagnostics of gummatous syphilide. One shall differentiate syphilitic gumma primarily with tuberculous gumma (strumoderma), the nodule of which is from the beginning a more gentle than syphilitic, and breaks in several holes. Ulcers in this case have a soft undermining. In case of Bazin s disease the nodes are usually multiple, localized symmetrically on the skin of the posterior-lateral surface of lower legs and hips. Cancerous ulcer differ from gummy by solid iliac roll, often twisted edges, the bottom of the ulcer is nodulated, bleeds easily. In case of lipomas nodules are multiple, subcutaneous, softer.

Fournie's tertiary erythema (syphilitic tertiary roseola, erithema tertarium tardivum, roseola tardiva), - very rare clinical manifestation of tertiary syphilis. It is characterized by asymmetric ring- and arch-shaped large macular elements of 5 to 15 cm in diameter with a wide red border.

Differential diagnostics of Fourniers tertiary erythema. It shall be differentiated from microsporia or ringworm of body. Manifestations of tertiary syphilis in mucous membranes. They occur relatively frequently and have their own characteristics: most often found in the mucous membrane of the mouth, nose, throat, pharynx, tonsils, larynx; the predominant place of localization in the oral cavity are areas of hard and soft palate, palatine velum and kion; mucous membrane of the mouth may be the only place of clinical manifestations of tertiary syphilis, among the clinical forms of which - gummas, gummy infiltration and nodular syphilide.

Tertiary syphilides on mucous membranes have bright colors and puffiness. Formation of gummas on the oral mucosa does not differ from their formation on the skin. Gummatous process ends with ulceration with a deep and significant destruction of not only the soft tissues, but bones. Nodular syphilide in the mucous membrane of a mouth is less common than gummatous. The nodules, as well as gummas, can be localized in any place, but more often in the mucosa of the lips, alveolar bones and palate. The nodules may be isolated or may be in the form of infiltrative focus with sharp jagged outlines. They are tightly elastic, red-brown in color, have a relatively fast flow, are treated with scar formation.

Differential diagnostics of tertiary syphilis of mucous membranes. One shall differentiate manifestations of tertiary syphilis of mucous membranes first of all from tuberculosis, cancerous ulcer and leprosy. The decisive criterion in the diagnostics of tertiary syphilis is the result of the specific serological tests (IFT,

TPIT, TPHA, PCR) in blood and cerebrospinal fluid, pathomorphological study of biopsy material and trial treatment.

Affection of internal organs and systems in case of tertiary syphilis (syphilis visceralis). In case of tertiary syphilis limited nodules and gummatous infiltrates may be observed in all internal organs, and there may be a variety of degenerative processes and metabolic disorders. Most often the cardiovascular system (90-94% of cases) is affected, rarely -liver (4.6%) and other organs -lungs, kidneys, stomach, intestines, testicles (1-2%).

Affection of cardiovascular system (cardiovascular syphilis) makes up almost 90% of all cases of late visceral syphilis. It often affects the aorta (syphilitic mesaortitis, aortic insufficiency, aneurysm, affection of coronaria entrances), rarely myocardium (syphilitic myocarditis).

Affection of liver in case of tertiary syphilis may have the following clinical forms: chronic epithelial hepatitis, chronic interstitial hepatitis; focal gummatous hepatitis, miliary gummatous or diffuse infiltrative hepatitis. Syphilitic affections of the stomachy lungs9 kidneys and other internal organs is accompanied by symptoms of disorders of the above-mentioned organs.

Affection of the visual organ. Affection of the visual organ occurs against a background of both a secondary and tertiary syphilis; inflammation and pupillary disorders dominate in case of eyes affection; difficulties in diagnostics occur due to the lack of alertness of physicians regarding latent forms of syphilis and its association with other infections.

By the time of the development of tertiary syphilis, eye symptoms are mainly associated with the damage of the nervous system, but the development of tarsitis, chorioretinitis and gummatous affection of various parts of the visual organ are typical for this stage. Parenchymatous syphilitic keratitis is characterized by unilateral nature of the process, a relatively benign and is easily subjected to antisyphilitic therapy. Deep pustule-shaped syphilitic keratitis is characterized by persistent prolonged course and resistance to the specific therapy.

Gummatous keratitis develops in a form of the syphilitic gumma in the corneal stroma and is always complicated by its turbidity, iridocyclitis and decrease or loss of vision. Syphilitic neuritis of optic nerve is observed in basal meningitis, and is usually bilateral. Functions of the eye violate very early. The thorough and comprehensive examination of the patient helps diagnostics to confirm the syphilitic nature of the disease.

Affection of locomotor system in case of tertiary syphilis. The affection of the bones and joints may be the only symptom of tertiary syphilis or combined with the affection of other organs. Limited gummatous nodules or diffuse gummatous infiltration usually affect those bones of the skeleton, which are covered with small muscles and are prone to injury. The bones of forearms, clavicle, beastbone, nose, skull are rarely affected.

Differential diagnostics shall be carried out with chronic purulent osteomyelitis of tuberculosis of the bones. Joint diseases in case of tertiary syphilis are less common than bones affection. A characteristic feature of syphilitic affection of the

joints is almost complete absence of pain and possible preservation of joints function.

Congenital syphilis. Congenital syphilis (syphilis congenita) results from transplacental infection during intrauterine growth of a fetus with the spirochete Treponema subspecies pallidum from the ill mother.

Classification and clinical signs of congenital syphilis. According to the accepted actual classification of WHO, the following types of syphilis are distinguished:

- Early congenital syphilis (syphilis congenitalpraecox) in fetus and infants under the age of two years, the symptoms of which are following: pemphigus syphiliticus, diffuse papular skin eruption, lesions of mucous membranes, parenchymal organs, bone tissue, nervous system, eyes.
- Late congenital syphilis (syphilis congenital tarda) with symptoms, by which the symptoms appear in children, older, than two years.
- Latent congenital syphilis (syphilis congenital latens) - early and late is characterized with the absence of clinical manifestation and of the changes in cerebrospinal fluid.

This disease is usually discovered by serologic tests.

Syphilis and pregnancy. The probability of intrauterine infection of fetus with *Treponema Pallidum* is maximal by secondary and early latent syphilis in mother and makes up 80- 85 % of syphilis cases. Unspecified or late latent syphilis in pregnant woman appears in 10 % of cases to be the cause of congenital syphilis in fetus. Least of all suffer from congenital syphilis the children, born to mothers, affected with primary syphilis – less than 1,5 % of cases of the congenital syphilis.

According to the data, given by WHO experts, the pregnant women with untreated early syphilis will bear infected children in 70-100 % of cases, in 1/3 of cases -stillborns. Pregnancy outcome in infected women may be different: early or late spontaneous abortion (at 12th- 16th week), premature delivery, perinatal death; birth of infant with the symptoms of early congenital syphilis or with positive serological tests without clinical manifestation. There remains a probability to bear healthy child.

Placental and umbilical cord lesions. Specific placental and umbilical cord lesions precede the congenital syphilis. When the infection of placenta takes place, the late becomes hypertrophied, with areas of grayish-yellow and rosy colors -("variegated"), crumbling, with tendency to tear very easily. Syphilis infection is characterized with the lesions in form of sclerosis of placental villi, epithelial degeneration, cell infiltration of vascular walls with their obliteration.

The described histological changes occur in fetal placenta. The maternal placenta, on the contrary, remains unaltered. Typical for this kind of infection is enlarged placental mass. In comparison with normal fetal/placental mass ratio, which makes up 1:6, by syphilis infection this correlation is 1:3.

Fetal syphilis. The only channel for the fetus infection is transplacental transmission. In consequence of specific septicemia, the 75-80% of fetal death, caused by syphilis infection, is registered in the 4 th-5 th, but more often -in the 5th - 6th month of pregnancy. The most commonly observed clinical symptoms are

following: low fetal weight, hypoplasia or total absence of subcutaneous fat, skin rugosity, by which the folds have earthy color ("senile skin").

Specific lesions in internal fetal organs (liver, spleen, lungs) are introduced with diffuse inflammatory process – globocellular infiltration and connective tissue growth. Early congenital syphilis In vast majority of infants the symptoms of the early congenital syphilis arise within first three months of life. Manifestations include: pale rugous "senile" skin, saddle nose, enlarged head because of exaggeration of the frontal eminence and venous distension; permanent rhinorrhea, which causes labored breathing and difficulties during sucking.

The clinical symptoms of the early congenital syphilis are following: Diffuse papular infiltration of the skin (Hochsinger infiltration).

Pemphigus syphiliticus. Lesions of the sense organs. Lesions in the locomotive system. Lesions in visceral organs. Lesions in nervous system. Diffuse papular infiltration of the skin (Hochsinger infiltration) appears within the first three months of life, with localization on the palms, buttocks, chin, superciliary arches, scalp. The skin surface is smooth, sparkling (varnish - like), redpurple tinted.

Different skin injuries lead to the formation of rhagades, which are localized radially around the mouth and form, when healing, radial Robinson - Fournier scars. The skin infiltration on the palms is attended with maceration, rugosity, scaled desquamation. Pemphigus syphiliticus is observed in 11-12 % of cases at birth or within first days or weeks of life, and is typically placed on the skin of palms and feet. The Treponema pallidum is usually revealed in the blister fluid. The tent blisters, with serous content, are localized on the infiltrated skin areas and have inflammatory border.

Pemphigus syphiliticus must be differentially diagnosed from neonatal impetigo, which usually begins with omphalitis along with fever. The groups ofblisters are placed separately, on the skin of back and chest, and very rarely on the areas of palms and feet. The above mentioned rash tends to the peripheral growth and perifocal inflammation. The skin appendages in infants can also be affected by syphilitic infection. The hair lesion is characterized with the circular and/ or diffuse hair loss. Syphilitic rhinitis observed in 25 30 % of cases of the disease at birth or within first weeks of infant's life in form of syphilitic rhinorrhoea. On the initial stage occurs the edema of nasal mucosa, which results in noisy breathing. In the sequel appear purulent discharges. While sucking, the child is often distracted to inhale deeply.

After above mentioned pathological changes occur the destructive processes, leading to the damage of cartilaginous and bone tissue of the nasal septum, followed with formation of saddle nose. The voice becomes snuffling. Nasal discharge contains *Treponema pallidum* in quantity.

The alterations of the nasal septum appear in form of osteochondritis, syphilitic gummas, diffuse globocellular infiltration of nasal septum mucosa. Lesions of the sense organs are characterized with specific eye alteration in form of conjunctivitis, chorioretinitis, iritis, optic atrophy. The ophtalmoscopy by chorioretinitis reveals

pigmented fundus lesions and little light spot^ producing "salt and pepper fundus". The eye alterations occur in 37 - 47 % of cases of the congenital syphilis.

Lesions in the locomotive system are the most frequent manifestation of syphilis infection and have the character of:

- Osteochondritis (Parrot disease);
- Periostal changes, such as periostal thickening, ossification periostosis, hyperostosis, osteophyte, osteosclerosis;
- Destructive changes (osteoporosis, defects of joint ends of the bones, gummas);
- Fractions and infractions. Characteristic features of the osteochondritis are lesions in the area between epiphyseal cartilage and diaphysis. Long tubular bones are preferentially affected (humeral, femoral, forearm and shin bones).

The development of osteochondritis occurs due to the ossification disturbance, physiological cartilage resorption arrest, increased deposition of calcium salts in the cartilage, the reduction and partial disappearance of the bone trabecules followed by the formation of necrotic areas.

The bone trabecules are scanty and, therefore, the separation of epiphysis from the diaphysis occurs, known as epiphysiolysis (Parrot disease). In the case of syphilitic epiphysiolysis, the clinical picture is observed similar to flaccid paralysis of the limbs, which has nothing in common with the paralysis of spinal origin, therefore, this disease was called Parrot pseudoparalysis.

Clinically, in case of Parrot pseudoparalysis, the limb 1 limp lies slackly on the bed, any movement is painful. Regarding the sensorium no disorders are observed. In the case of syphilitic periostitis the limb bones, ribs and rarely flat bones are affected. The affection of the periosteum (periostitis) occurs as an independent. Other alterations of skin and mucous membranes.

The skin alteration fully coincides with the lesion, caused by secondary syphilis infection. The nasal mucosa is affected by syphilitic rhinorrhea. Much rarelier the laryngeal mucosa is involved with the development of diffuse inflammatory infiltration, causing the symptoms of hoarseness, dysphonia phenomenon, as well as in the combination with osteochondritis. Gummas in the bones of infants are less likely than in older children. They are located in the metaphyses, less frequently in the diaphysis.

Chondrodysplasia (chondrodystrophy) reminds osteochondritis: by the time of birth the straightening, widening, serration and increased intensity of the calcification zone are determined. The affections of the internal organs. Most commonly the liver and the spleen are affected (75-80% of cases) in the form of hepatitis, hepatosplenomegaly, chronic pancreatitis. Oftentimes the lungs are affected (10-15% of cases) - the interstitial pneumonia occurs.

Renal affection (10% of cases) manifests itself as glomerulonephritis, nephrosonephritis. Nervous system involvement is manifested in the form of the specific meningitis and meningoencephalitis. The Sisto symptom is particularly characteristic: the "idiopathic" baby cry day and night. In the analysis of the spinal fluid of these children a high cell count, positive reaction to serological tests for syphilis are found. Diagnostic criteria of early congenital syphilis. Confirming or

denying the existence of the syphilitic infection in child, the doctor takes the great responsibility. To avoid possible diagnostic errors, it is necessary to use the full set of parameters.

Among the parameters that may in one extent or another indicate the presence or absence of syphilis in a child are the following:

- Anamnestic data of the child's parents, indicating that they had syphilis in the past.
- Carefully collected obstetric history.
- Syphilis (including the deep-seated syphilis) in mother.
- The clinical and morphological description of the placenta.
- The inspection of skin and mucosa of the child.
- The results of the inspection of otolaryngologist, ophthalmologist, neuropathologist, pediatrician, radiologist.
- The results of laboratory tests of mother and child (identification of the Treponema Pallidum or antigenic determinants in the amniotic fluid, placenta, rashes on the skin and mucous membranes, lymph nodes; positive serological reactions SRC (serological reactions complex), IF-test, Treponema Pallidum immobilization test, detection of the Ig M class antibodies in the serum of newborn.
- Temperature reaction exacerbation in the child after the beginning of the specific antibiotic treatment. The final diagnosis of early congenital syphilis is established based on the detection of Treponema pallidum and positive serological reactions.

Late congenital syphilis. Manifestations of the late congenital syphilis occur at the age of 2 -17 years, but sometimes they can be observed through 30 and even 50 years after the birth. They correspond to the lesions of different organs and systems in the case of acquired tertiary syphilis. In 60% of cases of late congenital syphilis the infection is hidden and is diagnosed only based on the results of serological blood tests. There can be defined the significant (absolute) and the probable signs of late congenital syphilis, as well as a variety of dystrophies, which are more common in the case of congenital syphilis, but may be present in other diseases. Significant signs of the late congenital syphilis - Hutchinson's triad (parenchymatous, keratitis, labyrinthine deafness, Hutchinson's teeth).

Parenchymatous keratitis occurs at the age of 5-15 years. Its clinical manifestations - uniform milky-white corneal opacity with pericorneal vascular injection, photophobia and blepharospasm, lacrimation. The process begins on the one eye and then becomes bilateral. The symptom is observed in 50% of patients with late congenital syphilis. Labyrinthine deafness occurs at the age of 7-15 years. It develops as a result of periostitis in the osseous part of the labyrinth and affects the auditory nerve. The process is bilateral, the deafness occurs suddenly, it is preceded by the dizziness, buzzing and ringing of the ears.

The labyrinth deafness is treatment-resistant, it occurs in 3 38% of cases. Hutchinson s teeth occur at the age of 6-7 years (the time of permanent teeth appearance; in children younger than six years old these teeth do not erupt, they can be identified radiographically). Its clinical manifestations -the dystrophy of

permanent upper intermediate incisors of barrel-shaped or chiselshaped form, hypoplasia of the chewing surface with a semilunar excavation on the free margin. It is observed in 15-20% of patients with late congenital syphilis.

To the probable signs of late congenital syphilis refer various dystrophies, which have a lower diagnostic value and require additional confirmation. The most common include:

- saber shin, characterized by the anterior bowing of tibia as a result of previous diffuse osteoperiostitis;
- natiform skull that occurs as a result of the simultaneous development of the local hydrocephalus and specific osteoperiostitis of the frontal and parietal bones;
- eyeglass (saddle or goat) nose as a result of previous syphilitic rhinitis or nasal septum gumma;
- Robinson-Fournier scars-radial, localized around the mouth after absorption of the Hochsinger infiltration;
- Axiphoidia - the absence of xiphoid process;
- thickening of the sternal end of the clavicle;
- wide set upper incisors;
- high ("Olympic") forehead;
- shortened little finger,
- high "gothic" palate, microdontia, hypertrichosis.

Diagnostic criteria of the late congenital syphilis:

1. Anamnesis: the information about the syphilis in mother, mother obstetric history.

2. The presence of the active late manifestations of syphilis in combination with significant and / or probable signs of the late congenital syphilis.

3. Laboratory (serologic) confirmation of the diagnosis (SRC, EI A, IFtest, Treponema pallidum immobilization test, PHT).

4. Cerebrospinal fluid examination.

Prevention and prognosis of the congenital syphilis. The main method of prevention of the congenital syphilis is the obligatory serological screening of all pregnant women in the I, II and III trimesters. The ultrasound examination in the case of syphilis in pregnant women allows to predict the postnatal complications. If the active or latent form of syphilis is diagnosed in a pregnant woman, the treatment with antibiotics is prescribed. One or two weeks before delivery the nonspecific false positive serological reactions can be registered. In such case a pregnant woman does not undergo specific treatment and two weeks after delivery it is necessary to carry out a re-examination of the mother and a detailed examination of the child. If the diagnosis of syphilis is confirmed in mother and child, the specific treatment is prescribed to both. In such cases, the results of IgM serology have the great prognostic significance. The most informative is the IFR with IgM. The children bom to the mothers with syphilis or mothers who had syphilis in the past or have not completed a specific treatment, undergo careful examination. The umbilical cord blood is taken for the SRC, the placenta is weighed and examined histologically. The inspection of the skin and mucous membranes of the child, the examinations of

the central nervous system, internal organs, ocular fundus, cerebrospinal fluid, X-ray of long bones are mandatory. If the placenta is large (the placenta/ fetal mass ratio makes up 1:3 or 1:4) and fragile, a thorough clinical and serological examination of the mother and the baby is carried out. Newborns, whose mothers had not been treated properly and had not received preventive antisyphilitic treatment during the pregnancy, undergo preventive treatment. Children who have received preventive treatment should be under the observation for five years. Treatment and prevention of syphilis are usually carried out in accordance with national guidelines approved treatment protocols (National Guidelines) and similar documents adopted in the country or region. It is believed that the treatment of patients with syphilis should be initiated as soon as possible after diagnosis. Syphilis refers to the so-called controlled human infections because medicine has drugs for full treatment of syphilis. However, the success of treatment depends on its usefulness and timeliness.

Treatment and prevention of syphilis in Ukraine are carried out according to the "Methods of diagnostics, treatment and prevention ofinfections that are sexually transmitted", approved by the Ministry of Health of Ukraine. General principles of therapy The following types of treatment of patients with syphilis and their contact persons are previewed:

1 Specific antibacterial treatment is performed only for patients with a confirmed diagnosis of syphilis.

2. Preventive treatment, which is aimed at preventing syphilis among persons who had sexual or close household contact with sick contagious forms of syphilis, if not more than three months passed from the moment of contact. People who have had such contact with syphilis more than three months ago, will undergo a complete clinical and serological survey (CSR, ELISA, IFT, TPIT), and in the case of negative treatment they are not assigned treatment.

3. Preventive treatment, which is carried out in order to prevent congenital syphilis: a) pregnant women who received in the past specific therapy for syphilis, if such persons did not have negativation of serological indices of blood before pregnancy; b) infants in the case if they were born to mothers infected with syphilis before delivery and did not receive a full and specific preventive treatment, in the absence of clinical and serological evidence of syphilis in such children.

4. Presumptive treatment, appointed in case of suspicion of syphilis of internal organs, nervous system, sensory organs, the locomotor system in the event that the diagnosis could not be confirmed by convincing laboratory data, and clinical picture can not exclude the development of syphilitic infection (suspicion of late forms syphilis). The specific antibiotic therapy. Essential drugs for the treatment of syphilis are penicillins divided into:

a) water-soluble drugs of penicillin-benzylpenicillin sodium salt, benzylpenicillin -G;

b) repository drugs of penicillin - benzatinbenzylpenicillin, bicillin-3 (benzatinbenzylpenicillin + benzylpenicillin + novocaine salt of benzylpenicillin), bicillin-5 (benzatinbenzylpenicillin + novocaine salt ofbenzylpenicillin).

The antibiotics of reserve -tetracyclines, macrolides, cephalosporins are used in case of intolerance to penicillin drugs.

Specific manifestation of anti-syphilitic therapy in patients with syphilis is the reaction of acute Jarisch-Herxheimer-Lukashevich. Most often, this reaction occurs in patients who started treatment of recent syphilis. The reaction occurs in the first 12 hours after initiation of therapy. The main clinical symptom include a sudden rise in body temperature to 39 ° C. The highest hyperthermia occurs 6-10 hours after the start of treatment, it lasts for 8-10 hours, and gradually disappears after 18-24 hours. Other symptoms of the reaction include the activation of clinical manifestations of syphilis, malaise, and headache. The cause of the reaction is considered to be mass destruction of Treponema pallidum under the influence of the started antibiotic therapy, which is accompanied by a considerable release of endotoxins. In the case of severe reaction of Jarisch-Herxheimer-Lukashevich penicillin therapy is not terminated, and corticosteroids are injected intramuscularly at the rate of 0.5 mg of prednisone per 1 kg of patient's weight.

Treatment of patients with penicillin begins only after the diagnosis is determined based on clinical data and laboratory confirmation. Treatment should be started as soon as possible. The earlier the treatment is started, the more favorable prognosis and its effective results will be. It is necessary to clarify the patient's tolerability of penicillin in the past before treatment. In order to prevent possible allergic reactions, it is recommended to test the tolerance of penicillin. Treatment of children. All children under three years of age who were in contact with the patient with contagious forms of syphilis, are subject to treatment, if not more than three months passed since the last contact.

Treatment of syphilis in children is carried out under the same principles as the treatment of adults, but taking into account body weight and physiological characteristics of the child's body. Methods for the treatment of children with acquired or congenital syphilis are determined by the form of the disease, the child's age and individual characteristics of the individual patient. Clinical and serological monitoring. After treatment all patients with syphilis shall be subject to mandatory clinical and serological monitoring by careful clinical examination and execution of serological tests (CSR IFT, RIT, ELISA).

The frequency and volume of the serological study depend after completion of treatment on the form of syphilis, the duration of the infection and the dynamics of serological blood tests. Frequency of blood testing by the ELISA and CSR methods in patients with recent syphilis infection with a term of up to six months, makes up three months, in infected patients with the term from six months to one year -four months, in patients with infection over a period of one year -six months. It is necessary to carry out blood testing by the ELISA and CSR methods in pregnant women and children who recovered from syphilis at intervals of one to three months, depending on the clinical form and duration of infection with syphilis. Blood testing by IFT method can be conducted in all forms of syphilis every six months, for pregnant women and children - every three months. The study of blood by TPIT method is recommended after negativation of CSR and then in the range from two

to six months depending on the time of infection. Duration of serological monitoring after treatment depends on the terms of infection and makes up:

• for preventive treatment - 3 months;

• for treatment of all forms of syphilis with the term of infection of up to 6 months - 12-18 months;

• for treatment of all forms of syphilis with the term of infection from 6 to 12 months - 18-24 months;

• for treatment of all forms of syphilis with the term of infection more than one year, as well as in cases of unknown date of infection -from 24 to 30 months. If, after the effective treatment of recent syphilis CSR remains positive for more 1.5 years for adults and more than 9 months for children without significant downward trend of titers, the patients are characterized by seroresistance. When establishing seroresistance it is necessary to exclude the presence of nonspecific seroreactions in connection with certain concomitant diseases (hepatitis, tuberculosis, tumors, connective tissue, etc.).

Criteria for curability of syphilis include clinical improvement and normalization of indices of serological studies. When establishing the curability of patients with syphilis they take into account infection, the quality of the treatment and its compliance with existing protocols. Great importance in this respect is given to the dynamics of serological reactions after treatment and resistant negativation of CSR.

Negative results of TPIT and IFT after treatment are the criteria of its effectiveness. If TPIT and IFT remain positive, particularly in patients with late forms of syphilis, there is no reason to assign additional courses of treatment in the absence of other symptoms of the disease. If the treatment was started later than six months after infection with syphilis liquorological study is recommended. Basic principles of prevention of syphilis. Prevention should be carried out by all medical institutions. It includes:

1. Early and comprehensive identification of all patients with infections, mainly sexually transmitted:

- detection of sick people among donors to prevent transfusion transmission of infection;
- mandatory double serological survey of pregnant women in the first and second half of pregnancy to prevent congenital syphilis and HIV;
- comprehensive and complete examination of sexual contacts of patients,
- identification of sources of infection.

2. Full medical treatment of patients.

3. Full clinical and serological surveillance for convalescents.

4. Organizing and conducting educational work among the population

Test to control the FINAL LEVEL OF KNOWLEDGE

1. A 30-year-old man presents for follow-up of a positive syphilis serologic test result. Recent laboratory studies from a routine visit 10 days ago show a positive treponemal enzyme immunoassay (EIA) and a positive Rapid Plasma Reagin (RPR) with a titer of 1:256. He had a negative HIV-1/2 antigen-antibody test and is taking tenofovir DF-emtricitabine for HIV preexposure prophylaxis (PrEP). He has routine STD testing every 3 months. His serologic tests for syphilis have always been negative. He denies any genital ulcers or skin manifestation. Upon further inquiry, he reports he has had blurry vision in the right eye over the past 4 days. Which one of the following is a correct statement about the manifestations of ocular syphilis?

A. All persons with ocular syphilis have neurosyphilis
B. Uveitis is the most common manifestation of ocular syphilis
C. Corneal lesions are the most common manifestation of ocular syphilis
D. Retinal necrosis is the most common manifestation of ocular syphilis

2. A patient is a 40-year-old man. Blood investigation: Wasserman reaction and TPI test are positive. There are no changes of the skin, viscera or neurologic system. What is a probable diagnosis of this patient?

A. Latent recurrent syphilis
B. Primary seropositive syphilis
C. Secondary recurrent syphilis
D. Tertiary syphilis
E. Early latent syphilis

3. A 42-year-old male patient complains of skin rash without any subjective sensations. Objective data: multiple pink spots up to 0.3-0.7 cm in size on the skin of the upper trunk and extremities; the surface of the spots is not desquamated. Besides, they are separated. Polyadenitis is observed. There is an erosion at the stage of epithelization on the prepuce. What is a possible diagnosis?

A. Epidemic typhus
B. Secondary latent syphilis
C. Typhoid fever
D. Medicamentous toxicoderma (drug eruption)
E. Secondary recurrent syphilis

4. A mass health examination in an orphanage discovered a boy with deviations in the physical and mental development. Objective data: the boy's skin has no pathologic lesions, the lymph nodes are not enlarged; the boy has a brachicephalic skull, a saddle-shaped nose, a hard palate, and Hutchinson's teeth. What is your preliminary diagnosis?

A. Late latent syphilis
B. Early congenital syphilis
C. Latent congenital syphilis

D. Tertiary syphilis
E. Late congenital syphilis

5. A 31-year-old male presents to his primary care medical provider for evaluation of a rash. He denies taking any new medications, but reports three new male sexual partners in the last 8 weeks. The rash began several days prior as an erythematous, maculopapular rash on the chest and back and now it also involves the palms and soles. He does not have any ocular or neurologic symptoms. Serologic testing for syphilis is ordered. What is the most appropriate treatment of this patient with presumed secondary syphilis?

A. Azithromycin 2 grams orally once
B. Doxycycline 100 mg orally twice daily x 28 days
C. Benzathine penicillin G 2.4 million units intramuscular in a single dose
D. Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units given at 1-week intervals

6. A 47-year-old man is clinically diagnosed with secondary syphilis and treated with benzathine penicillin G 2.4 million units intramuscular (IM) in a single dose. Their lab test results return with a positive syphilis enzyme immunoassay (EIA) and a positive Rapid Plasma Reagin (RPR) at a titer of 1:128. Their HIV test is negative. Follow-up RPR testing at 6 months shows an RPR titer of 1:4.

A. What would you recommend as the next course of action regarding management of syphilis for this individual?
B. Treat with a single dose of intramuscular benzathine penicillin G 2.4 million units
C. Treat with benzathine penicillin G 7.2 million units total, administered as 3 intramuscular doses of 2.4 million units given at 1-week intervals
D. Perform a lumbar puncture and cerebrospinal fluid analysis and treat based on these findings
E. No further treatment is necessary at this time and lumbar puncture is not indicated

7. A 24-year-old man presents with a 3-day history of a diffuse rash. He reports having 7 sex partners, within the last 3 months. Physical examination shows an erythematous macular rash on his chest, back, arms, and palms. He has no visual or neurologic complaints and a neurologic examination is normal. A clinical diagnosis of secondary syphilis is made. Laboratory studies are ordered and he is treated with a single intramuscular dose of 2.4 million units of benzathine penicillin G. Subsequently, the baseline laboratory studies show a positive treponemal enzyme immunoassay (EIA), a Rapid Plasma Reagin (RPR) titer of 1:512, and a negative HIV-1/2 antigen-antibody test.

A. When should repeat syphilis serologic evaluation be performed?
B. No follow-up is needed since he received recommended therapy
C. 6 and 12 weeks

D. 6 and 12 months
E. 12 and 24 months

8. A 25-year-old man is diagnosed with secondary syphilis based on a diffuse maculopapular rash and a Rapid Plasma Reagin (RPR) titer of 1:256. He is given an intramuscular dose of 2.4 million units of benzathine penicillin G in the clinic, but approximately 4 hours after receiving the dose of penicillin, he returned with complaints of fever, headache, myalgia, dizziness, and intensification of his rash. Physical examination shows a temperature of 38.5°C, blood pressure 96/74 mmHg, accentuation of the rash, but no evidence of hives, oropharyngeal swelling, or wheezing.

A. What is the most likely explanation for the patient's symptoms?
B. Mild type IV anaphylactic reaction to penicillin
C. Allergic reaction to benzathine
D. Prozone reaction
E. Jarisch-Herxheimer reaction

9. A 43-year-old man with a positive Rapid Plasma Reagin (RPR) test (titer of 1:64) is referred for further evaluation and treatment of syphilis. He reports having a total body rash and low-grade fever that resolved about 3 months prior. He reports severe headaches in the past week with nausea, vomiting, and mild photophobia. The headache has not resolved with over-the-counter medications and he has no history of headaches. He has not had prior testing or treatment for syphilis. A recent HIV antigen-antibody test is negative. A lumbar puncture is performed, with cerebrospinal fluid analysis, to evaluate for neurosyphilis. Which one of the following statements is TRUE regarding cerebrospinal fluid (CSF) laboratory studies in diagnosing neurosyphilis?

A. The CSF Venereal Diseases Research Laboratory (VDRL) test is highly specific; it is the preferred test for confirming a suspected diagnosis of neurosyphilis
B. The CSF Rapid Plasma Reagin (RPR) test is the most sensitive and specific test for diagnosing neurosyphilis; it is the preferred test both for confirming and excluding neurosyphilis
C. The CSF fluorescent treponemal antibody absorbed (FTA-ABS) test has poor sensitivity and no role in diagnosing neurosyphilis
D. There is no role for CSF treponemal or nontreponemal tests in diagnosing neurosyphilis

10. A 22-year-old woman is diagnosed with neurosyphilis after presenting with stroke-like symptoms and a positive treponemal enzyme immunoassay (EIA) and a positive Rapid Plasma Reagin (RPR) test (titer of 1:128). A lumbar puncture is performed with cerebrospinal fluid analysis that shows protein of 64 mg/dL, white blood cell count of 18 (80% lymphocytes), a red blood cell count of 0, and a positive Venereal Disease Research Laboratory (VDRL) titer of 1:64. Tests for other causes

of stroke, as well as an HIV test are negative. She has a 2-year history of engaging in transactional sex, but has never previously been tested or treated for syphilis. She denies any history of allergic reactions to antibiotics. What is the most appropriate antimicrobial therapy for treatment of neurosyphilis in this woman?

A. Ceftriaxone 1 g intramuscular once daily for 5 days, followed by doxycycline 100 mg orally twice daily for 14 days
B. Ceftriaxone 1 g intramuscular once daily for 10 to 14 days
C. Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units intramuscular each at 1-week intervals
D. Aqueous crystalline penicillin G 18 to 24 million units per day, administered as 3 to 4 million units intravenous every 4 hours (or continuous infusion), for 10 to 14 days

Standards of answers: 1 – A, 2 – C, 3 – E, 4 – E, 5 – C, 6 – E, 7 – D, 8 – E, 9 – A, 10– D.

SELF-WORK
of the 4th year higher medical education applicants
on the topic of the practical lesson

1. To provide curation of patients with a detailed history taking and complaints.
2. To give interpretation to the obtained laboratory methods of research.
3. To give interpretation to the obtained instrumental research methods.
4. Set a preliminary diagnosis during the patient's curation.

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Additional:

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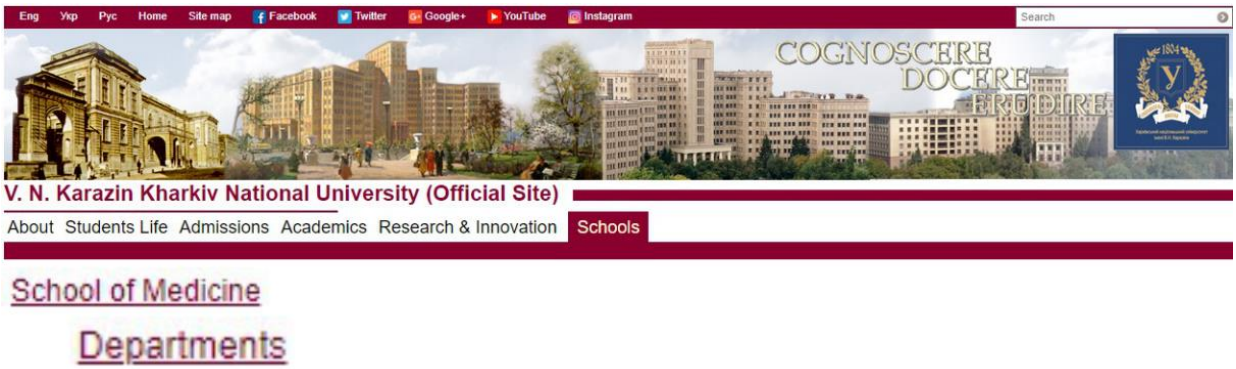
2. Harrison's Manual of medicine / D.L. Kasper, E. Braunwald, A.S. Fauci et al. – McGraw-Hill. – 2005. – 1087 p.
3. Lima H. Psoriasis: types, causes and medication. InTech.-2013.-189p.
4. Nossatenko V. Educational diagnostic guide into oncologic dermatology / V. Nossatenko, N. Gutzu, A. Nossatenko. – Kharkov, 2005. – 127 p.

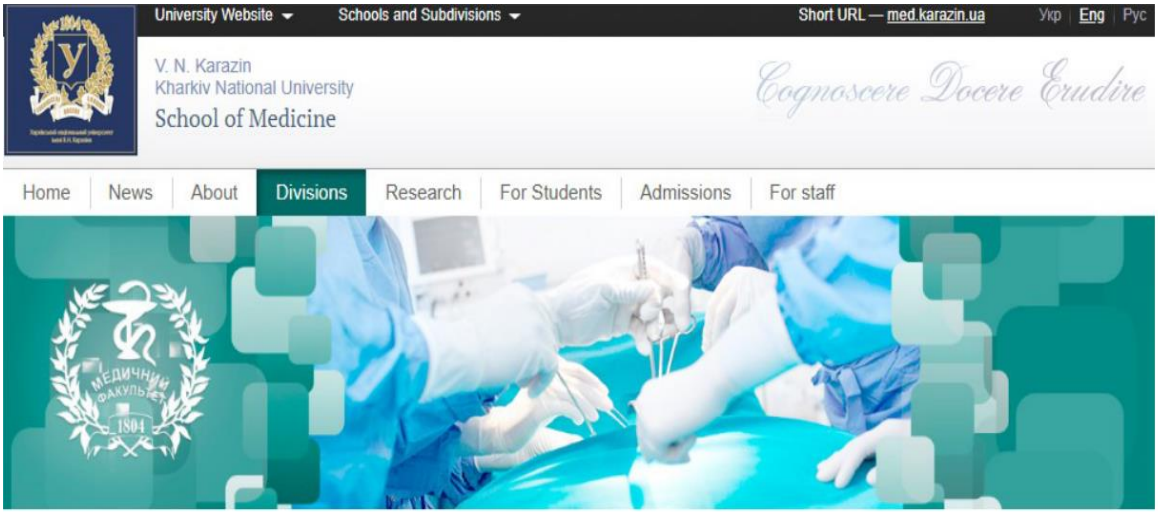
Annex 1

Official site: http://www.univer.kharkov.ua/en/departments



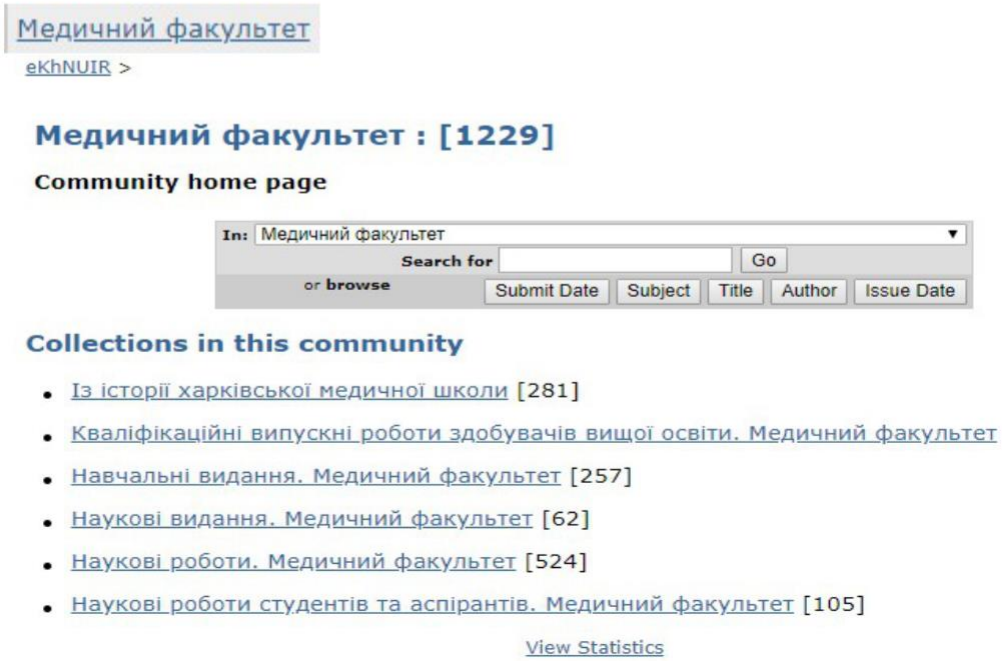
Department of general and clinical immunology and allergology of V. N. Karazin University

http://medicine.karazin.ua/en/departments/kafedra-zagalnoi-ta-klinichnoi-imunologii-ta-alergologii



Electronic Kharkiv National University Institutional Repository

http://ekhnuir.univer.kharkov.ua/



Annex 3

Department of general and clinical immunology and allergology of the V. N. Karazin Kharkiv national university.

News, announcements, useful information for students

How to get there? The clinical base of the department is located at: st. Tsilinogradskaya, 50. You can get to this place just from the city center, using the bus 245e (the bus takes passengers just near the metro "Derzhprom"), you need to get to the stop "Tsilinogradskaya", and then walk about 500 meters. You are in place! Or use the subway to the stop "Alexeyevskaya".

Електронне навчальне видання комбінованого використання
Можна використовувати в локальному та мережному режимі

Дорош Діана Миколаївна
Лядова Тетяна Іванівна
Волобуєва Ольга Вікторівна
Павлікова Ксенія Вячеславівна

ВТОРИННИЙ СИФІЛІС: ДІАГНОСТИКА, ДИФЕРЕНЦІЙНА ДІАГНОСТИКА, ПІДТВЕРДЖЕННЯ ДІАГНОЗУ, ЛІКУВАННЯ. ТРЕТИННИЙ ТА ПРИРОДЖЕНИЙ СИФІЛІС: ДІАГНОСТИКА, ДИФЕРЕНЦІЙНА ДІАГНОСТИКА, ПІДТВЕРДЖЕННЯ ДІАГНОЗУ, ЛІКУВАННЯ

Методичні рекомендації
для самостійної підготовки до практичних занять
здобувачів вищої медичної освіти 4-го року навчання
з дисципліни «Дерматологія, венерологія»

(Англ. мовою)

В авторській редакції

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