

Vitebsk State Medical University

# **Practical Dermatology**

*Methodical recommendations*

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Библиотека ВГМУ



VSMU Publishing  
2006

616.5(075)

УДК 616.5:37.022.-20

ББК 55.83р30+55.81р30

A28

Reviewers: professor Myadeletz OD, head of the department of histology, cytology and embryology in VSMU; professor Upatov GI, head of the department of internal diseases in VSMU

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A28 Practical dermatology:

methodical recommendations / Adaskevich UP, Valles-Kazlouskaya VV, Katina MA. –

Vitebsk:

VSMU, 2006. – 135 p.

302411

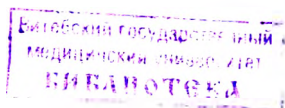
№ 2010

Methodical recommendations “Practical dermatology” were designed for the international students and based on the typical program in dermatology. Recommendations include tests, clinical tasks and practical skills in dermatology that are used as during practical classes as at the examination.

УДК 616.5:37.022.=20

ББК 55.83р30+55.81р30

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## I. PRACTICAL SKILLS

### 1. OBSERVATION OF THE PATIENT'S SKIN (SCHEME OF THE CASE HISTORY)

The examination of the patient's skin has some peculiarities. There are some circumstances necessary for the examination: good lighting, an adequate light torch, a spatula, a magnifying glass and a transparent glass slide for diascopy.

It is better to perform the examination at the day light, but if it is not possible, the light must be intensive enough. The temperature in the observation room must be 22-23<sup>0</sup> C because low temperature may cause spasms of blood vessels and high temperature may lead to their dilatation that will change the skin color.

The general impression of the patient is very important, especially of his general health, pallor, intellectual assessment, queer personality etc.

Make sure that the patient is completely undressed. The examination of the face and exposed extremities does not constitute a full assessment. Patients may be unaware of lesions or problems in areas that are inaccessible to them (back, feet). Carefully examine skinfolds (axillary, under breasts). Be certain to remove shoes and socks to inspect the bottom of feet and the space between toes. Nails, hair, mucous membranes also should be carefully observed.

Case history consists of several parts:

#### **Personal data of the patient**

Name,  
Age,  
Address,  
Profession,  
Duration of the stationary treatment,  
The clinical diagnosis.

#### **Complaints of the patient**

Dermatological patients usually complain of rash that may be followed by subjective sensations such as itching, burning, tingling, pain, etc. The rash itself may be a complaint as it causes cosmetological problems. Some patients have general complaints such as malaise, dizziness, high temperature.

Itch is one of the most frequent complaint. It may be the sign of many dermatological and systemic diseases. It can be localized and generalized. The location of itch in different parts of the body is typical for different skin diseases: for example, itch of the scalp may be a sign of seborrhoeic dermatitis, seborrhoeic eczema, psoriasis; in the eyelids - of allergic reaction to some

allergens from the environment; in the palms – of scabies, dyshidrotic eczema; in the feet – of tinea, eczema. There are many reasons for the generalized itch. Usually patients with dry skin suffer from itch. Dry skin can be caused by age, some skin diseases – eczema, atopic dermatitis, and ichthyosis. For some skin diseases itch is the main clinical sign: scabies, pediculosis, atopic dermatitis, lichen planus, herpetiformic dermatosis Dühring, toxiderma, urticaria, prurigo, lichen simplex. It can be seen in 40% of patients with psoriasis. Generalized itch can be a symptom not only of skin diseases but a clinical sign of other pathologies: infectious diseases, endocrine disorders (diabetes mellitus – mostly located in the groin region; hyper and hypothyroidism – because of the dry skin); disorders of the liver (cholestasis, cirrhosis); disorders of kidneys (80% in the kidney insufficiency); hematological diseases (Hodgkin's disease – 30%; mycosis fungous; leukemia; mielomatosus); autoimmune diseases («Sicca syndrome» in systemic lupus erythematosus); neurological diseases (cancer of brain; multiple sclerosis); psychiatric diseases; drug induced conditions (chlorpromazine, testosterone, aspirin). The character of itch is also important. For example, in scabies itch is more severe at night; patients with lichen planus suffer from severe itch that may be exhausting. There are obvious signs that are present in the skin of patients who suffer from itch - scratchmarks, excoriations, polish nails, lichenification. It is important in differential diagnosis of itch caused by psychological problems.

Burning of the skin is seen in eczema, rosacea, etc. Pain is a more rare complaint but it is also seen in patients with deep ulcers and vasculitis. Sometimes the loss of sensation is observed (scleroderma, leprosy).

The students have to be able to analyze all the complaints, to define the more important ones and to compare them to the severity of rash in the skin.

### **Anamnesis morbi**

During this part the main questions should be asked: when did the disease begin? Did the patient have similar disease previously? In what part of the body did the lesions begin? How did they spread? During what period did they spread? Can the patient determine what factors provoke the disease? Did the patient become any treatment before? What treatment did he have? Does anybody of the family have skin diseases?

## **Anamnesis vitae**

Anamnesis vitae includes data about race, geographical factors (especially for immigrants), occupation, sports, hobbies, social background, ethnic tradition (dietary habits), past medical history: allergy to medication, hay fever, asthma, past major illness or operation. Social and occupational history has information about patient's travelling abroad, his hobbies and details of the type of work, substances in contact, etc.

## **Status present**

Status present is described according to the principles of general therapy. All main systems are described: respiratory, blood circulate, urinary, intestinal. Lymphatic nodes must be palpated. Enlargement of the lymphatic nodes may be a sign of infectious disease, lymphomas, lymphoproliferative disorders. The general appearance of the skin is also described: color, elasticity, lubrication, dryness, turgor.

### Descriptive terms used to describe skin color may include:

**Carotenaemia** - excessive circulating beta-carotene (vitamin a precursor derived from yellow/orange coloured vegetables and fruit) results in yellow/orange skin colouration. Tends to be pronounced on palms and soles. Does not affect cornea.

**Hyperpigmentation** - hypermelanosis or haemosiderin deposits result in skin colour that is darker than normal.

**Hypopigmentation** - loss of melanin results in skin colour that is paler than normal but not completely white.

**Leukoderma** - white skin. Also known as **achromia**.

**Infarcts** - black areas of necrotic tissue due to interrupted blood supply.

**Jaundice** - excessive circulating bilirubin results in yellow/green skin colour, prominent in cornea.

**Erythema** - red skin due to increased blood supply and blanch with pressure (diascopy).

**Erythroderma** - the skin condition affects the whole body or nearly the whole body, which is red all over.

- **Telangiectasia** - prominent cutaneous blood vessel.

Nails, hair, mucous membranes have to be described. Affection of the nails is seen in many skin diseases: psoriasis, lichen planus, atopic dermatitis, fungi infection. In some diseases hair is changed. Loss of hair is typical for alopecia that can be primary (androgenital alopecia, alopecia areata) and secondary (after trauma, diseases of connective tissue). In mucous membranes

we can see the elements in pemphigus vulgaris (blisters or erosions), syphilis (atypical chancres), lichen planus (typical papules with Wickham sign), etc.

### Status localis

Skin lesions may be isolated (solitary or single) or multiple. If there is a widespread eruption of lesions it is called **rash**. The rash may consist of one type of elements (**monomorphic**) or have different elements (**polymorphic**). The localization of multiple lesions in certain regions helps to make a diagnosis, as skin diseases tend to have characteristic distributions. For example: location in the face is typical for rosacea, seborrhoeic dermatitis, lupus erythematosus, acne vulgaris; in the palms and soles for keratoderma, tinea palmaris, eczema, contact dermatitis, palmar-plantar psoriasis secondary syphilis; interdigital areas are typical for scabies; scalp – for psoriasis, seborrhoeic dermatitis, alopecia, tinea capitis; extensor surface of the extremities – atopic dermatitis; wrists – lichen planus, etc. Lesions may tend to group (eczema, herpes simplex) or to be solitary (prurigo).

#### Some terms that characterize distribution of lesions:

**Acral** - affects distal portions of limbs (hand, foot) and head (ears, nose).

**Dermatomal** - corresponding with nerve root distribution.

**Extensor** - involving extensor surfaces of limbs. Contrast with **flexor** surfaces.

**Flexural** Involving skin flexures (body folds); also known as **intertriginous**.

**Follicular** - individual lesions arise from hair follicles. These may be grouped into confluent plaques.

**Generalised** - universal distribution: may be mild or severe, **scattered** or **diffuse**

**Herpetiform** - grouped umbilicated vesicles, as arise in *Herpes simplex* and *Herpes zoster* infections.

**Koebnerised** - rising in a wound or scar. The Koebner phenomenon refers to the tendency of several skin conditions to affect areas subjected to injury.

**Photosensitive** - favouring sun exposed areas. Does not affect skin that is always covered by clothing: head & neck: spares eyelids, depth of wrinkles & furrows, areas shadowed by hair, nose & chin, V of neck, backs of hands: spares finger webs, more severe on proximal than distal phalanges, forearms: extensor rather than flexor, feet: dorsal surface, sparing areas covered by footwear, lower legs: may affect extensor and/or flexor surfaces, trunk: rarely affected.



**Pressure areas** - affecting areas regularly prone to injury from pressure at rest: tops of the ears when sleeping, buttocks when sitting, heels when lying.

**Seborrhoeic** - the areas generally affected by seborrhoeic dermatitis, with a tendency to oily skin (seborrhoea). Scalp, behind ears, eyebrows, nasolabial folds, sternum and interscapular.

**Symmetrical** - in the same regions, the left side is affected in a similar way to the right side.

**Truncal** - rarely affects limbs.

**Unilateral** - wholly or predominantly on one side of the affected region.

Students have to describe primary and secondary elements and their evolution.

#### Primary elements:

– **Macule:** flat area of altered colour or texture (less than 0.5 cm). **Patch** is a large macule (more than 2 cm). Macules may be hemorrhagic, pigment, inflammatory.

– **Papule:** elevated solid lesion (less than 0.5 cm). They are raised above the skin surface. They may be acuminate (pointed), dome-shaped (rounded), filiform (thread-like), flat-topped, oval or round, pedunculated (with a stalk), sessile (without a stalk), umbilicated (with a central depression), verrucous (warty).

– **Nodule:** elevated solid lesion (more than 0.5 cm)

– **Plaque:** elevated area of skin of more than 2 cm in diameter, a disc shaped lesion, formed by extension or coalescence of papules or nodules. They may be annular (ring shaped), arcuate (half-moon), polygonal (varied non-geometric shape), polymorphic (varied shape), serpiginous (in the shape of a snake), poikilodermatous (variegated appearance, usually mixed pallor, telangiectasia & pigmentation).

– **Vesicle:** fluid filled blister (less than 0.5 cm)

– **Bulla:** larger blister (more than 0.5 cm)

– **Pustule:** elevated, circumscribed, palpable encapsulated structure filled with purulent liquid.

– **Tumor:** elevated, solid structure, may or may not be clearly marked, greater than 2 cm.

– **Wheal (blister, urticaria):** oedematous papule or plaque caused by swelling in the dermis. Wealing often indicates urticaria.

#### Secondary elements:

– **Lichenification** is caused by chronic rubbing, which results in palpably thickened skin with increased skin markings and lichenoid scale. It occurs in chronic atopic eczema and lichen simplex.

– **Crusting** occurs when plasma exudes through an eroded epidermis. It is rough on the surface and is yellow or brown in colour. Bloody crust appears red, purple or black.

– An **excoriation** is a scratch mark. It may be linear or a picked scratch (**prurigo**). Excoriations may occur in the absence of a primary dermatosis.

– **Erosion** is caused by loss of the surface of a skin lesion; it is a shallow moist or crusted lesion.

– **Fissure** is a thin crack within epidermis or epithelium, and is due to excessive dryness.

– **Ulcer** full thickness loss of epidermis or epithelium. It may be covered with a dark-coloured crust called an **eschar**.

– **Hypertrophy** is a component of the skin such as a scar (**cicatrix**) is enlarged or has grown excessively. The opposite is **atrophy** or thinned skin.

– **Scaling** is an increase in the dead cells on the surface of the skin (stratum corneum):

– **Vegetation** is an increased growth of prickle layer of epidermis that results as formation of papillary structures.

Skin lesions are often grouped together. The pattern or shape may help in diagnosis as many skin conditions have characteristic configuration.

– **Nummular**: round (coin-shaped) lesions. Also known as **discoid**.

– **Linear**: linear shape to a lesion often occurs for some external reason such as scratching.

– **Target**: concentric rings like a dartboard. Also known as **iris** lesion.

– **Gyrate**: a rash that appears to be whirling in a circle.

– **Annular**: lesions grouped in a circle.

Morfology of the skin elements:

• Skin lesions may be **flat**, **elevated** above the plane of the skin or **depressed** below the plane of the skin.

• They may be **skin coloured** or **red**, **pink**, **violaceous**, **brown**, **black**, **grey**, **blue**, **orange**, **yellow**.

• Consistency may be **soft**, **firm**, **hard**, **fluctuant** or **sclerosed** (scarred or board-like).

• The lesions may be **hotter** or **cooler** than surrounding skin.

• They may be **mobile** or **immobile**.

The skin surface of a skin lesion may be normal or smooth because the pathological process is below the surface, either dermal or subcutaneous. Surface changes indicate epidermal changes are present.

### **Laboratory findings and special methods**

In this part the general and specific dermatological methods as well as laboratory findings are described.

#### Specific dermatological methods:

**Magnification with hand** is important to note the fine details of skin lesions: if they are profound, their surface, elevation. Normally the turgor and elasticity of the skin varies in different parts. Patients of different age have different elasticity of the skin. During palpation we can reveal temperature of the skin that can be elevated (in erythroderma, profound staphylococcal infection), edema, presence of fluctuation (abscess, hydradenitis), subjective sensations: pain (ulcers) or it's absence (hard chancre, leprosy).

**Diascopy** consists of pressing a transparent slide or plastic spatula over a skin lesion. Examiner will find this of special value to distinguish erythema or purpura. It is useful to detect the apple jelly syndrome in lupus vulgaris. Nikolsky's sign is positive when a new blister is generated with ease by applying shearing force to skin.

**Scratching** may reveal some phenomenons such as Auspitz's sign when slight scratching or curetting of a scaly lesion reveals punctate bleeding points within the lesion which suggests of psoriasis. Sometimes scaling is seen only during scratching (in pityriasis versicolor, parapsoriasis). Students have to avoid scratching with nails because some of the lesions can be infectious (scabies, fungi infection).

Specific methods may include examination with Wood lamp, allergic patch tests, microscopical examination, blood and urine tests. X-ray, etc. In difficult cases skin biopsy is performed.

### **Statement of the Diagnosis**

Is made on the basis of the previous parts: anamnesis vitae, morbi, laboratory tests, complains. Only the signs that are helpful in statement of the diagnosis should be mentioned in this part. The diagnosis must be full and include the stage and the clinical form of the disease.

## Differential Diagnosis

Is performed with the similar diseases, all the factors are analyzed. It may be done in the form of table.

## Individual Treatment

Treatment depends on the form and stage of the disease and includes:

- Regimen,
- Diet,
- General therapy,
- Topical therapy,
- Physiotherapy,

## Prognosis

### Prevention of the relapses

In this part recommendations on the regimen are described as well as further follow up of the patient if necessary.

## Epycrisis

This part is a short summarized information about the patient (dates when he was treated, diagnosis, received treatment, results of treatment and further follow up).

## 2. THE DETERMINATION OF SKIN MOISTNESS, GREASINESS, DRYNESS AND TURGOR

The determination of skin turgor and flexibility is made out by touching (skin crease is taken by fingers), as by skin stroking and pressing on it. Skin turgor and flexibility may be assessed by time when crease on the back of the hand gets smooth out. Since the turgor is good, it will get smooth out instantly, if – low and in old men – will be keeping till several minutes.

Decreased skin turgor and flexibility is observed in different atrophic processes. progeria, increased skin flexibility – at hyperelastic skin.

Examination of sweating by electrometric method is based on the fact that skin moisture is inversely proportional to current resistance. A special tip with two electrodes is closely put to a testing skin area. When the skin is absolutely dry, weak direct current, switched on to electrodes, can not get over horny layer resistance. If the skin is moist the resistance falls down and could be fixed with proper device. Pathology of sweating may be noted in lepra, allergic itching dermatosis, skin atrophies and scleroderma.

### 3. DERMOGRAPHISM DETERMINATION

It is a method, allowing determining the vegetative nervous system condition and vessel's wall reflective reactions in response to skin irritation. A stripe is drawn on the skin with a blunt end of a stick or a rib of spatula. In 10-20 seconds, a white or red stripe appears, strictly repeating spatula movements. If the stripe disappears in 2-8 minutes, it will be white dermographism (atopic dermatitis, prurigo). Red dermographism (eczema) appears a little earlier and keeps on considerably longer, sometimes till 1 hour and even more. Elevated or urticarial dermographism (typical for urticaria) and reflex dermographism, when hyperemia appears like a stripe in width till 3 sm, are rare occurred.

### 3. A METHOD OF THE ARRANGEMENT OF DROPPING AND COMPRESSIVE ALLERGIC SKIN TESTS AND THEIR INTERPRETATION

#### *Dropping allergic tests.*

Such tests are used for allergen exposure in dermatosis, more often in occupational dermatosis. Watered or spirituous solution of testing substance of a weak concentration is put on the health skin on the front of forearm surface or epigastrium with pipette, and then it is outlined with ink or a pen. Solvent drops are put on the symmetric skin areas as a control, watching over that the liquid will have evaporated entirely. The reaction is valued in 24, 48 and 72 hours. If the reaction is positive, in depending of its intensity, erythema, papule, vesicle or blister will be appeared on the place of solution putting.

#### *Allergic compressive tests (appliquetive).*

A gauze napkin folded in four times (area 1x1 sm) is got wet with a weak solution of testing substance; put it on the skin on the front of forearm surface or epigastrium. The napkin is covered with medicine oil-cloth (area 4 x 4 sm), fixing it with bandage or plaster. It is much more convenient to use testoplast, presented by the shift of caoutchouc plaster with round opening in the center with diameter of 0.9 sm, where gauze is impregnated with testing substance with pipette or glass stick. Centers of diagnostic openings are in the distance from each other on 4,5 sm. The reaction is valued in 24, 48 and 72 hours. Chemically pure substances are recommended for skin tests. The plaster itself is to be noted can cause sometimes allergic reactions or contact dermatitis. The test is considered to be positive if erythema (+); erythema, edema, papule (++); sharply expressed inflamed reaction with papules and vesicles (+++); large blisters and tissue necroses will be appearing on the site of allergen affection.

## 5. PATIENTS EXAMINATION UNDER WOOD LAMP

Luminescent diagnostic of vitiligo is carried out in a darkened room, using Wood lamp after examiner is adapted to the darkness. The method gives an opportunity to detect skin areas in the earliest stage of depigmentation. Against a dark skin a light brightly-white areas of different sizes and shapes are clearly seen, which are invisible in usual lighting.

Luminescent diagnostic of microsporias: the method is based on the property of hair affected by *Microsporum* species to give a bright green fluorescence, being irradiated with a short-wave part of ultraviolet rays. As the source of the last ones serves a portable mercurial-quartz lamp of special construction. Wood filter - a glass, impregnated with nickel salts - is used for delaying a long-wave part of a ray. Using this method, hair affected by fungi on the scalp and fluff on the smooth skin could be revealed by typical fluorescence.

The color or fluorescence may be distorted, weakened or disappeared at all after greasing the affected areas with ointments or 5% iodine spirituous solution. In such cases it is necessary to wash the scalp with soap and to repeat the examination again in 3-4 days. Trustworthiness of the mentioned above has to be confirmed by microscopy of hair, taking from the affected area.

Darker fluorescence, resembling malachite, is observed in favus, areas of blastomycosis give a pink-orange luminescence.

Luminescent diagnostic of porphyria cutanea tarda: a patient's daily urine is gathered to a capacity from dark glass. 10-15 ml of toluol is added to the capacity for preventing putrefactive processes in the urine, which can change its color and transparency. 5 ml from gathered urine is poured off to a test-tube and placed under luminescent Wood lamp, there is better to apparatus for luminescent vitamin analysis. The reaction is considered to be positive, if the testing urine will have a red luminescence, it gives a blue-whitening luminescence in health men.

Luminescent diagnostic of pityriasis versicolor: the method is used for detection of affected areas on the scalp. The scalp is lighted up by Wood lamp in a dark room. The affected areas have goldish-yellow or brownish luminescence.

A detection of affected areas on the scalp is very important for pityriasis versicolor lichen treatment, as practitioners often forget about such localization of the disease that leads to further recurrences.

Luminescent diagnostic of erythrasma: the method is used for distinction of erythrasma from inguinal epidermophytia and rubromycosis. The affected areas are examined in Wood lamp rays. A typical coralline-red luminescence, being marked more in peripheral zone, is observed in erythrasma

(affected areas have not to be undergone to topical therapy before the investigation).

## 6. BALZER'S TEST WITH TINCTURE OF IODINE

This test is used for diagnostic of pityriasis versicolor. Macules are greased with 5% iodine spirituous solution. As a result of horny layers loosening in eruption region, iodine solution is absorbed in these areas much better and the macule is colored more intensive, than the surrounding skin. Aniline dyes could be used if an iodine solution is absent. It is have to be considered that Balzer's test could be negative in residual leukoderma, especially in persons, exposed to ultraviolet irradiation.

## 7. MICROSCOPICAL EXAMINATION IN DERMATOMYCO-SIS

Scales of affected hair, nail plates could be taken for this investigation. The success of microscopical examination in dermatomycosis depends a lot on the write technique of material taking. Parts of fungi are usually presented in more quantities in the new, untreated areas.

At corporal mycosis (trichophitia, microsporias, mycosis of foot, keratomycosis, candidiasis) scales are taken by means of scraping from peripheral zones of affected area with scalpel. In patients with foot or hand dishidrosis, vesicles coverings and fringes of exfoliated epithelium are cut of by scissors or safe razor blade.

In dermatomycosis with long and fluff affected hairs, if the hair is broken off on the skin level («black points»), the material is taken with a pincers, sometimes with scalpels spike. In infiltrative-purulent processes hairs floating in pus in a peripheral part of nidus are taken with Folckman's spoon placing it into Poetries cup or on a glass slide. By means of a needle the affected hair is got out and placed on the glass slide. Pus from opened affected areas and fistulas is gathered in the same way, but that from closed regions (abscesses, purulent lymphatic glands and etc.) – by syringe puncture.

Scrapings off the affected mucous membrane are taken with a sterile spatula, loop, pincers or Folckman's spoon.

Scalpel, scissors are used for material taking from affected nails, a drill - from deeper layers.

Phlegm, jaundice, urine. tissue liquid are taken for the investigation in deep mycosis, the materials are placed to a sterile cupping glasses with ground-in stopper.

Native and stained preparations are used for microscopy. There are several methods of preparations making depending on the character of testing material and the sort of dermatomycosis. Here the simplest method of laboratorial diagnostic of fungous diseases is presented. Affected hairs, nails plates, compact horny masses, scales are made smaller on the glass slide with warmed scalpel and then 2-3 drops of 10-30% alkali solution (KOH, NaOH) are added. The preparation is warmed up on a spirit-lamp fire for enlightenment, not carrying it to boiling, until a white border appears around periphery, and than, pressing on the preparation, it is covered with integument glass.

If sales, horny masses or nails are investigated, the laboratory assistant may only indicate on weather mycelium has been found (fungous mycelium, groups of budding cells) or not, but the mycologist can make a diagnosis of the disease according to its clinical picture and, in addition, he carries out cultural investigation.

## **8. THE METHOD OF FOOTWEAR DISINFECTION IN FUNGUS DISEASE OF THE FEET**

A simlificated method of V.M. Leschenko is used for footwear disinfection: an internal side of footwear is lotioned with 25% formalin solution or 40% acetic acid and placed into polyethylene pocket on 2-4 hours. Then footwear is got dried and aired till disappearing disinfectant smell.

## **9. CARRYING OUT OF JADASSOHN'S TEST IN DERMATITIS HERPETIFORMIS (DURING'S DERMATOSIS)**

Jadassohn's test with potassium iodide has a very important diagnostic value for the distinction of dermatitis herpetiformis and pemphigus. Dermatitis herpetiformis is characterized by the increased patient's sensibility to halogens, including iodine. The test is carried out in two variants.

1). A patient takes orally one table spoon with 5% of potassium iodide solution. The test is considered to be positive in case of exacerbation of the skin process.

2). 50% ointment with potassium iodide, prepared on lanoline base, is applied to the skin area on the forearm free from eruptions. Erythema, sometimes vesicles, papules, resembling dermatitis herpetiformis eruptions appear on the site of ointment contact in 24, rarer in 48 hours. Or the exacerbation of the process outside from the site of ointment's application could be observed.



## 10. SYMPTOM OF NIKOLSKY IN PEMPHIGUS

This symptom has mainly a diagnostic value in true pemphigus. After pulling of the scrap of blister's covering, exfoliation of upper epidermis layers is observed within visibly health skin. This process is due to acantolysis. The symptom could be noted in pemphigus chronic benign familiars, pemphigoidum bullosum, toxicol epidermal necrolysis and pemphigus vegetans. A slight rubbing with finger between two blisters also causes exfoliation of epidermis. In rare cases the symptom may be also positive in areas, remote from blisters. When you press with a finger on an unaffected blister, its area begins to exceed, as the liquid pressure leads to the exfoliation of blister's covering on the periphery. Such event (Asbo-Hanssen's symptom) is observed almost in all bullouse dermatoses, being a variant of Nykolsky's symptom.

Nykolsky's symptom allows to distinguish the above mentioned dermatoses from nonacantolitic pemphigus, bullouse sort of polymorphic ecudative erythema, Düring's dermatosis, vegetans Hallopo's pyodermia, Darie's disease, subcorneal pustulose dermatosis, Wilkinson-Brock's erythrodermia, benign nonacantolytic pemphigus of the mouth mucous membrane.

## 11. TAKING OF SMEAR-PRINTS AND THEIR STAINING BY ROMANOVSKY-HIMZA METHOD FOR DETECTION OF ACANTOLYTIC CELLS IN PEMPHIGUS

### *Investigation for acantolytic (Tcank's) cells*

This method is indispensable for differential diagnostic of pemphigus and Düring's dermatosis.

The material is taken from the base of a new blister with scalpel or by means of applying a slight pressing with eraser slice, sterilized through boiling (a method of prints), then replacing the material on a sterile degreased glass slides and is fixed during 1 minute with methyl spirituuous, got dry in a room temperature and stained by Romanovsky-Himza. The last method as follows: a fresh-prepared solution of azur-eozin is marked on smears on 20-25 minutes, then the dye is washed off with distillate water and smears are got dry at the room temperature. After preparing and staining, preparations are inspected under microscope magnification 10x40. Acantolytic cells are smaller than normal epithelium cells, of a rounded shape, with a large nucleus. is coloured intensive violet or violet dark blue color, occupying almost the whole cell. There are two or several large light en coloured nucleolus in the nucleus. The cytoplasm as if to be pushed aside to periphery (border of

concentration), sharply basophile, near to the nucleus has a light blue color. A number of cells are different: from single one till large amounts (like accumulations).

## **12. BESNIER-MESCHERSKY SYMPTOM, DAME'S HEEL SIGN AND «BUTTERFLY» SYMPTOM IN LUPUS ERYTHEMATOSUS**

*A broken dame's heel sign.*

This symptom is used for diagnosis of discoid form of lupus erythematosus. Hyperkeratosis, typical of this dermatosis, penetrates into the cervix of a hair follicle, forming cone-shaped thorns on the back side of a scale, good seen with the naked eyes. When vigorous scaling of the affected areas as present, the patient feels some tenderness as a result of the irritation of nervous receptors due to pressing on them by the above mentioned hyperkeratosis thorns (Besnier-Meschersky symptom). "Butterfly" symptom is characterized by the erythema on the back of the nose and on the cheeks (usually on the cheek-bones), which contours resemble a butterfly. This sign occurs in lupus erythematosus.

## **13. «APPLE JELLY» AND «BUTTON PROBE» SYMPTOMS IN LUPUS VULGARIS**

*«Button probe» symptom.*

As a result of the destruction of elastic and collagen filaments of tubercles in lupus vulgaris, they obtain a pasty soft constitution. Taking into account this peculiarity, A.I Pospelov (1886) offered a symptom of probe's falling in: if you press slightly on the tubercle with a button probe, there remains a pit on the tubercle's surface, which disappears very slowly. This event could be compared to the picture, watched after pressing with fingers on the yeast pastry.

If you press on the tubercle with the probe more intensively, it will look as if falls in the depth of lupoma, at that time a slight bleeding and inconsiderable pain appear. The symptom is more obviously expressed in a fresh lupoma.

*«Apple-jelly symptom»:*

It is a diagnostic way for lupus vulgaris. When you vigorously press on the lupoma with a transparent spatula or a glass slide, blood is pressed out from dilated tubercle vessels and a brownish-yellow color appears, resem-

bling a color of apple jelly. Sometimes a semi-transparent tubercle can be seen at the moment.

The symptom can be positive, but less expressed in a lupoid form of skin leishmanniasis.

#### **14. THE DETECTION OF PSORIATIC PHENOMENON** **(STEARIC SPOT, TERMINAL FILM,** **PUNCTUATE HEMORRHAGE)**

*A diagnostic triad in psoriasis.*

It is almost a permanent symptom typical of progressive and stationary (more rare) stages of psoriasis. After scraping of psoriatic elements (papules, patches), the exfoliation is increased and scales get a white color, like a drop of triturated stearine (phenomenon of stearic spot). During further scraping of them till the granular epidermis layer, scales are taken away and a pink wet film is revealed (the phenomenon of terminal film). If you continue to scrape the elements, the smallest blood droplets arise on the film surface. The amount of the last ones depends on the number of capillaries affected during scratching.

Scraping is carried out with a glass slide or with a blunt end of spatula. After scraping the skin of the hands should be carefully worked up in order to avoid infection (psoriasiformis papuler syphilid).

#### **15. GETTING OF WICKHAM'S NET IN LICHEN PLANUS**

Wickham's netting is a symptom of lichen planus, especially of its classical form, characterized by a small netting on the papule's surface. Papule or patch is greased with liquid oil (vaseline, sunflower-seed and etc.). Then spots of whitening-opal color clearly become seen, crossing like a net lines. That phenomenon is due to irregular bulge of granular layer (granulosis), typical for the disease. In lichen ruber acuminatus, hypertrophicus, pigmental, atrophicus and others forms of lichen planus such test is less presentable.

#### **16. THE METHOD OF MATERIAL TAKING FOR PREPAR-** **ING SLIDES FOR DETECTION OF** **TREPONEMA PALLIDUM**

*Dark ground microscopy for treponema pallidum*

The material is taken from a lesion, suspected to primary or secondary syphiloma (erosion, ulcer, erosion papule) or by puncture of lymphatic gland.

The lesion is cleaned with a sterile cotton tampon, then its surface is scaled off with a tempered and cooling loop till obtaining serum. The last one is placed on a clean, degreased glass slide with a drop of isotonic solution of sodium chloride and is covered with a cover slip.

If the serum can not be got by the noted way, the syphiloma is squeezed from edges with a hand in rubber glove till serum appearing on its surface.

The amount of serum and isotonic solution of sodium chloride should be not large, as in a big drop treponemas will swim in liquid, what makes their detection difficult.

For inspection in dark ground special adaptations to ordinary microscope are applied. Going through such adaptations, beams of light take a slanting direction and concentrate under a sharp angle on the site of examined drop of serum, not getting to objective, by which the investigation in dark ground is achieved. For this method a circle from a dense black paper (envelope from photopaper) with a diameter of 1,5 sm could be used, it is put on the inferior lens of unscrewed condenser so that between the lenses edges and paper a free bolder (clear space) in width of 1,2-2 mm remains.

During the investigation in a dark field the light should be intensive enough (electric lamp 100-150 Vt).

The preparation is examined in objective № 40 and ocular № 10-15. As a result, a lot of lightened moving points (protein and colloid particles) and cells elements, which are difficult to diagnose (what not come into investigator's task) could be seen. *Treponema pallidum* is identified as light spin threads, moving smoothly or like pendulum. It may be confused with *treponema crassus*, often occurring on genitalia, but the last one is thicker than *treponema pallidum*, has a wider curls and moves more quickly.

This method is simple and the most reliable. *Treponema pallidum* is examined in alive condition, what allows diagnosing it from other kinds of spirochetes.

## **17. THE METHOD OF MICROSCOPIC EXAMINATION ON TRICHOMONAS AND GONOCOCCUS**

### *Microscopic examination on trichomonas.*

Trichomoniasis is characterized by multilocus affection. So, the material for the investigation should be taken from different infected areas. Discharges, scraping are taken from urethra in men, from side and back parts of vagina vault, urethra - in women, from foramen in hymen with a gutter probe or vagina pincers - in girls. Before material taking a toilet of genitalia is not

recommended, a patient is asked to keep from urination for a long time (not less than 3-4 hours).

Received material is placed on a glass slide and put on with a cover slip. If it is thick, before the examination several drops of a warm isotonic solution of sodium chloride should be added. Trichomonas must be inspected under microscope in a fresh and stained condition.

Native smears are desirable to be used instantly. They are examined under magnification of 10x40 with ordinary microscope or in a dark ground with phase contrast microscope. In fresh-prepared, not stained preparations, trichomonas have a pear-shaped form, their size is a little more than leukocytes ones, movings are forward, pushative. Examining the preparation under phase contrast microscopy flagella could be distinguished in a dilated part of trichomonas.

Examination of trichomonas only in native smear doesn't exclude the mixing of urino-genital trichomonas with its other kinds, occurring in man's organism (intestinal, mouth). That's why, side by side with material examination in a native condition, it is necessary to carry out a microscopy of stained smears. Smears are dried in the air and fixed. The method of fixation depends on the way of staining. For more detailed examination of trichomonas structure (detection of nuclei, membrane and other organoids) the smear is stained by Romanovsky-Himza method. In such cases the preparation is fixed with spirit and ether in equal parts.

More often smears are stained by 1% solution of methyl dark blue or by Gram method. The preparation is usually fixed under the fire burner. The staining by methyl dark blue has a preference to other methods, consisting in a possibility of simultaneous examination of smears on gonococci and trichomonas.

Trichomonas, stained by Gram, get red color, and by methyl dark blue – dark blue color. Their size is different. The nucleus, situated eccentric, has an oval shape, it is stained to darker color comparing to protoplasma. Flagella are not revealed. Often a small chink – cystoma and in cytoplasm – vacuoles, microorganisms, leukocytes, erythrocytes, spermatozoons may be made out in a dilated part of trichomonas. It is very important to identify gram-negative diplococci (gonococci). Assessing the preparation, stained by methyl dark blue, it is necessary to differentiate trichomonas and epithelium cells, which size is larger, nucleus is situated in the center.

#### *The staining of gonococci by methyl dark blue.*

Before staining smears are fixed with 96° ethyl spirituous or over fire burning. On the dried smear 1% solution of methyl dark blue is put on and remained it during one minute. The rest of dye is washed up under the stream of a cold water and leave to dry in support. Under microscope nuclei of cells are stained to dark blue color, cytoplasm – to blue color of different intensity. Mucus is of blue color. A bacterial flora is stained to dark blue of different

tint. Gonococci are of dark-blue color, sharply outlined, of bean form, twin, are situated inside of polymorphonucleoleukocytes, in mucus and on epithelium cells.

#### *Staining of gonococci by Gram*

The smear is fixed up over fire burning during 1-2 minutes and stained with some dry of triphenylmetan group (hencianviolet, methylviolet, crystall-violet), washed up with water and pored with Lugol's solution (potassium iodine – 2 g, crystalline iodine – 1 g, aquae destillatae – 300 ml), then they are fixed with 96% ethyl spirit during 1 minute till the appearing of grey-violet streams. After that the preparation is washed up with contrast dry (neitralrot). Gonococci are gram-negative, so they are stained in red or pink color. Gram-positive bacteria are of violet color.

### **18. SKILL OF GATHERING EPIDANAMNESIS IN PATIENTS SUFFERING FROM VENEREOLOGICAL DISEASES**

At first it is necessary to define more precisely complaints of a patient, to get information about former venereological diseases, to find out harmful habits. Further anamnestic data about remoteness of the disease, duration of its incubation period and the character of sex life (in marriage, out of marriage, with one or several partners) should be gathered. Besides, the information about self-treatment, the endurance of medicaments is registered in the medical history.

While anamnesis is taken, attention should be paid to former diseases, having developed after deliveries, the development of inflammatory process soon after sex, the presence of other diuretic events, appearing of discharges and disorders of menses or sterility.

### **19. A TWINGLASS PROBE (THOMPSON'S PROBE) AS A PROCEDURE USING DURING THE EXAMINATION OF A PATIENT WITH URETRITIS**

It is used in venereology and dermatology for judging of a site where urethra is affected (its interior or anterior parts). Before carrying out of the probe, a patient should not urinate during 4-6 hours, after that he is offered to gather his urine into two glasses: to the first one – 50-60 ml, to the second – the rest one. If the first portion of urine will be dull, and in the second one – transparent, the process is located in the anterior part of urethra. The presence of less in the both glasses is an evidence of a total affection of urethra. but

when its interior part is affected pus may penetrate into urinary bladder, where the same dullness urine will be present.

## **20. DISINFECTION OF HANDS AND TOOLS DURING WORKING WITH A PATIENT, BEING INFECTED WITH SYPHILIS, GONORRHEA AND OTHER SEX TRANSMITTED INFECTIONS**

### *Disinfection of hands:*

After examining of a patient with skin or venereological disease, a doctor disinfects his hands with a solution of bactericidal preparation. As a source for hands disinfection 70-80% ethyl spirit, 0,5% solution of chlorhexidini in 70% ethyl spirit, septicid P are used.

### *Disinfection of tools:*

After inspecting tools are put into 3% solution of chloramin for 1 hour.

## **21. THE METHOD OF INDIVIDUAL PROPHYLAXIS OF VENEREOLOGICAL DISEASES.**

A way of prophylactic help for men.

1. A patient washes his hands, let urine out, than carefully washes over penis, scrotum, thighs and perineum with warm water with a soap.

2. After drying with gauze the same places are wiped with cotton tampon, being impregnated with a solution of 0,05% chlorhexidini bigluconatis or 0,01 % solution of miramistin.

3. From Esmarch's cup a bathing of anterior part of urethra with 0,05 % solution of chlorhexidini bigluconatis is produced, let out till 0,5 ml of bath liquid or the same procedure could be carried out with miramistin.

4. After bathing of urethra 1-2 ml of 0,05% solution of chlorhexidini bigluconatis or 1-2 ml of 0,01 % miramistin are brung into the last one or 6-8 drops of 2-4% water solution of protargol with an eye pipette is brung in urethra. Than the external foramen of urethra is slightly squeezed for 2-3 minutes and after letting urine out the patient is recommended not to urinate during 2-3 hours.

5. The patient is given sterile gauze for defense of genital organs from dirtying wear, which is recommended to be replaced as soon as possible.

### *A way of prophylactic help for women.*

6. A patient washes her hands, let urine out, than carefully washes over with warm water with genitalia, thighs, perineum and anal region.

7. After drying with gauze the same places are wiped with cotton tampon, being impregnated with a solution of 0,05% chlorhexidini bigluconatis or 0,01 % solution of miramistin.

8. Syringing of vagina is carried out with 0,05 % solution of chlorhexidini bigluconatis or 0,01% of miramistini, injecting 150-200 ml of one of

solution, and 1 ml of such solution is brought into urethra. While such solutions are absent, syringing of vagina is conducted with solution of potassium permanganate 1:6000 with further bringing into urethra of 8-10 drops of 1-2% silver nitrate with an eye pipette and greasing cervix and vagina mucosa with 2% solution of silver nitrate.

9. The patient is given sterile gauze for defense of genital organs from dirtying wear, which is recommended to be replaced as soon as possible.

Prophylactic processing with 0,05% chlorhexidini bigluconatis or 0,01% solution of miramistin prevents the development of venereological disease, if it had been carried out not later than 2 hours after sex.

## **22. FILLING IN AN EXTREME NOTIFICATION AND NECESSARY DOCUMENTATION TO A PATIENT, INFECTED WITH VENEREOLOGICAL DISEASE OR INFECTIOUS SKIN DISEASE**

After exposure of the patient with venereological disease a doctor who established the pathology, independent of the place of patient's exposure, ought to fill in «Notification...» (Form № 089/y) and in 3 days to transfer it into the skin-venereological region dispensary, and its copy - to the sanitary-epidemiological station.

After exposure of the patient with scabies the medical card of the ambulant patient is filled in (form 25/y), where the information about the source of infection and about contact persons is inserted. The information about the patient is transferred by phone not later than 2 hours after registration of the disease to region cure-prophylactic establishment, to region center of hygiene and epidemiology, and then after 3 hours it is duplicated with notification on form 89/y; medical staff of all children establishment are informed about exposure of the patient with scabies directly from skin-venereological dispensary or through children policlinic.

After exposure of the patient with microsporia, trichophytia an extreme notification is filled in (form 89/y). The information about the patient is transferred by phone to region cure-prophylactic establishment in all cases, the registration of patients with infectious skin diseases is conducted with indication of his place of job, study and etc. After exposure of the patient with zoonose microsporia and trichophytia a copy of a form 89/y is directed to region establishment of veterinary. Exposure and examining of contact persons are conducted. The information about the patient is transferred by phone to region cure-prophylactic establishment in all cases, the registration of patients with infectious skin diseases is conducted with indication of his place of job, study and etc.



1/ Epidermis consists of:

1. 2 layers,
2. 7 layers,
3. 3 layers,
4. 5 layers.

Right answer - 5 layers (choice 4). The layers of the epidermis are - stratum basal (basal layer), stratum spinosum (spinous layer), stratum granulosum (granular layer), stratum lcidum, stratum corneum from the bottom. Stratum lcidum is not present in all parts of the body (for this reason, in some text-books you may not see this layer in the classification). This layer is present only in some parts, such as palms and plants. It's an amorfic layer.

2/ What are the main types of the cells in the skin?

1. Keratinocytes,
2. Melanocytes,
3. Langerhans' cells,
4. Merkel's cells,
5. All of above.

Right answer - all of above (choice 5). Keratinocytes (choice 1) form 85% of cells in epidermis and are present in all layers of the skin. Melanocytes (choice 2) are the cells from neural crest, wedged between basal keratinocyte in 1 to 10 ratio. 1 melanocyte supplies pigments to 36 keratinocytes. The main functions of the melanocyte are the cosmetic one and the protection from the sun. The color of the skin depends on the quantity of the melanocytes. Merkel's cells (choice 4) are the cells that are usually situated in the basal layer and the function of which is tactile senses. Langerhan's cells (choice 3) have the function of the immune response. They are the first that react at the effect of the antigens.

3/ Skin consists of:

1. Epidermis,
2. Derma,
3. Subcutaneous fatty tissue,
4. All of above.

Right answer - all of above (choice 4). Epidermis (choice 1) is the outer layer that consists of 5 layers. Derma (choice 2) is the second layer that consists of fibroblasts and amorphous ground substance. Derma also has vessels and nerve endings. Subcutaneous fatty tissue (choice 3) consists of fat and connective tissue that houses larger blood vessels and nerves. This layer is important for the regulation of skin and body temperature.

4/ What is NOT true about sebaceous glands:

1. They are holocrine glands,
2. There are free sebaceous glands and glands that are connected with hair,
3. There are many sebaceous glands in palms and soles,
4. Function of the sebaceous glands depends of hormones.

Right answer - there are many sebaceous glands in palms and soles (choice 3). In this parts of the body these glands are absent. Sebaceous glands may be independent - Meibomian glands of the eyelids, Tyson's glands of the prepuce, and free glands in the female genitalia and in the areola of nipples - and may open in the hair follicule, forming the pilosebaceous apparatus (choice 2). They are holocrine glands (choice 1), what means that their secretion is followed by complete destruction of the cells. The function of the sebaceous glands depends on hormones (choice 4), especially on estrogens and androgens. Androgens stimulate the sebum production and the effect of estrogens is the opposite.

5/ Intracellular edema with cellular swelling is called:

1. Ballooning degeneration,
2. Spongiosis,
3. Vacuolar change (vacuolization),
4. Parakeratosis.

The right answer is ballooning degeneration (choice 1). This process is often secondary to viral injury or nutritional deficiency. Spongiosis (choice 2) is a widening of the interspaces between keratinocytes due to edema fluid without the detachment of cells from each other. Vacuolar change (choice 3) is the formation of vacuoles within cells. This term is often used with reference to changes in the basal keratinocytes. Parakeratosis (choice 4) is a process of keratinization in which the keratinocytes retain their nuclei; abnormal in skin, normal in mucous membranes.

6/ What is characteristic of the macula?

1. Change of the skin surface,
2. Change of the skin structure,
3. Change of the skin color,
4. All of above.

Right answer is - change of the skin color (choice 3). Macula is a flat area of altered color (less than 0.5 cm). The formation of maculae happens due to the deposition of the pigment in the epidermis but not due to changing of the skin structure (choice 2). Change of the skin surface (choice 1) is revealed during palpation. It can be flat (normal condition), elevated above the plane of the skin (when there are papules, pustules) or depressed below the plane of the skin (ulcer, atrophy).

7/ What maculae disappear during diascopy?

1. Pigmentic,
2. Inflammatory,
3. Vascular.

Right answer is - vascular (choice 3). Disappearance of these maculae is explained by the depression of the vessels that contain erythrocytes. Pigmented lesions (choice 1) do not disappear, because they are caused by pigment cells. Inflammatory maculae (choice 2) – roseola - don't disappear because they contain inflammatory cells.

8/ The drug of choice for dermatitis herpetiformis is:

1. Steroids,
2. Zinc cream,
3. Dapsone,
4. Psoralen.

Right answer – dapsone (choice 3). The mechanism of the drug is not clearly known but it proved to be effective in treatment and prophylaxis of this disease. Steroids (choice 1) may be used in the absence of dapsone. Zinc cream (choice 2) may be applied for the treatment of skin lesions of dermatitis and is a symptomatic treatment. Psoralen (choice 4) is used for phototherapy.

9/ Herald patch is seen in:

1. Pityriasis rosea,
2. Lichen planus,
3. Tinea versicolor,
4. Psoriasis.

Right answer – in pityriasis rosea (choice 1). It's an inflammatory disease of unknown origin that is characterized by the formation of the herald patch located normally on the trunk and by the following dissemination of the rash all over the skin of the body. For the lichen planus (choice 2) and psoriasis (choice 4) the primary element is papule, the formation of maculae is not typical. In tinea versicolor (choice 3) the maculae are usually disseminative and distributed mostly on the upper trunk. Positive Baltzer probe is also characteristic of the maculae in tinea versicolor.

10/ Intraepithelial bullae are a feature of:

1. Pemphigus,
2. Pemphigoid,
3. Dermatitis herpetiformis,
4. Contact dermatitis.

Although the formation of bullae may be seen in all these diseases, the intraepithelial location of them is characteristic of pemphigus (right answer – choice 1). The skin biopsy and direct immunofluorescence are the “golden standard” in differential diagnosis of pemphigus and pemphigoid. In pemphigoid the dermal formation of bullae is seen (choice 2). In herpetiformic dermatitis (choice 3) bullae are less likely to form; usually the grouped vesicles are seen. In the immunofluorescence reaction the deposits of IgA are seen. In contact dermatitis (choice 4) bullae may also appear after the prolonged contact but there are no signs of intradermal eruption.

11/ The treatment of choice in nodulocystic acne is:

1. Systemic steroids,
2. Benzoil peroxide,
3. Retinoic acid,
4. Estrogens.

Right answer – systemic retinoids (choice 3). They have the strongest ability to depress sebum production of the sebaceous glands and are used in treatment of the severe cases of acne. Using systemic retinoids it is necessary to be aware of the side effects, such as dryness of the mucous membranes and skin, terathogenic effect, nausea, etc. Systemic steroids (choice 1) are usually not prescribed in the cases of acne. Benzoil peroxide (choice 2) may be used for the local therapy and has an antiinflammatory effect, but is normally used in the primary stages of acne. Estrogens (choice 4) are used for the treatment of acne in women that have disturbances in the balance of the hormones.

12/ What symptom does NOT characterize SSSS?

1. Paperlike wrinkling of the skin,
2. Widespread erosions,
3. Multiple pustules,
4. Peeling of the epidermis in the form of large sheets,
5. Nikolsky's sign.

Right answer - multiple pustules (choice 3). This symptom does not seen in SSSS. The disease often begins with the temperature. The skin is wrinkled and thin (choice 1). On the erythematous skin blisters are formed. When the blister is pressed with the glass (diascopy) it becomes larger. This phenomenon is called Nikolsky's sign (choice 5). Later the skin peels in the form of large sheets (choice 4) forming widespread erosions (choice 2).

13/ What treatment is NOT necessary in SSSS?

1. Penicillin-resistant antystaphylococcal antibiotics in high doses,
2. Corticosteroids,
3. Skin dressings,

#### 4. Solutions of electrolytes.

Right answer - corticosteroids (choice 2). SSSS is caused by penicillin resistant staphylococcus that is why antibiotics such as cephalixin should be administered. The clinical picture of SSSS is very similar to toxic epidermal necrolysis (TEN), which is treated with corticosteroids. In the treatment of SSSS corticosteroids are forbidden. Skin dressings (choice 3) may be used, but their use should also be minimized. The patients are treated as if they have fire burns of the skin. During SSSS a lot of water is lost, the maintainance of water and electrolytes is necessary (choice 4).

#### 14/ What is NOT the clinical picture of furuncle?

1. Initial nodule in the erythematous skin,
2. Elevated pustule with the yellowish pus,
3. Large bullas in the erythematous skin,
4. Core of the necrotic tissue,
5. Ulcer with the purulent bottom.

Right answer is – large bullas in the erythematous skin (choice 3). The bullas are not formed in boils. First the nodule is formed on the erythematous skin (choice 1). The nodule may be painful and profound. Later the pustule is formed (choice 2). When the pustule opens the pus and necrotic tissue go out (choice 4). At the place of pustule ulcer with the purulent bottom is formed (choice 5).

#### 15/ What treatment is provided for the patient with folliculitis?

1. Oral antibiotics,
2. Local ointments with antibiotics,
3. Antiseptics,
4. All of above.

Right answer – all of above (choice 4). Oral antibiotics (choice 1) are prescribed (usually from the group of penicillin) in chronic and generalized folliculitis. Local ointments with antibiotics (choice 2) work directly in the pustules. Antiseptics (choice 3) help to prevent the further infection.

#### 16/ What location of the boil (furuncle) needs hospitalization?

1. Neck,
2. Face,
3. Body,
4. Extremities.

Right answer – face (choice 2). This situation of the boil is very dangerous because of the anatomy of this area. The infection may affect blood vessels and sepsis may develop. Other localization (choice 1, 3, 4) is not so

dangerous and may be treated by excision, with local therapy or systemic antibiotics (in multiple furuncles).

17/ What is the most frequent localization of the hydradenitis?

1. Axillae,
2. Groin,
3. Around the nipple,
4. Around the anus.

Right answer is axillae (choice 1). In all these places hydradenitis may develop, but axillae is the most frequent location.

18/ What is the treatment of boils in the stage of infiltration?

1. Dry heat,
2. Local antibiotics,
3. Surgical incision,
4. All of above.

Right answer – dry heat (choice 1). The main principle of the treatment in the stage of infiltration is to make the pus to go out faster. Local antibiotics (choice 2) can fairly help in the situation. Surgical incision (choice 3) is contraindicated because the lesion is not encapsulated yet.

19/ What infection should be usually excluded in paronychia?

1. Candidiasis,
2. Alopecia,
3. Microsporum infections of the nail,
4. All of above.

Right answer – candidiasis (choice 1). This infection usually aggravates the paronychia infections and can be usually seen in patients whose profession is connected with water and detergents. That is why patients with paronychia must be examined for mycotic infection too. Alopecia (choice 2) – is a non-infectious disease characterized by the loss of the hair. Sometimes it is followed by the deformation of the nails, but not of periungual areas. Microsporum infections of the nail (choice 3) can be seen very rarely.

20/ What is NOT the symptom of bullous impetigo?

1. Absence of Nikolsky's sign,
2. Formation of bullae,
3. Positive Nikolsky's sign,
4. Absence of lymphadenopathy.

Right answer - positive Nikolsky's sign (choice 3) is not the sign of bullous impetigo. This sign can be seen in pemphigus vulgaris and some other diseases. The bullous impetigo usually begins with the formation of bullas

(choice 2). After the roof of the bulla ruptures it leaves a peripheral collarette of scale or a tubelike rim at the periphery of the lesion. A varnishlike crust develops centrally, which if removed, reveals a moist red base. Lymphadenopathy (choice 4) is usually not seen.

21/ What are the factors that can provoke the pyoderma gangrenosum?

1. Ulcerative colitis,
2. Chronic hepatitis,
3. Rheumatoid arthritis,
4. All of above.

Right answer – all of above (choice 4). Pyoderma gangrenosum is a chronic disease characterized by the formation of ulcers that are usually irresponsive to the treatment. The formation of ulcers is followed by pain. Some diseases of the internal organs can aggravate the cause of the pyoderma gangrenosum: ulcerative colitis (choice 1), chronic hepatitis (choice 2), and rheumatoid arthritis (choice 3).

22/ What mechanism is NOT the mechanism of non-specific skin defense system against microbes?

1. Intact skin barrier,
2. T and B lymphocytes,
3. Skin pH,
4. Resident bacterial flora.

Right answer - T and B lymphocytes (choice 2). Immune system is a part of specific skin defense where T and B lymphocytes provide a specific protection for the skin due to high affinity cellular receptors and antibodies. They provide slow response to the infection due to the specific memory. Intact skin barrier (choice 1) provides non-specific skin defense as well as bacteria may penetrate into the damaged skin. Some bacteria need special pH for their living, so the natural pH of the skin that is about 5,5 prevents the invasion of some pathogenic bacteria (choice 3). Skin of the patient is not sterile, there are many bacteria and some yeasts. Resident bacterial flora (choice 4) prevents the colonization of the pathogenic bacteria due to competitions for nutrients, production of antibodies and stimulate the host defense.

23/ What microorganism is NOT the part of the resident microbial skin flora?

1. St. epidermidis,
2. Propionibacterium acnes,
3. Malassezia furfur,
4. Micobacterium leprae.

Right answer - *Mycobacterium leprae* (choice 4). This microorganism is not a part of the normal flora of the skin and its colonization leads to the development of leprosy. *Staphylococcus* species (choice 1) are the most numerous in the skin. They are aerobic bacteria and their density in some parts of the skin may reach 500,000-1,000,000 (in armpits). Sometimes, due to changing of the relative population of the microorganisms and moving into sterile part of the body *Staphylococcus* may become opportunistic pathogens especially in immunosuppressed patients. *Propionibacterium acnes* (choice 2) is an anaerobic bacteria, most densely found in hairy skin. Their density may make up from 50,000 up to several millions/cm<sup>2</sup>. If there are disturbances of the host regulation the hypercolonization of these bacteria may lead to the development of acne. *Malassezia furfur* (choice 3) is one of the yeasts that colonizes the normal skin. Due to the lipophilic characteristics they are usually found on the upper trunk and in skin folds. Immune disturbances of the host and the hypercolonisation of these yeasts may lead to some diseases such as *pythriasis versicolor*, *folliculitis*, etc.

24/ What is NOT true about *Staphylococcus aureus*?

1. Aggressive pathogen,
2. Patients can be carriers of *St. aureus*,
3. Can cause *erythrasma*,
4. Can lead to life threatening conditions.

Right answer - can cause *erythrasma* (choice 3). *Erythrasma* is caused by *Corinebacterium* and it is a superficial infection of the skin. *St. aureus* (choice 1) is an aggressive pathogen that has many virulence factors such as enzymes and antigens – *plasmocoagulase*, *staphylokinase*, *nucleases*, *hyaluronidase*, etc. It can also produce different types of toxins, i.e. *enterotoxins*, *exfoliatin* which can lead to life-threatening conditions (choice 4) such as *Staphylococcal Scaled Skin Syndrome* or *Toxic Shock Syndrome*. Some people are the carriers of the *St. aureus* (choice 2). Most popular resident sites are: anterior nares 35%, perineum 20%, axillae 5-10%, toe webs 5-10%, pharynx, and hand. Examination of the population especially of hospital staff is the necessary method in preventing infections caused by *St. aureus*.

25/ What is NOT used in the treatment of the superficial *folliculitis*?

1. Hygienic measures,
2. Topical disinfectives,
3. Topical steroids,
4. Topical antibiotics.

Right answer - topical steroids (choice 3). Use of topical corticosteroids may provoke or aggravate *folliculitis*. Superficial *folliculitis* is a subacute or chronic inflammation of the follicles usually caused by *St. aureus*, chemical



or physical irritation (depilation). It is very common in children. Superficial folliculitis is usually a self healing disease, it healed without scars. Hygienic measures (choice 1) such as laundry, topical desinfectives (choice 2) are usually enough to cure it, but in chronic cases antibiotics topical and oral (choice 4) can be used.

26/ What is true about Streptococcus?

1. Streptococcal infections are very rare,
2. Streptococcal infections can't be transmitted,
3. Streptococcal pathogenicity is due to it's numerous extracellular products,
4. Penicillin is not used in the therapy of the infections caused by streptococcus.

Right answer - streptococcal pathogenicity is due to it's numerous extracellular products (choice 3). Streptococcal infections are frequent all over the world. The nasopharyngeal area of 15-20 % of children is colonized without any symptoms (choice 1 is incorrect). Under the natural conditions streptococci are only human pathogens. Infections are transmitted from person to person by droplets or direct contact with the infected skin (choice 2 is incorrect). Such manifestation as impetigo can be highly contaminative. Streptococci produce many extracellular products, the main of them are streptolysin O, S, DNases, erythrogenic toxins A,B,C, streptokinase, hyaluronidase. Penicillin is still the drug of choice for streptococcal infections (choice 4 is incorrect), but if there is a combination with other bacteria, cephalosporines can also be drugs of choice.

27/ What is NOT the clinical symptom of the scabies?

1. Severe itching, especially at the night time,
2. Localization at the palms, interdigital area,
3. Nikolsky's sign of the primary elements,
4. Papules and vesicles in pairs,
5. S-shaped, curved line.

Right answer - Nikolsky's sign of the primary elements (choice 3). This sign is characteristic of some bullous diseases and SSSS syndrome. Severe itching is the common characteristics of scabies (choice 1), the itch is usually more severe at the night time. Patient with the good hygiene may not complain of itch. Localization on the palms, in interdigital area is very typical (choice 2), scabies can also be seen on the skin of stomach, axillae, around areolas, in sacral and glutei regions. In infants the disease can affect the scalp, face, neck, soles and palms. Papules and vesicles appear as a result of allergic process (choice 4). They are usually in pares that mark the place were the

mite goes into and out of the skin. S-shaped curved line (choice 5) repeats the way of the mite and is filled with the products of life of the mite.

28/ What is NOT the symptom of scabies:

1. Triangular symptom,
2. Gorchakov's symptom,
3. Symptom of the apple jelly,
4. Ardi's symptom.

Right answer - symptom of the apple jelly (choice 3). The symptom is seen in the lupus vulgaris and is characterized by the specific change of the color of the element in diascopy. Gorchakov symptom (choice 2) is characterized by hemorrhagic crusts in the area of the elbows. Ardi symptom (choice 4) - impetigo-like elements around the elbow area. Triangular symptom (choice 1) – crusts, excoriations, papular-pustular elements in the glutei and sacral areas.

29/ What is considered to be an atypical form of scabies:

1. Crusted scabies,
2. Nodular scabies,
3. Scabies caused by animal mites,
4. All of above.

Right answer – all of above (choice 4). Crusted scabies (choice 1) is an overwhelming scabies infestation. This rare form of scabies occurs in elderly or mentally incompetent patients. Because of an impaired antibody response, these individuals can be infested with thousands to a couple million mites. Nodular scabies (choice 2) occurs in 7-10% of patients with scabies. Pink, tan, brown, or red nodules can be seen. They range from 2-20 millimeters in diameter. The mite is not usually present within the nodular lesion. Papules rarely contain mites and most likely are due to a hypersensitivity reaction. Papules are common on the shaft of the penis in men. Animals can transmit nonhuman scabies to people (choice 3). Human infestation with animal scabies is known to be self-limiting, and, clinically, burrows are often absent. Cases have been documented of transmission from horses, cattle, goats, camels, llamas, sheep, foxes, and, most commonly, dogs. In fact, canine scabies is known as mange. One of the causative agents of animal scabies is *Cheyletiella yasguri*.

30/ What is NOT used for the treatment of scabies?

1. Permetrin,
2. Sulfur ointment,
3. Corticosteroids,
4. Benzylbenzoat,

5. Lindane.

Right answer – corticosteroids (choice 4). Corticosteroids that are used for the treatment of other diseases may prevent the development of the inflammation and make the diagnosis more difficult. Permetrin (choice 1) is a standard therapy for scabies. This agent is highly effective, minimally absorbed, and minimally toxic. 5 or 10% precipitated sulfur (choice 2) in petrolatum is also effective. Benzylbenzoate (choice 4) – 10% in the form of lotion or cream is used in the 1<sup>st</sup> and 4<sup>th</sup> days of the treatment. Previously, 1% lindane lotion (choice 5) was the standard treatment for classic scabies. Although lindane is generally effective, treatment resistance can occur.

31/ What is considered to be the local form of TB cutis?

1. Miliary TB,
2. Bazin disease,
3. Scrofuloderma,
4. Lichenoid tuberculid.

Right answer – scrofuloderma (choice 3). Scrofuloderma results from breakdown of skin overlying the tuberculosis focus, usually at a lymph node but also at the skin over infected bones or joints. The other forms (choice 1, 2, and 4) are considered to be disseminated.

32/ What is the phenomenon that is seen in the lupus vulgaris?

1. Auspitz's syndrome,
2. Apple jelly syndrome,
3. Triangular syndrome,
4. Gorchakov syndrome,
5. Nikolsky's syndrome.

Right answer – apple jelly syndrome (choice 2). The tubercles in the patients with lupus vulgaris has the yellowish color during diascopy. Auspitz's syndrome (choice 1) is seen in psoriasis and is characterized by the scaling, terminal lamina and drop bleeding. Triangular syndrome (choice 3) is seen in scabies when specific elements are seen in the sacral area. Gorchakov's syndrome (choice 4) is characterized by the hemorrhagic crusts in the area of the elbows. Nikolsky's syndrome (choice 5) is the sign of some bullous diseases.

33/ What way of transmission of the TB is characteristics of the TB verrucosa cutis?

1. Trough the lymphatic system,
2. Trough the blood,
3. Trough the air,
4. Direct inoculation.

Right answer – direct inoculation (choice 4). The formation of the disease is characteristics of some group of professions - physicians, pathologists, and laboratory workers. Scrofuloderma is usually transmitted through the lymph nodule (choice 1), lupus vulgaris – through the blood (choice 2). The lung forms of TB are usually transmitted through the air (choice 3).

34/ What is the most typical location of the verrucous TB of the skin?

1. Face,
2. Neck,
3. Trunk,
4. Hands.

Right answer – hands (choice 4), because the disease develops after direct inoculation and patients are usually people of some specific profession.

35/ What is NOT the absolute criteria for the TB of the skin?

1. Active, visceral TB,
2. Culture,
3. PCR,
4. Guinea pig inoculation.

Right answer – active, visceral TB (choice 1). The development of the visceral TB does not necessary lead to the development of the skin TB. To prove the skin TB it is necessary to reveal the bacteria by culture (choice 2), PCR (choice 3) or pig inoculation (choice 4).

36/ What drugs are NOT used in classical 4-drug therapy for the TB?

1. Isoniazid,
2. Rifampicin,
3. Tetracyclin,
4. Pyrazinamide,
5. Ethambutol.

Right answer – Tetracyclin (choice 3), this drug doesn't have the susceptibility to TB bacteria. The other drugs are used (choice 1, 2, 4, 5).

37/ What is true about tuberculosis of the skin?

1. 95% of the cases are seen in highly developed countries,
2. Diagnosis of tuberculosis is very simple,
3. Mortality from tuberculosis is very low,
4. Culture is the “golden standard” in the diagnosis of the tuberculosis of the skin.

Right answer - culture is the “golden standard” in the diagnosis of the tuberculosis of the skin (choice 4). Tuberculosis is still quite a common infection. Worldwide there are about 8,4 million cases of tuberculosis, 95% of

which are in developing countries (choice 1 is incorrect). In Western industrial countries the rate is decreasing 2-3 % per year. The mortality worldwide is still very high (choice 3 is incorrect) and ranges about 2 million people per year. The diagnosis of tuberculosis of the skin is not simple and sometimes takes some months (choice 2 is incorrect). It is necessary to perform the differential diagnosis with such diseases as sarcoidosis, leprosy, leishmaniasis, psoriasis, rosacea, etc. The diagnostic process is based on some principles: clinical manifestation, probes, histology, culture, PCR, Mantoux test, exclusion of other TB infections. The golden standard of the diagnostics is culture (choice 4) that is an obvious criteria, but it can take up to 6-8 weeks. Culture allows to specify the species, make different tests for the resistance, perform the control of the therapy.

38/ What is NOT true about mycobacterium tuberculosis?

1. Gram-negative,
2. Transmitted by droplets, contact,
3. Incubation period is very large,
4. It is aerobic bacteria.

Right answer – gram-negative (choice 1). *Mycobacterium tuberculosis* is gram-positive rod shaped aerobic bacteria (choice 4), alkali- and acid fast. It can be transmitted by droplets nuclei, contact – *TB verucosum* - and by food (choice 2). The incubation period is very long and can be up to several months (choice 3).

39/ What is NOT the complication of the tuberculosis of the skin?

1. Infections of the internal organs,
2. Miliary dissemination,
3. Sarcoidosis,
4. Carcinoma in lupus.

Right answer – sarcoidosis (choice 3). It's a different disease that has a similar manifestation but different origin. Later the infection of the internal organs can happen in case of primary tuberculosis of the skin (choice 1), it's possibility is up to 19%. Miliary dissemination (choice 2) may lead to the appearance of other numerous skin lesions on the skin. Carcinoma in lupus (choice 4) usually develops at the place of lupus vulgaris and can be due to the long duration of the disease, inappropriate treatment, and immunodeficiency.

40/What are the types of humane lice?

1. Head lice,
2. Body lice,

3. Pubic lice,
4. All of above.

Right answer – all of above (choice 4). Head and body lice (choice 1 and 2) are similarly shaped, but the head louse is smaller. The pubic (choice 3) or crab louse is quite distinct in appearance; it has pincer like claws resembling those of sea crabs.

41/ What is NOT the clinical characteristics of pediculosis?

1. Severe itching,
2. Secondary infection due to scratching,
3. Inflammatory nodules in the skin of the scalp,
4. Nits in the eyelashes.

Right answer – inflammatory nodules in the skin of the scalp (choice 3). Uninfected bites present as erythematous papules, 2-4 mm in diameter, with an erythematous base. Due to scratching the secondary infection – folliculitis (choice 2) can appear. Itching (choice 1) is one of the most common symptoms and usually is more severe at night. In severe cases the lice can affect also eyelashes, were it lays nits (choice 4).

42/ What is NOT used in the treatment of pediculosis?

1. Permetrin,
2. Lindane-shampoo,
3. Nizoral shampoo,
4. Removment of the nits with vinegar.

Right answer – Nizoral shampoo (choice 3). Nizoral (Ketoconazole) is used to treat seborrheic dermatitis of the scalp and psoriasis of the scalp. Permetrin (choice 1) is one of the most popular kinds of treatment of pediculosis. Lindane shampoo (choice 2) is also used. Removal of nits with vinegar (choice 4) is helpful for prevent reinfection.

43/ What is NOT a clinical sign of interminate leprosy?

1. Hypo- or hyperpigmented macules,
2. Signs of non-specific dermatitis,
3. Always loss of sensory,
4. Transformation into the others types according to the immunity of the organism.

Right answer - always loss of sensory (choice 3). This sign is not always seen in patients with this type of leprosy. Usually hypo- or hyperpigmented macules (choice 1) are seen that can be inflammatory and resemble non-specific dermatitis (choice 3). Depending on the immunity of the host

leprosy can be transformed into the others forms – tuberculoid or lepromatous (choice 4).

44/ What are the signs of tuberculoid leprosy?

1. Primary lesion – plaque with the atrophy in the center or hypopigmented macula,
2. Severe itching,
3. Large bullas in the lower extremities,
4. Apple jelly syndrome,

Right answers - primary lesion – plaque with the atrophy in the center or hypopigmented macula (choice 1). Large bullas (choice 3) – is characteristic of the bullous diseases and SSSS. Apple jelly syndrome (choice 4) is seen in the lupus vulgaris. Severe itching (choice 2) usually doesn't characterize lesions in tuberculosis. It is an obvious sign of such diseases as scabies, atopic dermatitis, prurigo, etc.

45/ What is NOT the sign of the lepromatous leprosy (LL)?

1. Madarosis,
2. Formation of lepromas,
3. Leonine face,
4. Absence of nerve involvement.

Right answer - absence of nerve involvement (choice 4). LL is one of the most severe forms of leprosy and the involvement is always present. The disease is characterized by formation of lepromas (choice 2) which can cause the leonine face (choice 3) if located in the face. Madarosis – loss of hair (choice 1) - is also a result of the disease.

46/ What organs can be affected in LL?

1. Eyes,
2. Testis,
3. Liver,
4. Larynx,
5. All of above.

Right answer – all of above (choice 5). The damage of eyes (choice 1) can occur in the form of pain, photophobia, decreased visual acuity, glaucoma, and blindness. Testis involvement (choice 2) cause sterility and gynecomastia. In the liver (choice 3) and spleen can develop which cause hepatosplenomegaly. As a result of larynx infiltration (choice 4) stridor and hoarseness can develop.

47/ What for is performed lepromine test?

1. To make the diagnosis of leprosy,
2. To confirm the diagnosis,
3. To differentiate LL and TL forms of leprosy.

The right answer is - to differentiate LL and TL forms of leprosy (choice 3). The lepromine test is not used to confirm (choice 2) and to make diagnosis (choice 1) of leprosy; it only shows the level of resistance that is seen in patient with leprosy. A negative finding suggests a lack of resistance to disease and is observed in LL. A negative result indicates a poorer prognosis. Positive results suggest that the host has better immune system and tuberculoid form of leprosy should be suspected.

48/ What are the principles of the further outpatient care in leprosy patients?

1. Monitoring of the contacts,
2. Psychological care,
3. Physical therapy and rehabilitation,
4. All of above.

Right answer – all of above (choice 4). Monitoring of the contacts (choice 1) is necessary during 5 years. Dapsone treatment of the contacts is not used anymore. Psychological care (choice 2) is necessary to help coping with the problem to the patients. Physiotherapy and rehabilitation (choice 3) help to avoid complications.

49/ What are the main drugs used for the treatment of leprosy?

1. Antibiotics (Dapsone, Rifampicine),
2. Corticosteroids (Prednisolone),
3. Immunomodulatores (Thalidomide),
4. All of above.

Right answer – all of above (choice 4). Antibiotics (choice 1) are the first drugs that should be administered. There are the first-line and second line drugs. The first-line drugs include Dapsone, Rifampicine and Clofazimide. The second-line drugs include minocycline, ofloxacin, and clarithromycin. Corticosteroids (choice 2) are important anti-inflammatory agents used in the treatment of reactional leprosy. Corticosteroids are reliable only in the treatment of reversal reactions. These medications can be used to treat leprosy reactions when a risk of neurological deficits exists or when lesions occur in cosmetically important places. Immunomodulatores (choice 3) are used to modify the immune system response to diverse stimuli. Thalidomide (Thalomid) is an immunomodulatory agent that may suppress excessive produc-



tion of tumor necrosis factor-alpha (TNF-alpha) and downregulate selected cell-surface adhesion molecules involved in leukocyte migration.

50/ How is leishmaniasis transmitted?

1. By direct contact,
2. By infected clothes,
3. By bites of Leishmania parasites,
4. By bites of the sand fly infected with Leishmania parasites.

Right answer - by bites of the sand fly infected with Leishmania parasites (choice 4). The disease is not transmitted through the clothes (choice 2) and direct contact (choice 1).

51/ What is NOT the sign of local cutaneous leishmaniasis (LCL)?

1. Usually solitary eruption,
2. After the formation of a papule or a plaque the ulcer develops,
3. Location in the closed areas of the skin,
4. Spontaneous healing with the formation of the scar or hypo- or hyperpigmentation during 1-36 months.

Right answer - location in the closed areas of the skin (choice 3). The disease is spread with bites of the sand fly, so open areas are damaged most often. The solitary eruption (choice 1) usually develops and a papule or a plaque forms. After the development in the place of the primary element forms deep ulcer (choice 2). The ulcer is circumscribed with a violaceous border. Spontaneous healing (choice 4) with the formation of the scar or the hypo- or hyperpigmentation happens during 1-36 months but usually all the forms are treated.

52/ What is NOT the typical sign of Post-Kala-Azar Dermal Leishmaniasis?

1. Self healing ulcers,
2. Hypopigmented macules or papules,
3. Yellowish-pink nodules,
4. Repigmentation is not complete.

Right answer – self healing ulcers (choice 1). This sign is more typical for the LCL. Hypopigmented macules or papules (choice 2) is the first sign of the disease. Later yellowish-pink nodules (choice 3) form at the place of this elements that are usually non-ulcerative. After the treatment the repigmentation (choice 4) is never complete.

53/ What types of Leishmania cause mucocutaneous leishmaniasis?

1. *L. braziliensis*, *L. panamensis*,
2. *L. donovani*,
3. *L. tropica*.

Right answer – *L. braziliensis* and *L. panamensis* (choice 1). That is why it is necessary to identify the type of *Leishmania* to make the prognosis for the patient. *L. donovani* (choice 2) usually cause viscerotropic form of leishmaniasis. *L. tropica* (choice 3) causes LCL.

54/ What can be used in the diagnostics of Leishmaniasis?

1. Clinical examination,
2. Montenegro test,
3. PCR reaction,
4. All of above.

Right answer – all of above (choice 4). Only clinical examination (choice 1) is used in the endemic regions and includes small number of the lesions, lesions on the exposed area, resistance to the therapy, absence of pain or itching. Test Montenegro (choice 2) can reveal if the patient has or has had leishmaniasis before. PCR (choice 3) reveals the type of the organism.

55/ What is NOT true about cutaneous leishmaniasis?

1. Is caused by *L. tropica*,
2. Develops after 1-12 weeks after the bite,
3. There is no scar after healing,
4. Atrophic scar develops after the healing.

Right answer - there is no scar after healing (choice 3). Usually after the self-healing of the lesion large atrophic scars are formed (choice 4). For the prevention of scar formation the administration of the appropriate therapy is necessary. Cutaneous form of leishmaniasis usually develops in 1-12 weeks after the bite of the fly (choice 2). The most frequent causative agent is *L. tropica* (choice 1).

56/ What is the clinical picture of molluscum contagiosum?

1. Disseminative pustules with the inflammatory base,
2. Vesicles in the erythematous base,
3. Firm umbilicated papules with the white core,
4. Large bullas and positive Nikolsky's sign.

Right answer - firm umbilicated papules with the white core (choice 3). Disseminative pustules with the inflammatory base (choice 1) are characteristic of bacterial infections mostly. Vesicles in the erythematous base (choice 2) may be the clinical picture of eczema or herpes. Large bullas and positive Nikolsky's sign (choice 4) is a sign of bullous diseases and SSSS.

57/ What specific elements can reveal microscopic examination in case of molluscum contagiosum?

1. Henderson-Paterson bodies,
2. Acantholytic cells,
3. Mercel's cells,
4. Spores of fungi.

Right answer - Henderson-Paterson bodies (choice 1). Acantholytic cells (choice 2) are seen in pemphigus vulgaris. Mercel's cells (choice 3) are the normal sensory cells of the skin. Spores of fungi (choice 4) are seen in fungi diseases.

58/ What virus causes herpes labialis?

1. HSV-1,
2. HSV-2,
3. Varicella zoster virus,
4. Human papilloma virus.

Right answer - HSV-1 (choice 1). HSV-2 (choice 2) causes genital herpes. Varicella zoster virus (choice 3) causes both - herpes zoster and varicella. Human papilloma virus (choice 4) may cause warts and papillomas.

59/ What virus causes herpes genitalis?

1. HSV-1,
2. HSV-2,
3. Varicella zoster virus,
4. Human papilloma virus.

Right answer - HSV-2 (choice 2). HSV-1 (choice 1) causes herpes labialis. Varicella zoster virus (choice 3) causes both - herpes zoster and varicella. Human papilloma virus (choice 4) may cause warts and papillomas.

60/ What virus causes herpes zoster?

1. HSV-1,
2. HSV-2,
3. Varicella zoster virus,
4. Human papilloma virus.

Right answer - Varicella zoster virus (choice 3) that causes both - herpes zoster and varicella. HSV-2 (choice 2) causes genital herpes. HSV-1 (choice 1) causes herpes labialis. Human papilloma virus (choice 4) may cause warts and papillomas.

61/ What is NOT the biological properties of HSV?

1. Neurovirulence,
2. Latency.

3. Hepatotoxic action,

4. Reactivation.

Right answer - hepatotoxic action (choice 3). Neurovirulence (choice 1) means the capacity to invade and replicate in the nervous system. Latency (choice 2) is the establishment and maintenance of latent infection in nerve cell ganglia. Reactivation (choice 4) can be induced by a variety of stimuli (eg, fever, trauma, emotional stress, sunlight, menstruation), resulting in overt or covert recurrent infection and peripheral shedding of HSV.

62/ What is the primary element in herpes infection?

1. Papule,

2. Macula,

3. Vesicle,

4. Pustule,

5. Bulla.

Right answer – vesicle (choice 3). In herpes vesicles are situated in the erythematous surface. Maculae (choice 2) as primary elements are seen for example in vitiligo – depigmented maculae and pigmented nevi. Papules (choice 1) are seen in psoriasis and lichen planus. Pustules (choice 4) are formed in bacterial infections of the skin. Bullas (choice 5) are seen in some autoimmune diseases such as pemphigus vulgaris and bullous pemphigoid.

63/ What is the drug of choice in herpes infections?

1. Corticosteroids,

2. Itraconazole,

3. Acyclovir,

4. Ethambutol.

Acyclovir (choice 3) is the only drug of choice in viral infections. Corticosteroids (choice 1) are used for the treatment of systemic conditions. Itraconazole (choice 2) is a drug for the treatment of fungi diseases. Ethambutol (choice 4) is used in treatment of TB of the skin.

64/ What is NOT the possible complication of herpes infection?

1. Bacterial infections,

2. Eczema,

3. Aseptic meningitis,

4. Scleroderma.

Scleroderma (choice 4) is the disease of the connective tissue that can't be the complication of herpes infection. Bacterial infections (choice 1) are a common complication and are characterized by formation of pustules, pusish crusts. Eczema (choice 2) can be a result of an allergic process. Aseptic meningitis (choice 3) is a rare but very dangerous condition that is seen mostly in infants.

65/ What is NOT used in the treatment of warts?

1. Surgical removal,
2. Topical agents,
3. Acyclovir per os,
4. Alternative methods.

Right answer - Acyclovir per os (choice 3) is not used in treatment of warts. Surgical removal (choice 1) is the simplest way to remove warts. Cryosurgery, lasers, electrodissemination and surgical incision can be used. Topical agents (choice 2) include imiquimod, salicylic acid and other methods. Alternative methods (choice 4) are not registered and their efficacy is not studied but they also can be used. The most popular alternative method is hypnosis.

66/ What method is NOT used for the diagnostics of herpes infections?

1. Tzanck cells,
2. PCR,
3. Virus isolation,
4. Baltzer's probe.

Right answer – Baltzer's probe (choice 4). This probe is performed with the solution of iodine and is used in pityriasis versicolor. Giant Tzanck cells (choice 1) in the smears of the patients with herpes infections are the most simple way to diagnose herpes infections. Tzanck cells are large cells with double nuclei. Revealing these cells in the smears is specific for herpes virus infection. PCR (choice 2) is the most appropriate way of diagnostics that is highly sensitive and specific. PCR allows to detect not only active virus but the latent infection as well. Virus isolation (choice 3) is not always possible due to characteristics of viruses but it also can be used.

67/ What is NOT true about herpes genitalis?

1. It is a sexually transmitted disease,
2. It doesn't cause any physical and psychological concerns,
3. Transmission of the virus to the newborn may cause complications,
4. Infection tends to be recurrent.

Right answer -- it doesn't cause any physical and psychological concerns (choice 2). Herpes genitalis causes many concerns to the patient due to subjective complaints such as itch, burning and psychological distress as well, so almost 89% of the patients express concern and anxiety about transmitting the disease to the partner. Herpes genitalis is a sexually transmitted disease (choice 1). The possibility of the transmission is higher in women and increases if the person has more than one partner. So, if a person has only one sexual partner the risk of the transmission of herpes infection is 0% in men

and less than 10% in women, if a person has more than 10 partners the risk is 62% in women and 35% in men. Transmission of the virus to the newborn may cause complications (choice 3). Transmission occurs in 1 per 3200 live births and may cause the neonatal herpes and disseminative infection – encephalitis. The risk of death in the case of encephalitis is up to 80% without treatment. Genital herpes of mother at term is an indication for the Caesarian section. Infection tends to be recurrent (choice 4), 33% of all patients with herpes infection has relapses 8-9 times per year. It is known that the recurrent infection is usually less severe than the primary one but also causes psychological distress to the patient.

68/ Causative factors of seborrhoeic dermatitis may include:

1. Immunosuppression,
2. Climate,
3. Malassezia yeasts,
4. All of above.

Right answer – all of above (choice 4). Seborrhoeic dermatitis is the common condition in HIV patients with immunosuppression (choice 1). If the risk of seborrhoeic dermatitis in common population is up to 3%, among the HIV patients it is up to 83%. The disease in HIV and patients with AIDS is usually more severe than in patients without immunosuppression. The disease is more often seen in tropic and warm climate (choice 2). It is explained by biological characteristics of Malassezia yeasts (choice 3) that also play an important role in this condition.

69/ In which of the following groups of the patients is seborrhoeic dermatitis most often seen?

1. Adolescents,
2. Blacks,
3. HIV positive/AIDS patients
4. All of above.

Right answer - HIV positive/AIDS patients (choice 3). If the risk of seborrhoeic dermatitis in common population is up to 3%, among the HIV patients it is up to 83%. There are usually several peaks of the disease – in newborns, in young people and in older people, but in general adolescents are not the group of higher risk for seborrhoeic dermatitis (choice 1). There is no evidence about the predomination of the seborrhoeic dermatitis among blacks (choice 2).

70/ Lesions of the seborrhoeic dermatitis are usually found on:

1. Face,
2. Legs,

3. Knees and elbows,
4. Hands.

Right answer – face (choice 1). Seborrhoeic dermatitis is most commonly found on the areas of the body that are rich in sebaceous glands, such as the face, scalp, and trunk. Location on the legs and hands (choice 2, 4) is more common for eczema and on knees and elbows (choice 3) for the psoriasis.

72/ Treatment of seborrhoeic dermatitis includes:

1. Keratolytic agents,
2. Corticosteroids,
3. Antifungal medications.
4. All of the above.

Right answer – all of above (choice 4). Keratolytic agents (choice 1) such as salicylic acid, urea help to remove scales mechanically. Corticosteroids (choice 2) are the most commonly used drugs in seborrhoeic dermatitis. They help to reduce the inflammation due to the strong suppression of inflammation. Prolonged use of corticosteroid drugs anyway may cause many side effects such as atrophy of the skin, acne, striae distensae, etc. The efficacy of antifungal medications (choice 3) is based on their activity against *Malassezia* yeasts that predominates in this condition.

73/ What is NOT used in the therapy of seborrhoeic dermatitis?

1. Terbinafine,
2. Itraconazole,
3. Griseofulvin,
4. Fluconazole

Right answer – griseofulvin (choice 3). All these medications are antifungals. But griseofulvin is used in the treatment of tinea capitis and is not effective against *Malassezia*. All of the rest can be used in seborrhoeic dermatitis. Among them itraconazole (choice 2) is more effective, while terbinafine (choice 1) and fluconazole (choice 4) also can be prescribed.

74/ Which bacteria causes acne?

1. *Demodex folliculorum*,
2. *Propionibacterium acnes*,
3. *Staphylococcus aureus*,
4. *Streptococcus Pyogenes*.

Right answer - *Propionibacterium acnes* (choice 2). These bacteria are the part of the normal skin, under some circumstances they may cause inflammation and acne. These species are slow-growing, nonsporulating, gram-positive anaerobic bacilli. *Demodex folliculorum* (choice 1) is a mite living in

the skin. It is a normal inhabitant but also can provoke some diseases such as demodecosis and rosacea. The development of these diseases is considered to take place because of allergic reaction to the life products of the mite. Staphylococcus aureus (choice 3) is an aggressive pathogen but it also can be a resident on the intermittent part of the microbial flora of the skin. Such diseases as folliculitis, carbunculitis, boils, sycosis, etc are caused by Staphylococcus aureus. Streptococcus Pyogenes (choice 4) is an exclusively human pathogen. The infections caused by Streptococcus Pyogenes are seen all over the world and include impetigo, ecthyma, erysipelas, necrotizing fasciitis, scarlet fever, etc.

75/ The medical term for blackheads and whiteheads is...

1. Annoying bumps,
2. Inflammatory papules,
3. Comedones,
4. Nodules.

Right answer - comedones (choice 3). It is a closed pore with oxidated products of sebum and cells. Annoying bumps (choice 1) is not a medical term, it's often used by patients to describe any kind of skin eruption. Papule – is an elevated solid lesion (less than 0.5 cm). They are usually raised above the skin surface. Inflammatory papules (choice 2) have hyperaemia around them. They are usually seen in papule-pustular stage of acne. Nodule (choice 4) is an elevated solid lesion (more than 0.5 cm) that can be seen in prurigo and nodular stage of acne as a result of infiltration and inflammation.

76/ During adolescence sebum production increases under the influence of which of the following?

1. Lack of sleep,
2. Hormones,
3. Lack of vitamins,
4. Poor diet,
5. All of above.

Right answer – hormones (choice 2). The production of sebum is under hormonal control and sebaceous secretion is a continuous process. Sebaceous gland development is an early event in puberty, and the prime hormonal stimulus for this glandular development is androgen. Although the sebaceous glands are very small throughout the prepubertal period, they are large at the time of birth, probably as a result of androgen stimulation in utero, and acne may be seen in the neonatal period. It should be noted that: sebum production is low in children; in adults, sebum production is higher in men than in women; in men sebum production falls only slightly with advancing age, whereas in women it decreases significantly after the age of 50. Orchidectomy causes a marked decrease in sebum production. Therefore, it can be assumed



that testicular androgen maintains sebum production at high levels in men. The role of adrenal androgens is also important, especially in women where they play a contributory role in sebum production together with the ovaries. Estrogens have a profound effect on sebaceous gland function which is opposite to that of androgens. In both sexes, estrogen administration decreases the size of the sebaceous glands and the production of sebum. Lack of sleep (choice 1), vitamins (choice 3), poor diet (choice 4) so have an influence at the general development of the patient but it doesn't have a direct effect on the hyperproduction of the sebaceous glands.

77/ Roaccutane (isotretinoin) is similar to which vitamin?

- 1.K,
- 2.B12,
- 3.E,
- 4.A.

Right answer – vitamin A (choice 4). Roaccutane is an oral agent that treats serious dermatologic conditions. Synthetic 13-*cis* isomer of the naturally occurring tretinoin (*trans*-retinoic acid). Both agents are structurally related to vitamin A. Isotretinoin decreases sebaceous gland size and sebum production and may inhibit sebaceous gland differentiation and abnormal keratinization. Treatment is weight-based, and the standard course of treatment usually is from 16-20 wk.

78/ Roaccutane (isotretinoin) treats acne by all of the following mechanisms except?

1. Altering DNA transcription,
2. Decreasing the size of the sebaceous gland,
3. Decreasing the output of the sebaceous gland,
4. Reducing the number of bacteria in the sebaceous gland and on the skin surface.

Right answer - reducing the number of bacteria in the sebaceous gland and on the skin surface (choice 4). Retinoids doesn't have any influence on bacteria. That is the way how antibiotics act in acne. Retinoids decrease sebaceous gland size (choice 2) and sebum production (choice 3). May inhibit sebaceous gland differentiation and abnormal keratinization altering DNA transcription (choice 1).

79/ Which statement about the affect of roaccutane (isotretinoine) on women is true?

1. Birth control is not important for women who take roaccutane (isotretinoin),

2. Women must wait to get pregnant at least 6 months after finishing roaccutane (isotretinoin),

3. Roaccutane (isotretinoin) increases the risk of birth defects in women who take it while pregnant,

4. Roaccutane (isotretinoin) can make it harder to get pregnant.

Right answer - women must wait to get pregnant at least 6 months after finishing isotretinoin (choice 2). Retinoids have some teratogenic effect but for the moment it is not fully studied that is why birth control is highly recommended for the women (choice 1). It is forbidden to get pregnant while to use retinoids (choice 3) and to get pregnant after 6 months after taking isotretinoin. But there is no data that isotretinoin can make it harder to get pregnant after the course (choice 4).

**80/** Which of the following is not a side effect of roaccutane (isotretinoin)?

1. Dry skin,

2. Depression,

3. Elevated liver enzymes,

4. Watery eyes.

Right answer – watery eyes (choice 4). Retinoids have a strong suppressive activity at the sebaceous glands that is why they cause generalized dryness of the skin (choice 1) and mucous membranes. Mood swings or depression (choice 2) are rare side effects but the physician has to take it in account if a patient had a previous history of depression. As well as the drug is eliminated through the liver elevated liver enzymes may be seen (choice 3). In rare cases hepatitis may develop.

**81/** Which oral antibiotic are the most widely prescribed for acne?

1. Tetracycline,

2. Erythromycin,

3. Minocycline,

4. Penicillin.

Right answer – tetracycline (choice 1). Antibiotics are useful in papular, pustular, and cystic acne and must be taken for weeks to be effective. Long-term antibiotics may be required and necessitate monitoring for adverse drug events. Females should be warned about the development of vaginitis secondary to *Candida albicans*. Tetracycline is the most popular antibiotic that is usually administered in the dosage 50-500 mg every 6h. Tetracycline inhibits bacterial protein synthesis by binding with ribosomal subunits and also has anti-inflammatory activity. Erythromycin (choice 2) also can be administered in acne but it is used mostly for treating staphylococcal and streptococcal in-

fections. It inhibits bacterial growth, possibly by blocking dissociation of peptidyl tRNA from ribosomes. For acne it is used in the dosage 250 mg every 6h. Minocycline (choice 3) treats infections caused by susceptible gram-negative and gram-positive organisms, in addition to infections caused by susceptible Chlamydia, Rickettsia, and Mycoplasma species and is rarely administered in acne patients. Penicillin (choice 4) is not used in acne patients.

82/ Which of the following is not true about antibiotics used to treat acne?

1. Tetracycline cannot be used by pregnant women,
2. Topical antibiotics do not lessen the effectiveness of birth control pills,
3. Oral antibiotics can lessen the effectiveness of birth control pills,
4. Oral antibiotics when given regularly do not cause vaginal yeast infections in women.

Right answer - oral antibiotics when given regularly do not cause vaginal yeast infections in women (choice 4). Antibiotics are used during some months for treating acne and its vaginal yeast infections are the most common side effects in women. That is why it is necessary to provide regular control of Candida infections during treatment with antibiotics and administrate antifungal therapy if necessary. Tetracycline cannot be used by pregnant women (choice 1) due to its teratogenic effect. Tetracycline use during teeth development (second half of pregnancy) can cause permanent discoloration of teeth. Due to some interaction oral antibiotics can lessen the effectiveness of birth control pills (choice 3) although topical antibiotics (choice 2) almost have no side effects.

83/ Which of the following is true about benzoil peroxide?

1. Effective in the last stages of acne,
2. It works by killing bacteria and reducing inflammation in the follicle,
3. It works by drying out the skin and causing flaking,
4. It is not an effective acne treatment.

Right answer - it works by killing bacteria and reducing inflammation in the follicle (choice 2). Benzoil peroxide has a free-radical oxygen that is released upon administration and oxidizes bacterial proteins in sebaceous follicles, decreasing the quantity of irritating free fatty acids and of anaerobic bacteria. It also has keratolytic and comedolytic effects. This agent is the most effective for inflammatory acne and almost has no effect in last stages of acne (choice 1). But at the beginning of inflammation it can be very effective (choice 4). Benzoil peroxide doesn't cause skin dryness (choice 3).

84/ Acne is caused by all of the following except...

1. Increased sebum production,
2. Obstruction of follicles,
3. Hormones,
4. Lack of vitamins.

Right answer – lack of vitamins (choice 4). It doesn't have any influence in acne formation. Acne is caused by increased sebum production (choice 1) and obstruction of follicles (choice 2) that causes inflammation. Productions of sebaceous glands is controlled by hormones (choice 3).

85/ What localization is NOT typical for acne?

1. Face,
2. Back,
3. Shoulders,
4. Knees and elbows.

Right answer - knees and elbows (choice 4). That localization is more typical for psoriasis. Acne usually affects the face (choice 1) and, to a lesser degree, the back (choice 2), chest, and shoulders (choice 3). On the trunk, lesions tend to be near the midline. This localization is explained by a high density of sebaceous gland in these areas.

86/ What kind of eruptions are NOT typical for acne?

1. Inflammatory,
2. Noninflammatory,
3. Scars,
4. Bullous.

Right answer – bullous (choice 4). Bullas are seen in some autoimmune diseases such as pemphigus vulgaris and bullous pemphigoid. Lesions in acne can be described in 3 categories – noninflammatory (choice 2) that include comedones and inflammatory (choice 1). Comedones are either open (black heads) or closed (whiteheads). The open comedones appears as a flat or slightly raised lesion with a central dark-colored follicular impaction of keratin and lipid. The closed comedones are a pale, slightly elevated, small papule without a visible orifice and are a potential precursor for the larger inflammatory lesions. Inflammatory lesions vary from small papules with an inflammatory areola to pustules (papulopustular) and to large, tender, fluctuant nodules (nodular). Scars (choice 3) appear as punched out pits of varying size after healing of large pustules and nodules and may have multiple openings.

87/ What agents can cause exacerbation of acne?

1. Iodides,
2. Bromides,
3. Glucocorticoids,
4. Oil-containing compounds,

5. All of above

Right answer – all of the above (choice 5). Acne may be not only an independent disease but can also be provoked by different agents. Iodides (choice 1) and bromides (choice 2) are the main chemical agents that are known to cause acne. Acne formation is one of the most frequent side effects of glucocorticoids (choice 3), as well as atrophy of the skin and striae distensae. Oil-containing compounds (choice 4) also cause acne-like dermatosis that is usually seen on the skin of the back in drivers.

88/ What agent is NOT used in the treatment of acne?

1. Antibiotics,
2. Retinoids,
3. Androgens,
4. Oral contraceptives.

Right answer – androgens (choice 3). Androgens increase the sebum production and provoke the development of acne. Antibiotics (choice 1) are one of the main treatment that is effective due to decreasing the rate of bacterial flora. Retinoids (choice 2) are used in mild and severe stages of acne and have a strong sebosuppressive effect. Oral contraceptives (choice 4) are used in women with acne who have clinical signs of androgen excess and for those in whom other treatments have failed. They are used in women with treatment-resistant, late-onset, or persistent acne. Some of these women have signs suggesting hyperandrogenism (eg, hirsutism, irregular menses, menstrual dysfunction), but others are without abnormalities. Serum androgens may or may not be elevated. In oral contraceptives estrogen suppresses ovarian androgens.

89/ What is NOT the stage of acne vulgaris?

1. Comedogenic,
2. Papule-pustular,
3. Conglobata,
4. Bullous.

Right answer – bullous (choice 4), the formation of bullas is not seen in acne. Comedogenic stage (choice 1) is the first early stage of acne. Comedones are either open (black heads) or closed (whiteheads). Papule-pustular stage (choice 2) develops as a result of the further inflammation. Acne conglobata (choice 3) is an uncommon and unusually severe form of acne characterized by burrowing and interconnecting abscesses and irregular scars (both keloidal and atrophic), often producing pronounced disfigurement.

90/ What is the most appropriate treatment for acne conglobata?

1. Isotretinoine,
2. Benzoiil peroxide,
3. Topical antibiotics,

4. All of the above.

Right answer - isotretinoin (choice 1) that is used in the dosage 0.5-1 mg/kg for 4-6 months. Topical agents such as antibiotics (choice 3) and benzoyl peroxide (choice 2) are of low effect in the severe stages of acne.

91/ What is NOT necessary to take into consideration making the differential diagnosis between acne and rosacea?

1. Age of the patient,
2. Presence of teleangiectasias,
3. Problems with eyes,
4. Presence of papules.

Right answer – presence of papules (choice 4). Papules are typical for acne as well as for rosacea and can not be a differential criteria. Age of the patient (choice 1) usually one of the most important differences between rosacea and acne. While acne usually begins in teenagers rosacea normally starts at the age of 40-50 years. Teleangiectasia (choice 2) is an element that is typical for rosacea. It is prominent blood vessels that are seen through the epidermis. This is explained by the involvement of the vessels into the pathogenesis of rosacea. Ocular rosacea (choice 3) is quite a common condition and is often misunderstood by ophthalmologists. Symptoms of ocular rosacea are non specific and include a foreign body, gritty or dry sensation, burning, tearing, and redness.

92/ What is NOT true about rosacea?

1. Rosacea is a chronic dermatosis, there is no effective treatment, but it can be controlled,
2. In some regions rosacea is more common,
3. Corticosteroids are drugs of choice is rosacea due to their anti-inflammatory action,
4. Eradication of H.pylori may be effective in controlling rosacea.

Right answer - corticosteroids are drugs of choice is rosacea due to their antiinflammatory action (choice 3). Corticosteroids are contraindicated in rosacea. In spite of their antiinflammatory effect they may provoke steroid-induced rosacea that is difficult to manage. Rosacea is a chronic dermatosis, there is no effective treatment (choice 1). That is why the first principle of treatment – is avoidance policy. All the factors that provoke relapses of rosacea – alcohol, coffee, wind, humidity, etc have to be excluded. Many patients with rosacea have also problems with the stomach and the common condition of such patients is gastritis and ulcers caused by H.pylori. That is why eradication of this bacteria in some patients gives a positive result improving rosacea as well. In some regions rosacea is more common (choice 2) – it is prevalent in fair-skinned individuals, particularly those of Celtic and northern European countries.

93/ What is NOT a subtype of rosacea?

1. Erythematoteleangiectatic,
2. Papulopustular,
3. Phymatous,
4. Ocular,
5. Comedogenic.

Right answer – comedogenic (choice 5). The formation of comedones is typical for acne and is not seen in rosacea. Rosacea is a progressive disorder and has some stages in its development. The first stage is erythematoteleangiectatic rosacea (choice 1) that is characterized by the presence of erythema and teleangiectasias. The best treatment in this stage is avoidance of irritants and provoking factors. Papulopustular rosacea (choice 2) develops as a result of further inflammation and when papules and pustules appear. Metronidazole topically and orally and systemic antibiotics such as tetracycline are used in this stage. Phymatous rosacea (choice 3) is the last stage that develops more frequently in men. Rhinofima is the most common condition that is a result of the hyperplasia of the sebaceous glands, connective tissue and blood vessels of the nose. Only the surgical management of rosacea can give some benefit. Symptoms of ocular rosacea (choice 4) are non specific and include a foreign body, gritty or dry sensation, burning, tearing, redness.

94/ What drug is NOT used in the complex therapy of rosacea?

1. Metronidazole orally,
2. Metronidazole gel,
3. Tetracyclin orally,
4. Terbinafine.

Right answer – terbinafine (choice 4). Terbinafine is an antifungal remedy that is usually administered orally or topically in different fungi infections. Oral antibiotics have long been accepted as safe and effective treatments for rosacea. The effect of antibiotics in rosacea is explained rather by an antiinflammatory effect than by an antibacterial one. Antibiotic therapy is more effective against papules and pustules than against teleangiectasia and redness. Tetracyclin orally (choice 3) is used primary in high doses until the disorder will be under control and then lower doses are used. The dosage of tetracycline in treatment of rosacea is up to 1000 mg taken up to 4 times per day is recommended during 4 weeks then the dosage is reduced. Oral metronidazole (choice 1) is an alternative for those who doesn't respond to tetracycline therapy. Metronidazole is also available in the form of cream and gel (choice 2) that can be applied topically.

95/ What diseases can result with scarring alopecia?

1. Trauma,

2. Kerion Celsi,
3. Scleroderma,
4. All of the above.

Right answer – all of the above (choice 4). Deep trauma and burns (choice 1) involving deep tissues can result as a scar. Kerion Celsi (choice 2) is a deep form of tinea capitis usually caused by trichofitum infection that also results in scarring. Scleroderma (choice 3), most often its linear form «en coup de sabre», causes atrophy of the epidermis and derma in the scalp.

96/ What is the type of alopecia areata?

1. Prehypertensive,
2. Atopic,
3. Autoimmune,
4. All of the above.

Right answer – all of above (choice 4). Alopecia areata has different types and many factors are involved in its onset. Prehypertensive type of alopecia areata (choice 1) is usually seen in people with arterial hypertension when it appears as a result of a bad blood supply. Atopic alopecia areata (choice 2) is usually combined with some others atopic diseases such as atopic dermatitis, asthma, rinitis. The autoimmune type (choice 3) appears as a result of antibody formation and may be due to some systemic disease.

97/ What is NOT true about the hair?

1. Loss of the hair can lead to serious psychological distress in patients,
2. Number of the hair follicles increases with the age of the patient,
3. Sculp is the area with the largest density of hair follicles,
4. Density of follicles is the largest in newborns.

Right answer - number of the hair follicles increases with the age of the patient (choice 2). The hairs play a very important role in humans. Although now hair plays mostly a cosmetic role, it also transmits sensory information and creates gender identity. Good hair has always been considered a standard of beauty. That is why loss of the hair usually causes psychological problems in patients, especially in women (choice 1). There is hair on all the major visible surfaces of the body. A developing fetus has all of its hair follicles formed by week 22. At this time there are 5 million follicles on the body, among them 100,000 are on the scalp (choice 3). This is the largest number of follicles we will ever have - follicles are never added during life (choice 4). As the size of the body increases when we grow older, the density of the hair follicles on the skin decreases.

98/ What is NOT the part of the hair follicle?

1. Papilla,
2. Bulb,



3. Sheaths
4. Hair shaft,
5. All of above.

Right answer – all of above (choice 5). The follicle is a stocking-like structure that contains several layers with different tasks. At the base of the follicle there is a projection formed like a finger sticking in the bottom of a stocking and pushing it in a small amount. This projection is called a papilla (choice 1) and it contains capillaries, or tiny blood vessels, that feed the cells. The living part of the hair is the bottom part of the stocking surrounding the papilla called the bulb (choice 2). This bottom part is the only part fed by the capillaries. The cells in the bulb divide every 23 to 72 hours, faster than any other cells in the body. The follicle is surrounded by two sheaths (choice 3) - an inner and outer sheath. These sheaths protect and mold the growing hair shaft. The inner sheath follows the hair shaft and ends below the opening of a sebaceous (oil) gland, and sometimes an apocrine (scent) gland. The outer sheath continues all the way up to the gland. The hair shaft (choice 4) is made up of dead, hard protein called keratin in three layers. The inner layer is called the medulla and may not be present. The next layer is the cortex and the outer layer is the cuticle. The cortex makes up the majority of the hair shaft. The cuticle is formed by tightly packed scales in an overlapping structure similar to roof shingles.

99/ What is true about differential diagnosis of simple contact dermatitis and allergic contact dermatitis?

1. In allergic contact dermatitis not only the zone of contact is affected,
2. Allergic contact dermatitis needs previous sensitization,
3. Allergic contact dermatitis doesn't respond to treatment with corticosteroids,
4. All of above,
5. Right 1 and 2.

Right answer – choice 1 and 2 (choice 5). For the development of allergic contact dermatitis previous sensitization is necessary (choice 2). Some time will pass until the skin reacts. That is why the reaction may appear in the other parts of the skin, not always in the place of the direct contact (choice 1). Corticosteroids due to their strong antiinflammatory activity may be used and are effective in both types of dermatitis (choice 3 is incorrect).

100/ What primary lesion is a characteristic of psoriasis?

1. Lichenification,
2. Bulla,
3. Fissure,
4. Crusting,
5. Papules.

Right answer – papules (choice 5). Lesions in psoriasis are characterized by raised erythematous papules or plaques covered with a silvery white scale. This is most common on the extensor surfaces of the knees, elbows, scalp, and trunk. From the above only papule and bulla are primary elements, all of the rest are secondary elements of the skin. Bulla (choice 2) is a large blister (more than 0.5 cm) that is seen usually in pemphigus vulgaris and other autoimmune dermatoses. Lichenification (choice 1) is caused by chronic rubbing, which results in palpably thickened skin with increased skin markings and lichenoid scale. It occurs in chronic atopic eczema and lichen simplex. Fissure (choice 3) is a thin crack within epidermis or epithelium, and is due to excessive dryness. Crusting (choice 4) occurs when plasma exudes through an eroded epidermis. It is rough on the surface and is yellow or brown in color. Bloody crust appears red, purple or black.

101/ What secondary lesions can develop in patients with atopic dermatitis as a result of severe itching?

1. Wheal,
2. Vesicles,
3. Fissure,
4. Lichenification,
5. Pustules.

Right answer – lichenification (choice 4). It develops after chronic itch, which results in palpably thickened skin with increased skin markings and lichenoid scale. In atopic dermatitis (AD) itch is one of the major criteria. AD has some clinical forms - vesicular crusty, erythematous scaling, erythematous scaling with lichenification, lichenoid, prurigo-like form. If the patient suffers from itch, forms with lichenification may develop. Wheal (choice 1) is an edematous papule or plaque caused by swelling in the dermis. Whealing often indicates urticaria. Fissure (choice 3) is a thin crack within epidermis or epithelium, and is due to excessive dryness. Pustule (choice 5) is an elevated, circumscribed, palpable encapsulated structure filled with purulent liquid that is usually seen in bacterial infections of the skin.

102/ What pathohistological process characterizes pemphigus vulgaris?

1. Acanthosis,
2. Acantholysis,
3. Spongiosis,
4. Balloonic degeneration.

Right answer -- acantholysis (choice 2) that is characterized by absence of detachment of keratinocytes from each other due to loss of intercellular contacts. This phenomenon explains the Nikolsky's sign that is seen in pemphigus vulgaris and can be proved by finding acantholytic cells in the smears from the blister. Acanthosis (choice 1) is an increase in keratinocyte popula-

tion of spinous layer with thickening of the epidermis; it may be papillomatous or psoriasiform. Spongiosis (choice 3) is a widening of the interspaces between keratinocytes due to edema fluid without detachment of cells from each other. Ballooning degeneration (choice 4) is an intracellular edema with cellular swelling. This is often secondary to viral injury or nutritional deficiency.

103/ In what phase are the majority of the hair on the scalp of a health person?

1. Anagenic phase,
2. Telogenic phase,
3. Catagenic phase.

Right answer – anagenic phase (choice 1). The cycle of the growth of the hair is very complex and consists of some stages. These stages were described in 1926 by F. Dry. The period of the growing of the hair is called anagenic, the period of the rest – telogenic (choice 2) and the period between them – catagenic (choice 3). Hair in different body regions has different duration of life. So, the hair of the scalp and beard lives during 6-12 years and is changing only several times per life and the other hair is changed every 120-150 days. Normally 80-90% of all hair has to be in the stage of anagen. This stage lasts 1-6 years. Telogenic phase lasts 3-9 months and approximately 10-20% of the hair is in this stage. Catagenic stage is the shortest and only few percents of all the hair has it. Disturbances of the regulation in the hair cycle and predominance of the telogenic phase may lead to the loss of the hair and development of different diseases of the hair.

104/ What is true about alopecia areata?

1. The best treatment are systemic corticosteroids,
2. Usually more of the 50% of the scalp is affected,
3. The disease doesn't influence the psychology of the patient,
4. Alopecia areata can be associated with endocrine disturbances.

Right answer - alopecia areata can be associated with endocrine disturbances (choice 4). The onset of the alopecia areata is unknown but different factors may lead to its development. There are some types of alopecia such as usual, prehypertensive, autoimmune, mixed and atopic. Alopecia areata is often associated with the diseases of the thyroid gland such as thyreoiditis. Patient with alopecia areata usually have psychological discomfort that can lead to serious disturbances (choice 3 is incorrect). The course of the disease is unpredictable. Sometimes it is healed without treatment but sometimes generalized alopecia can develop (choice 2 is incorrect). There is no specific treatment of alopecia areata. Treatment should be individual and depends on the form, type and the stage of alopecia areata. The patient should be carefully

followed up and the other conditions have to be treated also. In a progressive stage active treatment should be avoided, only local corticosteroids can be administered. Oral corticosteroids may be administered if less than 50% of the scalp is affected. They are not effective in chronic and generalized alopecia (choice 1 is incorrect). The effect of systemic corticosteroids is about 15-18% and often gives only a temporary result.

105/ What from is NOT a major criteria for the atopic dermatitis (AD)?

1. Itch,
2. Chronic and recurrent dermatitis,
3. Family history of AD and atopic conditions,
4. Typical location of the lesions,
5. High level of IgE.

Right answer - high level of IgE (choice 5). There are no specific diagnostic criteria for AD. The diagnosis requires the presence of at least two major features and at least three minor features. The major criteria are – pruritus (choice 1), chronic or relapsing dermatitis (choice 2), personal or family history of atopic disease (choice 3), and typical distribution and morphology of atopic dermatitis rash (choice 4). Lesions of AD are situated usually in the face and extensor surfaces in infants and young children. Flexure lichenification is typical for older children and adults. Although elevated IgE levels are found in 80% of affected patients, IgE levels are also elevated in patients with other atopic diseases (choice 5) that is why it is a minor criterion.

106/ What antifungal agent is from the group of antibiotics?

1. Griseofulvin,
2. Terbinafine,
3. Ketoconazole,
4. Itraconazole.

Right answer – griseofulvin (choice 1). Main antifungals that are used nowadays are classified into 3 groups: antibiotics (Griseofulvin), allylamines (Terbinafin – Lamisil), azoles (Itraconazole – Orungal, Ketokonazole – Nizoral). Griseofulvin is an antibiotic derived from a Penicillinum species that are deposited in the keratin precursor cells which are gradually replaced by non-infected tissue. As a result, new keratin becomes highly resistant to fungal invasions. Griseofulvin is active against dermatophytes but not against yeasts or bacteria. Itraconazole (choice 4) has fungistatic activity. It is a synthetic triazole antifungal agent that slows fungal-cell growth by inhibiting cytochrome P-450-dependent synthesis of ergosterol, a vital component of fungal-cell membranes. Terbinafine (choice 2) inhibits squalene epoxidase, which decreases ergosterol synthesis, causing death of fungal cells. Ketoconazole (choice 3) is an imidazole broad-spectrum antifungal agent that in-

hibits synthesis of ergosterol, causing cellular components to leak, resulting in death of fungal cells.

107/ What is NOT characteristic of psoriatic lesions?

1. Well defined borders of the lesions,
2. Desquamation of the lesions,
3. Nikolsky's sign,
4. Bleeding after scratching the lesion,
5. Affection of the nails.

Right answer - Nikolsky's sign (choice 3) that is seen in autoimmune blistering diseases. Plaques and papules are the primary elements of psoriasis. Lesions are usually well-defined (choice 1) and are covered by silvery white scales (choice 2). Removing the scale reveals a smooth, red, glossy membrane with tiny drop bleeding points (choice 4). These points represent bleeding from enlarged dermal capillaries after removal of the overlying suprapapillary epithelium. This phenomenon is known as the Auspitz sign. Nail changes are commonly observed in patients with plaque psoriasis (choice 5). Nails may exhibit pitting, onycholysis, subungual hyperkeratosis, or the oil-drop sign. A proper assessment of any patient suspected of having psoriasis should include careful examination of the nails.

108/ Koebner reaction can be seen in:

1. Psoriasis,
2. Lichen planus,
3. Warts,
4. Right 1 and 2,
5. All of above.

Right answer - all of above (choice 5). Patients commonly recognize that new lesions appear at sites of injury or trauma to the skin. This reaction is called isomorphic phenomenon (Koebner reaction) and the lesions typically occur 7-14 days after the skin has been injured. This reaction is typical for the psoriasis (choice 1) and lichen planus (choice 2). Warts are benign proliferations of skin and mucosa caused by human papilloma viruses (HPV). HPV is spread by direct or indirect contact. Autoinoculation also may occur, causing local spread of lesions (choice 3).

109/ What is true about the contact dermatitis?

1. Is a rare condition,
2. Nickel doesn't cause contact dermatitis,
3. Predisposal factors do not aggravate the cause of contact dermatitis,
4. There are some professions with the higher risk of professional diseases.

Right answer - there are some professions with the higher risk of professional diseases (choice 4). They include agricultural, animal health care, automobile, bakeries, chemical industry, cleaners, construction, food industry, metal industry, paint industry, pharmacological industry, plastic industry, rubber industry, etc. Contact dermatitis is the most common reason of morbidity in dermatology (choice 1 is incorrect). The severity of the disease is determined by the characteristics of the damaging factors, combined with the type of exposure. Nickel (choice 2) often causes acute and chronic dermatitis that is often seen, for example, in teenagers who wear jeans with the buttons made from nickel. Predisposal factors such as atopic dermatitis, psoriasis, preexisting traumas usually aggravate the cause of contact dermatitis (choice 3 is incorrect).

110/ What disease is often associated with Pythiriasis alba?

1. Psoriasis,
2. Lichen planus,
3. Atopic dermatitis,
4. Pityriasis versicolor.

Right answer – atopic dermatitis (choice 3). Pityriasis alba is a common hypopigmented dermatitis that occurs primarily in school-aged children. The diagnosis is made clinically, and the treatment of this self-limited disorder is often unrewarding. Pityriasis alba is generally an asymptomatic dermatitis. Half of patients have lesions limited to the face. A subgroup of patients has associated atopy, it is considered to be a minor criterion of atopic dermatitis. Psoriasis (choice 1) and lichen planus (choice 2) are the chronic diseases that usually affect older persons and are not associated with Pityriasis alba. Pityriasis versicolor (choice 4) is a superficial tinea infection that is caused by *Malassezia* yeasts.

111/ What systemic treatment is NOT used in the treatment of severe forms of psoriasis?

1. Oral corticosteroids,
2. Metotrexate,
3. Photochemotherapy,
4. Cyclosporine A.

Right choice - oral corticosteroids (choice 1). It is recommended to avoid systemic corticosteroids because they may aggravate the condition after their use is stopped. Psoriasis is now considered to be an immunologic skin disorder, and systemic immunosuppressive agents (eg, methotrexate, cyclosporine) can be used for patients with extensive, widespread, or resistant disease (choice 2 and 4). PUVA photochemotherapy is the combination of the photosensitizing drug methoxsalen (8-methoxypsoralen) with ultraviolet. UVA irradiation utilizes light with wavelengths 320-400 nm. PUVA inter-

feres with DNA synthesis, decreases cellular proliferation, and also induces apoptosis of cutaneous lymphocytes leading to a localized immunosuppression. More than 85% of patients report relief of disease symptoms with 20-30 treatments (choice 3).

112/ Presence of the IgG on the basal membrane seen in:

1. Pemphigus vulgaris,
2. Bullous pemphigoid,
3. Herpetiformic dermatitis,
4. All of the above.

Right answer - Bullous pemphigoid (choice 2). Direct immunofluorescence is a "golden standard" method in diagnostics of the bullous diseases. In pemphigus vulgaris (choice 1) IgG deposits are seen on the surface of the keratinocytes in and around lesions and in bullous pemphigoid in the basal membrane. Herpetiformic dermatitis is characterized by IgA deposits in dermal papillae of perilesional skin (choice 3).

113/ What form of psoriasis is more commonly associated with Streptococcal infection?

1. Plaquie,
2. Guttae,
3. Erythrodermic,
4. Pustular.

Right answer – guttae (choice 2). Plaque psoriasis (choice 1) is the most common form of psoriasis that is characterized by raised inflamed lesions covered with a silvery white scale. This is most common on the extensor surfaces of the knees, elbows, scalp, and trunk. Erythrodermic (choice 3) and pustular (choice 4) forms are the complicated forms of psoriasis. Erythrodermic psoriasis presents as generalized erythema, pain, itching, and fine scaling. The 70-90% of the body is affected. Pustular psoriasis presents as sterile pustules appearing on the hands and feet or, at times, diffusely, and may cycle through erythema, pustules, and scaling.

114/ What is true about the Norwegian scabies?

1. More frequently is seen in immunosuppressive patients,
2. Clinically erythroderma with severe crusting is seen,
3. Is not caused by *S scabiei*,
4. More frequently is seen in infants,
5. Right 1 and 2.

Right answer – choice 5. Norwegian (Crusted or hyperkeratotic) scabies more frequently is seen in immunosuppressive patients (choice 1) or patients with mental diseases. Clinically erythroderma with severe crusting is seen (choice 2) that is why it is often mixed with the other dermatoses. Itch

may not present in this form of scabies. Because of an impaired antibody response, these individuals can be infested with thousands to a couple million mites (choice 3 is incorrect). Healthy infants are not a group of risk for Norwegian scabies (choice 4).

115/ What is the immunological sign of herpetic dermatitis?

1. IgG in the basal membrane,
2. IgA in the basal membrane,
3. IgA in the papillary dermis,
4. IgG in the intracellular region.

Right answer - IgA in the papillary dermis (choice 3). Direct immunofluorescence is a "golden standard" method in diagnostics of the bullous diseases. Herpetic dermatitis is characterized by IgA deposits in dermal papillae of perilesional skin (choice 2 is incorrect). IgG in the basal membrane (choice 1) is a sign of bullous pemphigoid. IgG in the intracellular region are seen in pemphigus vulgaris (choice 4).

116/ How syphilis can be transmitted?

1. By sexual contact,
2. In utero,
3. Via blood transfusion,
4. All of above.

Right answer - all of above (choice 4). Syphilis is an infectious disease that is caused by the spirochete *Treponema pallidum*. It almost always is transmitted by sexual contact with infectious lesions, but it also can be transmitted in utero (choice 2) from the mother to the child that cause hereditary syphilis and via blood transfusion (choice 3) if the blood is contaminated.

117/ What is NOT true about *Tr. pallidum*?

1. *Tr. pallidum* may exist in the environment for a long time,
2. *Tr. pallidum* is a spiral bacteria,
3. *Tr. pallidum* can't be seen using Gram staining,
4. Usually it is transmitted only by the sexual contact,
5. *Tr. pallidum* can move.

Right answer - *Tr. pallidum* may exist in the environment for a long time (choice 1). *T. pallidum* is a very delicate spiral bacterium (choice 2) 6-15 micrometers long by 0.25 micrometers in diameter. The bacteria is moving and sometimes can form circles (choice 5). It can survive only briefly outside of the body; thus transmission almost always requires direct contact with the infectious lesion (choice 4). It dies after drying and when the temperature is up to 42°C. *Tr. pallidum* can't be seen using Gram staining (choice 3). That is why direct visualization of the organism by darkfield microscopy, im-



munofluorescent staining, or serologic testing is necessary for diagnosis of syphilis.

118/ What is true about the syphilis?

1. Primary period is always seropositive,
2. There is no incubation period in syphilis,
3. Primary lesion of the syphilis develops in 10-90 days,
4. Lesions in primary syphilis may develop in all the parts of the body.

Right answer - primary lesion of the syphilis develops in 10-90 days (choice 3). Primary lesion develops in the place of the inoculation of *Tr. pallidum* (choice 4 is incorrect) after incubation period of 3-4 weeks (choice 2 is incorrect). During the incubation period the dissemination of the bacteria via blood and lymphatic system takes place. Blood reactions in the first stage of primary syphilis are negative (choice 1 is incorrect). That is why darkfield microscopy should be used in primary period.

119/ What is NOT a symptom of the primary period of the syphilis?

1. Hard chancre,
2. Regional lymphadenitis,
3. Serological reactions,
4. Generalized rash.

Right answer - generalized rash (choice 4). It is a clinical characteristic of the secondary period of syphilis. The chancre (choice 1) of primary syphilis usually begins as a single, painless papule that rapidly becomes erosive and indurated. The ulcer has a cartilaginous consistency at the edge and base. Chancres are usually located on the penis in heterosexual men, but in homosexual men may be found in the anal canal, mouth, or external genitalia. Common primary sites in women include the cervix and labia. The primary lesion usually is associated with regional lymphadenopathy (choice 2) that may be unilateral or bilateral. Inguinal adenitis is usually discrete, firm, mobile, and painless, without overlying skin changes. Serological reactions become positive in the second part of secondary period (choice 3) while during the first part darkfield microscopy should be used.

120/ The diagnosis of primary syphilis is based on the following except:

1. Clinical picture,
2. Serological reactions,
3. Microscopy,
4. Anamnesis,
5. Bacterial culture.

Right answer – bacterial culture (choice 5). *Tr. pallidum* is badly cultivated. The diagnosis of primary syphilis is based on the clinical picture (choice 1) that includes the hard chancre and lymphadenopathy, serological reactions (choice 2) that become positive in the second part, darkfield microscopy (choice 3) where *Tr. pallidum* is seen. Anamnesis of sexual contact without condom (choice 4) can be helpful.

121/ What is NOT characteristic of the hard chancre in the primary period of syphilis?

1. Absence of the inflammatory signs,
2. Color of the “fresh meat”,
3. Absence of pain,
4. Infiltration of the chancre base,
5. Always formation of the scar after the healing.

Right answer - formation of the scar after the healing (choice 5). Syphilitic chancres are indurated (that is why they are called “hard”) – choice 4. They are usually painless (choice 3) and have a color of the “fresh meat” (choice 2). There are normally no inflammatory signs (choice 1) due to the low immune response in patients. The chancres are healed in 3-6 weeks without scar formation.

122/ What is NOT a sign of regional lymphadenitis in the primary syphilis?

- Painless,
1. Maybe be- or unilateral,
  2. Elastic consistency,
  3. Are not connected,
  4. Skin is erythematous in the place of lymphadenopathy.

Right answer - skin is erythematous in the place of lymphadenopathy (choice 5), usually there are no changes of the skin. During palpation the nodules are painless (choice 1), have elastic consistency (choice 3). Lymphadenopathy may be unilateral or bilateral (choice 2) and locates in whatever place of the body near the hard chancre. Lymph nodes are not connected choice (choice 4) that is important factor in differential diagnosis between cancers.

123/ What is NOT the form of atypical chancre in primary syphilis?

1. Chancre amygdalitis,
2. Chancre paraitium,
3. Indurative edema,
4. Shancroid.

Right answer – shancroid (choice 4). Shancroid is a STD caused by *H. ducreyi* that is characterized by formation of multiple painful ulcers with soft,

ragged, undermined edges and erythematous halo. Regional nodules are involved in 50%. Chancres may be formed in different places, although more often they are seen in penis and vulva. Atypical chancres may be situated on the anus (in homosexual men), fingers, oropharynx, tongue, nipples, fingers, or other extragenital sites. Atypical primary lesions are common and may manifest as a papular lesion without subsequent ulceration or induration. Chancre amygdalitis (choice 1) is characterized by enlargement of one tonsil without erosion or ulcer and pain during swallowing. There is usually no temperature and malaise, lymphadenitis is unilateral. Chancre paronychia (choice 2) is located in the index finger and characterized by edema and ulcer. Cubital and axillary lymphatic nodes are enlarged. Indurative edema (choice 3) develops due to affection of the lymphatic capillaries of the scrotum in men and labia in women. Palpation of the affected area is painless and reveals induration.

124/ What is the differential diagnosis of primary syphilis ulcers?

1. Shancroid,
2. Trauma,
3. Herpes simplex,
4. Ecthyma,
5. All of above.

Right answer – all of above (choice 5). Shancroid is a STD caused by *H. ducreyi* that is characterized by formation of multiple painful ulcers with soft, ragged, undermined edges and erythematous halo. Regional nodules are involved in 50%. During microscopy gram-negative rods are seen in 30% of cases. Culture of *H. ducreyi* can be performed. Incubative period of shancroid is shorter and lasts about 1-5 days. Traumatic lesions (choice 2) are well defined, and heal rapidly. There is no *Tr. pallidum* in the smears from the ulcer. Herpes simplex lesions (choice 3) are usually grouped, many little vesicles and erosions are formed. Patients usually complain of pain and burning. Herpes heals during 2-3 weeks. Ecthyma (choice 4) characterized by painful erosion with a pusish bottom. There is no *Tr. pallidum* in smears.

125/ What is the differential diagnosis of primary syphilis ulcers?

1. Scabies,
2. Tuberculosis,
3. Carcinoma,
4. Trichomoniasis and gonorrhoea ulcers, All of above.

Right answer – all of above (choice 5). Patients with scabies (choice 1) normally have other manifestations of the disease – typical location, S-shaped burrows, itch. Mite can be found during microscopical examination. Tubercloid ulcers (choice 2) are soft, the borders are not defined. They

can bleed during palpation. The patient normally has other foci of infection. Carcinomas (choice 3) usually affect elderly patients. In trichomoniasis and gonorrhea ulcers (choice 4) specific causative agents are found.

126/ What kind of infection is tinea versicolor?

1. Superficial,
2. Subcutaneous,
3. Systemic.

Right answer – superficial (choice 1). The infection usually affects the upper layers of the skin. Although the infection can be generalized and be followed by relapses the infection doesn't effect subcutaneous tissues (choice 2) and internal organs (choice 3).

127/ What tests can be used in the diagnosis of fungi infection?

1. Microscopy,
2. Culture methods,
3. PCR,
4. Examination in the Wood lamp,
5. All of above.

Right answer – all of above (choice 5). Microscopy (choice 1) is one of the most simple and fast methods. Usually hyphae or spores can be seen. Culture methods (choice 2) allow to find out the type of fungi and to administer the appropriate treatment. The “side effect” of the method is that the culture can grow during 2 weeks and not in all cases the positive result is received. PCR method (choice 3) is a golden standard and is usually used for the diagnostics of systemic and subcutaneous fungi infections. Examination in the light of the Wood lamp (choice 4) can reveal a specific fluorescent light of some fungi (green – tinea capitis, brown-reddish – erythrasma).

128/ What can be taken for the microscopy of the fungi?

1. Scales,
2. Hair,
3. Nails,
4. All of above.

Right answer – all of above (choice 4). Scales (choice 1) are normally taken from the skin and usually from the edge of the rash. Hair (choice 2) is taken in a case of infection of the hair. Nails (choice 3) can be taken if the doctor suspects onychomycosis.

129/ What is a primary element in tinea versicolor?

1. Macula,
2. Pustule.

3. Papule,
4. Nodule.

Right answer – macula (choice 1). In tinea versicolor macules can be hypo- or hyperpigmented and slight scaling is seen. During performing Baltzer probe the maculae become hyperpigmented that is explained by accumulation of the pigment in the upper layer of the corneum. Formation of pustules doesn't happen in tinea versicolor (choice 2), most often they are seen in bacterial infections of the skin. Papules (choice 3) are the primary elements for psoriasis and lichen planus. Nodules (choice 4) are the elevated solid lesions (more than 0.5 cm) that can be seen in the nodular form of acne.

130/ What is the causative microorganism of tinea versicolor?

1. *Corynebacterium minutissimum*,
2. *Malassezia furfur*,
3. *Staphylococcus aureus*,
4. *Mycobacterium leprae*.

Right answer – *Malassezia furfur* (choice 2). *Corynebacterium minutissimum* (choice 1) is the causative agent for erythrasma. *Staphylococcus aureus* (choice 3) causes different bacterial infections. *Mycobacterium leprae* (choice 4) causes leprosy.

131/ What is NOT true about *Malassezia furfur*?

1. Is seen in the normal skin,
2. The form that causes the disease is hyphal form,
3. For the nutrition it doesn't need lipids,
4. Predisposition factors for the development of tinea versicolor are heat and humidity.

Right answer - for the nutrition it doesn't need lipids (choice 3). *Malassezia furfur* is the lipid dependent microorganism and needs lipids for the nutrition. *Malassezia furfur* is seen in the normal skin (choice 1) but the development of the disease happens due to the conversion to the hyphal form (choice 2). This transformation can happen because of many factors, some of which are heat and humidity (choice 4).

132/ What is NOT the clinical picture of the tinea versicolor?

1. Macules of different color,
2. Fine scales covering the lesions,
3. Ardi symptom,
4. The most common location of the lesions in the trunk.

Right answer - Ardi symptom (choice 3). This symptom is characteristic of scabies. The primary element of the tinea versicolor is macula (choice 1). Macules may be of different color. Fine usually dirty like scales (choice

2) cover the lesions. The most common location of the lesions is the trunk (choice 4) as the area that contains more lipids.

133/ What color have the erythrasma lesions under the Wood lamp light?

1. Coral red,
2. Green,
3. Yellowish,
4. Don't have any.

The erythrasma lesions under the Wood lamp light have coral red color (choice 1) that is due to the production of porphyrin. The green color (choice 2) is characteristic of tinea capitis lesions.

134/ What is used to treat erythrasma?

1. Nystatin,
2. Itraconazole,
3. Erythromycin,
4. Fluconazole.

Right answer – erythromycin (choice 3). The causative agent for erythrasma is *Corynebacterium*, so the appropriate treatment will be with the antibiotics. Other drugs (choice 1,2,4) are antifungals and are used in the treatment of fungi infection.

135/ What is NOT used in the classification of fungi?

1. Geophilic,
2. Zoophylic,
3. Antropophylic,
4. Aerophylic.

Right answer – aerophylic (choice 4). The fungi can be classified according to their natural reservoir. So, some fungi live in soil (choice 1) for ex. *M.gypseum*; some are found on animals (choice 2) for ex. *M.canis*; some are adapted only to human host (choice 3) like *T.rubrum*. Fungi doesn't live in the air.

136/ What are the factors of pathogenesis of the fungi?

1. Adherence,
2. UV resistance,
3. Temperature, moisture resistance,
4. All of above.

Right answer – all of above (choice 4). The fungi are resistant in the environment, they don't die in UV light (choice 2) and in high temperature

and moisture (choice 3). In general the transmission of fungi happens more often in summer when there is hot weather, also during wearing uncommon shoes when there is appropriate atmosphere. Fungi have adherence to keratinocytes (choice 1). Pathogenesis of the fungi depends on the ratio of the speed of the growing of the fungi and skin desquamation. If the fungi penetrate and germinate faster than desquamation happens the infection begins.

137/ What are the complications of fungi infections?

1. Allergic reactions,
2. Generalized and systemic fungi infection,
3. Cosmetic defect,
4. All of above.

The right answer – all of above (choice 4). Usually IV type of allergic reaction is a response to fungi infection. Invasion of the fungi causes immune detection and chemotaxis of inflammatory cells. That may lead to some allergic reactions and complications for ex. development of mycotic eczema due to permanent allergisation. Generalized and systemic fungi infection (choice 2) can develop in immunocompromized patient and in the case of inadequate treatment. Fungi can also affect internal organs (systemic candidiasis). Cosmetics defects always develop (choice 3). That is the most important factor in case of onychomycosis, because of misunderstanding of the necessity to treat the infection, failure of the previous treatment or the high cost of the medications patients suffer from the changing appearance of the nails and have psychological problems.

138/ What is true about fungi?

1. Fungi doesn't have a nuclei,
2. Fungi exist only in mycelium form,
3. Fungi replicate only by asexual way,
4. Reservoirs of the fungi infection are frequently environment, often animals and sometimes ourselves.

Right answer - reservoirs of the fungi infection are frequently environment, often animals and sometimes ourselves (choice 4). Due to what reservoir is native for the fungi they are classified as geophylic, zoophylic and antropophylic. Structure of the fungi is eucariotic, they have a nucleus with a nuclei membrane (choice 1 is incorrect), cytoplasm that contains mitochondria, apparatus Golgi, lysosomes and endoplasmic reticulum. Fungi are either small round yeasts or filamentous molds with a mycelium or hyphae (choice 2 is incorrect). Many fungi are dimorphic with a yeast and mycelial form. All fungi can reproduce asexually with haploid cells dividing by mitosis to form spores. Fungi that are reproduced only by asexual way are called imperfect. Some fungi also are reproduced by meiosis that is considered to be sexual

way (choice 3 is incorrect). Ability to reproduce by sexual or asexual way is lead in the base of the classification of the fungi.

139/ What is the etiologic agent for tinea cruris?

1. *Epidrmophyton floccosum*,
2. *Corinebacterium minutissimum*,
3. *Malassezia furfur*,
4. *Candida albicans*.

Right answer - *Epidrmophyton floccosum* (choice 1). Tinea cruris may be caused by some agents such as *Trychofitum rubrum*, *Trychofitum mentagrofritis*, but *Epidrmophyton floccosum* is the most frequent causative agent. *Corinebacterium minutissimum* (choice 2) causes erythrasma that is considered to be pseudo fungal infection. *Malassezia furfur* (choice 3) is a normal inhabitant of the human skin that in some circumstances may lead to seborrhoeic dermatitis, pityriasis versicolor or folliculitis. *Candida albicans* (choice 4) is also a normal host of the person but in some cases it causes candidiasis of the skin and internal organs, usually in immunosuppressive patients and patients after organ transplantation.

140/ With what diseases is NOT necessary make differential diagnosis of tinea cruris?

1. Erythrasma,
2. Candida infection – intertrigo,
3. Psoriasis,
4. Lichen planus,
5. Extramammary Paget's disease.

Right answer – lichen planus (choice 4). Although lichen planus has numerous manifestations most commonly the lesions are situated in the extremities, they do not tend to group in the skin folds. Primary lesions in lichen planus are violet itchy papules with a depressing center. Erythrasma (choice 1) has a same clinical picture but the lesions have darker color. In the differential diagnosis helps microscopic examination – there are no fungi. Wood lamp examination reveals typical red-brown fluorescence. Candida infection – intertrigo (choice 2) also tends to affect skin folds especially in patients with obesity, diabetes mellitus. Microscopical examination usually helps to differentiate these infections. There is a form of psoriasis that also effects skin folds – seborrhoeic (or inverse). In psoriasis microscopy doesn't reveal fungi and special symptoms for the psoriasis (Auspits sign, Koebner phenomenon, affection of the knees and elbows) are seen. Extramammary Paget's disease (choice 5) can resemble tinea cruris in primary stages.

141/ What is NOT the clinical characteristics of tinea cruris?



1. Large patches of erythema,
2. Scaling,
3. Positive probe of Baltzer with iodium,
4. Moist and exudates in acute infection.

The right answer - positive probe of Baltzer with iodium (choice 3). It is a sign that is typical for pityriasis versicolor and is explained by deposition of iodium in the upper layers of the skin due to its desquamation. Tinea cruris is usually caused by *Trychofitum rubrum*, *Trychofitum mentagrophytis*, and *Epidmophyton floccosum* that is the most frequent causative agent. The lesions in tinea cruris tend to affect large folds of the body and are described as large erythematous patches (choice 1) with the defined borders and scaling (choice 2). The lesions may be moist and exudative (choice 4) due to permanent traumatization of the affected areas.

142/ What is NOT the typical characteristics of tinea pedis caused by *Tr. interdigitale*?

1. Usually only soles are affected,
2. Effects palms and soles,
3. Usually 3d and 4d interdigital areas are affected,
4. Usually only 1st and 5<sup>th</sup> nails of the soles are affected.

The right answer - affects palms and soles (choice 2). *Tr. interdigitale* and *Tr. rubrum* are the common causative agents that cause tinea pedis. Although to determine the exact species of fungi cultural examination has to be performed, there are some differences in the clinical picture of the tinea cruris caused by *Tr. interdigitale* and *Tr. rubrum*. *Tr. rubrum* can affect both soles and palms, while *Tr. interdigitale* usually effects only soles (choice 1). Tinea pedis caused by *Tr. interdigitale* is located in 3d and 4d interdigital areas (choice 3) and only 1st and 5<sup>th</sup> nails of the toes are affected (choice 4).

143/ What is NOT the clinical variant of tinea pedis?

1. Interdigital,
2. Pruritic,
3. Chronic hyperkeratotic,
4. Inflammatory,
5. Ulcerative.

Right answer – pruritic (choice 2). There are 4 clinical forms of tinea pedis – interdigital (choice 1), chronic hyperkeratotic (choice 3), inflammatory (choice 4) and ulcerative (choice 5). The interdigital presentation is the most characteristic type of tinea pedis, with maceration, fissuring, and scaling, most often seen between the toes. The dorsal surface of the foot is usually clear, but some extension onto the plantar surface of the foot may occur. The hyperkeratotic type of tinea pedis is characterized by chronic asymptomatic or pruritic erythema with slight scaling. This type is also called moccasin

sin tinea pedis, after its moccasinlike distribution. Both feet are usually affected. Hyperkeratosis is also a typical sign of this form. Painful, pruritic vesicles or bullae, most often on the instep or anterior plantar surface characterize the inflammatory type. The lesions can contain either clear or purulent fluid; after they rupture, scaling with erythema persists. Cellulitis, lymphangitis, and adenopathy can complicate this type of tinea pedis. The ulcerative variant is characterized by rapidly spreading vesiculopustular lesions accompanied by a secondary bacterial infection.

144/ What is NOT the risk factor for the candidiasis?

1. Prolonged use of antibiotics,
2. Recent surgery,
3. Pregnancy,
4. Parenteral alimentation.

Right answer – pregnancy (choice 3). Candidiasis is caused by *Candida albicans* that is a normal inhabitant of the human skin. Candidiasis has many clinical presentations that range from superficial skin lesions to the affection of internal organs. Candidiasis develops if the relationships between host and the yeast are broken. So it usually appears in patients with immunodeficiency that may be a result of the prolonged use of antibiotics (choice 1), recent surgery (choice 2), parenteral alimentation (choice 4). Normal pregnancy (choice 3) is not a risk factor for the development of candidiasis, although if there is some pathology it may develop.

145/ What are the main types of the skin candidiasis?

1. Generalized cutaneous candidiasis,
2. Intertrigo,
3. Metastatic skin lesions,
4. Paronychia,
5. All of above.

Right answer – all of above (choice 5). Generalized cutaneous candidiasis (choice 1) is an unusual form of cutaneous candidiasis that manifests as a diffuse eruption over the trunk, thorax, and extremities. The patient has a history of generalized pruritus, with increased severity in the genitocrural folds, anal region, axillae, hands, and feet. Physical examination reveals a widespread rash that begins as individual vesicles that spread into large confluent areas. Intertrigo (choice 2) affects any site where the skin surfaces are in close proximity, providing a warm and moist environment. Metastatic skin lesions (choice 3) occur in about 10% of patients with disseminated candidiasis and candidemia. Paronychia (choice 4) is associated with immersion of the hands in water and with diabetes mellitus. The patient has a history of a painful and erythematous area around and underneath the nail and nail bed.

Physical examination reveals an area of inflammation that becomes warm, glistening, tense, and erythematous and may extend extensively under the nail. It is associated with secondary nail thickening, ridging, discoloration, and occasional nail loss.

146/ What is the most appropriate treatment in candidiasis?

1. Fluconazole,
2. Ketoconazole,
3. Itraconazole,
4. All of above.
5. Right answer – 1 and 3.

Right answer – Fluconazole and Itraconazole (choice 5). Fluconazole (Diflucan) is a triazole with less effect on human sterol metabolism. It does not decrease cortisol and testosterone levels, as occurs with ketoconazole, has fewer adverse effects and better tissue distribution than older systemic imidazoles. Itraconazole (choice 3) has a fungistatic activity inhibiting cytochrome P-450-dependent synthesis of ergosterol, a vital component of fungal cell membranes. It is effective against broad range of fungi, including *Candida* species and is indicated for the treatment of cutaneous, oral, esophageal, and disseminated candidiasis. Ketoconazole (choice 2) is a antifungal drug from the group of triazoles. It has less activity against *Candida* and also its oral use is limited due to many side effects.

147/ What laboratory tests can be useful in confirming the diagnosis tinea cruris?

1. Wood lamp examination,
2. Microscopy,
3. PCR,
4. Right 1 and 2,
5. All of above.

Right answer - Wood lamp examination and microscopy (choice 4). Wood lamp examination (choice 1) is helpful in differential diagnosis with erythrasma that has quite the same clinical picture. In case of erythrasma red brown fluorescence will be seen. Microscopy (choice 2) - KOH test - is the most simple and common way of diagnostics of fungi infection. PCR (choice 3), sure is one of the most specific methods of the diagnostics of infections that can reveal the causative agent but due to its high cost it is not used for the diagnosis of superficial fungi infections. It is helpful in the diagnostics of deep and systemic fungi infections.

148/ What is necessary to perform to prevent spread of tinea pedis?

1. Observe and treat all the members of the family,
2. Make the disinfection of the shoes regularly,
3. Avoid occlusive footwear,

4. All of above.

Right answer – all of the above (choice 4). Close members of the family can be affected through the close contact with the patients; spread of fungi can happen through the shoes, socks, etc. That is why all the members of the family should be observed and treated to prevent the reinfection. Every member of the family has to use the personal footwear. If a patient has tinea pedis the disinfection of the shoes with the special solutions or formaldehyde must be performed regularly (choice 2). Footwear must be comfortable and do not cause occlusion (choice 3).

149/ What includes the clinical picture of intertrigo?

1. Pruritus,
2. White necrotic epidermis around erythematous base,
3. Vesiculopustules,
4. All of above.

Right answer – all of above (choice 4). Intertrigo is the most common clinical sign of candidiasis of the skin. Intertrigo affects any site where the skin surfaces are in close proximity, providing a warm and moist environment. Pruritic red rash occurs (choice 1). Physical examination reveals a rash that begins with vesiculopustules (choice 3), which enlarge and rupture, causing maceration and fissuring. The area involved has a scalloped border, with a white rim consisting of necrotic epidermis that surrounds the erythematous macerated base (choice 2). Satellite lesions frequently are found that may coalesce and extend into larger lesions.

150/ What from above is true about skin cells?

1. The race of the patients depends on the quantity and size of melanocytes,
2. Cells of Langerhans express HLA-DR antigens,
3. Melanocytes are the most frequent cells of the epidermis,
4. Langerhans cells are the types of keratinocytes.

Right answer - cells of Langerhans express HLA-DR antigens (choice 2). Langerhans cells are the types of macrophages (choice 4 is incorrect). They have the antigens on their surface. They express HLA-DR antigens more actively than monocytes of the blood. The race of the patients depends on the quantity, but not the size of melanocytes (choice 1). The most frequent cells of the skin are keratinocytes, 1 melanocyte supplies pigments to 36 keratinocytes (choice 3).

151/ What is true about contact dermatitis?

1. Patient with atopic dermatitis more frequently may develop contact dermatitis.

2. Allergic dermatitis is a form of the contact dermatitis,
3. Contact dermatitis forms up to 40% of professional diseases,
4. Right 1 and 3,
5. Right all of above.

Right answer – 1 and 3 (choice 4). Patients with preexisting skin diseases (atopic dermatitis, psoriasis, eczema) develop contact dermatitis more frequently due to the skin rash (choice 1). Contact dermatitis is a very often pathology (choice 3). Allergic dermatitis is the other disease that is characterized by a period of sensibilization (choice 2). Unlike contact dermatitis rash in allergic dermatitis develops not only in the place of the contact.

152/ What is the sign of atopic dermatitis?

1. Pityriasis alba,
2. Sign of Denie-Morgan,
3. High levels of IgE,
4. Right 1 and 2,
5. All of above.

Right answer – all of above (choice 5). The onset of the pityriasis alba (choice 1) is unknown but it is often seen in patients with atopic dermatitis and has a clinical picture of white patches usually located in the face and upper extremities. Some authors consider pityriasis alba to be a bacterial infection. Sign of Denie-Morgan (choice 2) is a hyperpigmentation around the eyes that is also seen in patients with atopic dermatitis. High levels of IgE (choice 3) is a minor criterion of atopic dermatitis that can be seen also in the other atopic diseases (asthma, allergic rhinitis).

153/ The patient is consulted for the reason of the erythematous scaling patch in the skin of the buttock. Nails are yellow and hypertrophied. Examination with KOH reveals fungi. What is the probable diagnosis?

1. Tinea corporis,
2. Herpes simplex,
3. Mycosis fungoides,
4. Lupus vulgaris,
5. Leprosy, tuberculoid form.

Right answer – tinea corporis (choice 1). Positive KOH test and appearance of nails are due to this diagnosis. To reveal what fungi caused the disease it is necessary to perform culture examination. But more probable *Tr. rubrum* will be revealed. In all the other variants KOH test will be negative. Herpes simplex (choice 2) is characterized by grouped vesicles on the erythematous skin usually situated on lips or in genital area. Mycosis fungoides (choice 3) is a form of lymphoma of the skin and biopsy of the lesion is used to confirm the diagnosis. Typical for the lupus vulgaris (choice

4) is the formation of the tubercles with apple jelly syndrome. The diagnosis of leprosy (choice 5) should be based on the results of biopsy, and cultivation of the mycobacteria.

154/ What is wrong about sebaceous glands?

1. Sebaceous glands are holocrine,
2. The concentration of the sebaceous glands is the largest in the palms and soles,
3. Sebaceous glands may open into the hair follicule,
4. Production of the sebum begins from puberty.

Right answer - the concentration of the sebaceous glands is the largest in the palms and soles (choice 2), these areas are free of sebaceous glands. Sebaceous glands are holocrine glands (choice 1), i.e., their secretion is formed by complete destruction of the cells. Most sebaceous glands have their ducts opening into hair follicles (choice 3). Free sebaceous glands (not associated with hair follicles) open directly to the surface of the skin, e.g., Meibomian glands of the eyelids, Tyson's glands of the prepuce, and free glands in the female genitalia and in the areola of nipples. The production of sebum is under hormonal control and sebaceous secretion is a continuous process. Sebaceous gland development is an early event in puberty (choice 4), and the prime hormonal stimulus for this glandular development is androgen. Although the sebaceous glands are very small throughout the prepubertal period, they are large at the time of birth, probably as a result of androgen stimulation in utero, and acne may be seen in the neonatal period.

155/ What is the etiological agent responsible for the development of contagious impetigo?

1. *St. aureus*,
2. *Str. pyogenes*,
3. *Pseudomona aeruginosa*,
4. Right 1 and 2,
5. Right 2 and 3.

Right answer – *St. aureus* and *Str. pyogenes* (choice 3). Impetigo contagiosa is a superficial skin infection caused by staphylococci or streptococci. It is the most common infection in children. There is much discussion about the causative agent of impetigo. There are two main clinical forms of impetigo – bullous and non bullous. Impetigo with large bullas is usually caused by streptococci species due to epidermolytic toxin and non-bullous is caused by staphylococci species. Some authors consider that impetigo is a streptococcal infection and staphylococci only colonize previously affected skin. Anyway the only way to find out the exact etiological agent is to perform cultural examination from the skin lesion. *Pseudomona aeruginosa* (choice 3) is a gramnegative bacteria that is widely distributed and predominates in wet en-

vironment. *Pseudomonas* is an opportunistic pathogen but has many virulence factors for invasiveness and toxicity. It causes skin infections such as tuberculous folliculitis, ecthyma gangrenosum and also plays a significant role in the development of nosocomial pneumonias and urinary tract infections.

156/ Development of the polygonal itchy papules of violet color in the skin and mucous membranes with the positive phenomenon of Koebner is due to:

1. Lichen planus,
2. Psoriasis,
3. Secondary syphilis,
4. Contact nickel dermatitis,
5. Atopic dermatitis.

Right answer – lichen planus (choice 1). Lichen planus is a chronic disease of unknown origin that is characterized by formation of papules of violet color in the skin and mucous membranes. Usually the skin of extremities is involved. Although psoriasis (choice 2) is also characterized by positive Koebner phenomenon and the primary element of the psoriasis is papule, the papules in psoriatic patients are scaling and bleeding after scratching. Mucous membranes are affected rarely. Elements of secondary syphilis (choice 3) may have various appearances but Koebner phenomenon is not typical. In contact dermatitis (choice 4) the clinical picture depends on the time of the exposure to the irritant but papules do not form. Atopic dermatitis (choice 5) has major and minor signs that are used in diagnostics, although papules are also seen they are smaller and do not have the violet color. Koebner phenomenon is not seen. There is no involvement of the mucous membranes.

157/ What treatment is usually NOT used in the treatment of atopic dermatitis?

1. Topical corticosteroids,
2. Emollients,
3. Antihistamines,
4. Antibiotics.

Right answer – antibiotics (choice 4). Topical corticosteroids (choice 1) due to their antiinflammatory effect are still the most frequent and widely used drugs for the treatment of AD. Although they cause many side effects such as atrophy of the skin, folliculitis, striae distensae, they are “number one therapy” in the treatment of the relapses of AD. Emollients (choice 2) should be used continuously due to skin dryness of patients with AD. Dry skin causes severe itch in patients and that is why care of the skin is necessary. Antihistamines (choice 3) decrease itch due to blocking receptors of hista-

mine. Antibiotics can be used in secondary bacterial infections in patients with AD but they are not used for all the patients.

158/ In what disease is it necessary to perform KOH test?

1. Herpes simplex,
2. Herpes zoster,
3. Atopic dermatitis,
4. Tinea corporis
5. Seborrhoeic dermatitis.

The right answer - tinea corporis (choice 4). In tinea corporis the KOH test can reveal filaments and spores of fungi. Further cultural examination can reveal the type of fungi. The diagnosis of herpes simplex (choice 1) and herpes zoster (choice 2) is normally made on clinical examination when typical vesicles are seen. Vesicles in herpes simplex are situated in the face and genital areas and in herpes zoster – following nerves. Tzank cells in the smears may be also found. In severe cases PCR is used to detect herpes infections. The diagnostics of atopic dermatitis (choice 3) is based on the clinical criteria. There are major and minor criteria. The diagnosis is made if there are 2 major and 3 minor criteria. The diagnosis of seborrhoeic dermatitis (choice 5) is also made clinically. Although Malassezia yeasts are an inducing factor for the disease they are not seen in KOH test.

159/ In what disease will the examination with the Wood lamp be necessary?

1. Ichthyosis,
2. Alopecia arcata,
3. Atopic dermatitis,
4. Seborrhoeic dermatitis,
5. Tinea capitis.

Right answer -- tinea capitis (choice 5). Usually in tinea capitis caused by *M. canis* the green fluorescence is seen. Ichthyosis (choice 1) is a hereditary disease characterized by obsessively dry skin. The diagnosis is made on the base of family history and clinical examination. Alopecia areata (choice 2) is characterized by total loss of the hair and normally has a different clinical appearance compared to tinea capitis. The diagnostics of atopic dermatitis (choice 3) is based on the clinical criteria. There are major and minor criteria. The diagnosis is made if there are 2 major and 3 minor criteria. The diagnosis of seborrhoeic dermatitis (choice 4) is also made clinically.

160/ What from is NOT a typical sign of psoriasis?

1. Erythematous plaques,
2. Scaling,
3. Koebner phenomenon,



4. Auspitz sign,
5. Pruritus.

Right answer – pruritus (choice 5). Not always but this phenomenon is seen in 40% of patients. Erythematous plaques (choice 1) are typical clinical characteristics. After scratching a severe scaling (choice 2) and bleeding are seen – that is called Auspitz sign (choice 4). On the place of skin damage new papules and plaques may develop. This phenomenon is called Koebner phenomenon (choice 3).

161/ The woman of 40 years old presents papules of the polygonal shape of violet color and the papules on the mucous membrane of the mouth with a lacy reticulated pattern of whitish lines. The lesions are followed by severe itch. What is the most possible diagnosis?

1. Psoriasis,
2. Lichen planus,
3. Seborrhoeic dermatitis,
4. Dermatofitosis,
5. Eczema nummular.

Right answer – lichen planus (choice 2). Lichen planus is a chronic disease with unknown origin that is characterized by formation of papules of violet color in the skin and mucous membranes. Usually the skin of extremities is involved. A lacy reticulated pattern of whitish lines is called phenomenon of Wickham and is more frequently seen in mucous membranes. Although psoriasis (choice 1) is also characterized by positive Koebner phenomenon and the primary element of the psoriasis is papule, the papules in psoriatic patients are scaling and bleeding after scratching. Mucous membranes are affected rarely. Seborrhoeic dermatitis (choice 3) is characterized by formation of erythematous patches with greasy scales. Dermatofitosis (choice 4) can not affect mucous membranes. In nummular eczema (choice 5) lesions in the form of coin are usually formed. Itch is also present.

162/ A patient of 80 years old presents bullas and urticaria in the upper extremities. Some of the lesions are pruriginous. There is no involvement of the mucosa. After the bullas open the erosions are formed that heal with hyperpigmentation. Histologically deposits of IgA are revealed. What is the most possible diagnosis?

1. Pemphigus vulgaris,
2. Bullous pemphigoid,
3. Herpetiformic dermatitis,
4. Herpes zoster.

Right answer - herpetiformic dermatitis (choice 3). In all of these diseases bullas can be formed. But in pemphigus vulgaris (choice 1) and bullous

pemphigoid (choice 2) itch is usually not present and there is no hyperpigmentation after healing of the erosions. Urticarias are not seen. The differential diagnosis is based on the result of biopsy and immunofluorescent reaction. In bullous pemphigoid and pemphigus vulgaris deposits of IgG are seen. In pemphigus vulgaris the lesions can also affect mucous membranes. In herpes zoster (choice 4) bullas are formed more rarely, usually only vesicles are seen. There is also a severe pain syndrome.

163/ A household worker presents the inflammation of the periungual areas. She is ill during some years. She often has contacts with water and detergents. Periungual areas look edematous, erythematous, white scaling is seen around the nails. What is the most probable diagnosis?

1. Contact dermatitis,
2. Psoriasis,
3. Chronic paronychia caused by Candida,
4. Lichen planus.

Right answer - chronic paronychia caused by Candida (choice 3). Frequently, paronychia and onychomycosis are associated with immersion of the hands in water and with diabetes mellitus. The patient has a history of a painful and erythematous area around and underneath the nail and nail bed. Physical examination reveals an area of inflammation that becomes warm, glistening, tense, and erythematous and may extend extensively under the nail. It is associated with secondary nail thickening, ridging, discoloration, and occasional nail loss. Contact dermatitis (choice 1) usually also involves the skin of the palms, the involvement only of periungual areas is more likely for Candida infection. In psoriasis (choice 2) as well as in lichen planus (choice 4) the involvement of the nails can be seen but the involvement of periungual areas is not typical.

164/ A child of 5 years old presents erythematous patchy lesions on the flexor surfaces of the arms and legs. The lesions are pruriginous. Heilitis also is seen. What is the most possible diagnosis?

1. Microbic eczema,
2. Atopic dermatitis,
3. Seborrhoeic dermatitis,
4. Prurigo.

Right answer – atopic dermatitis (choice 2). In this case there are 2 major criteria – itch and typical location of the lesions and one minor criterium – heilitis. Young age of the onset is also a sign of atopic dermatitis. In case of microbic eczema (choice 1) there is a primary trauma from where the sensibilisation begins. For the seborrhoeic dermatitis (choice 3) involvement of the flexor surfaces of the arms and legs is not common. It usually affects scalp, face and upper trunk. Prurigo (choice 4) also can affect young patients

but the primary element is a typical nodule with a vesicle on the top – a seropapule.

165/ What parasite can aggravate the condition of the patient with rosacea?

1. *Sarcoptes scabiei*,
2. *Demodex folliculorum*,
3. *Pediculus capitis*,
4. All of the above,
5. None of the above.

Right answer - *Demodex folliculorum* (choice 2). Rosacea is a chronic disease of an inflammatory and vascular character. The onset of the condition is unknown but many factors aggravate the situation. *Demodex folliculorum* is found more frequently in rosacea patients. Some authors suggest that the life products cause the sensibilisation in rosacea patients. *Sarcoptes scabiei* (choice 1) is a mite that causes and spreads scabies through direct and prolonged contact with the host. *Pediculus capitis* (choice 3) is a lice that causes pediculosis of the head.

166/ The Stevens-Johnson syndrome is the hard form of:

1. Psoriasis,
2. Lupus erythematosus,
3. Erythema multiforme,
4. Lichen planus.

Right answer - Erythema multiforme (choice 3). Stevens-Johnson syndrome develops after a virus infection, usually herpes, and after drug-intake. In this syndrome mucous membranes can be involved as well as skin when target like lesions are formed. The complicated forms of psoriasis (choice 1) are erythematous, pustular and arthropathic. Lupus erythematosus (choice 2) is an autoimmune disorder with the formation of autoantibodies and immune complexes that are deposited in the little vessels and under the basal membrane of the epidermis as well as photosensibilisation and specific skin lesions. In some cases lupus erythematosus can develop into systemic form when the internal organs are involved. Kidney involvement is one of the most serious complications of systemic lupus erythematosus that can lead to kidney insufficiency.

167/ What is NOT characteristic of pemphigus vulgaris?

1. Involvement of the mucous membranes,
2. Formation of the flattered blisters in the skin,
3. Positive Nikolsky's sign,
4. Koebner phenomenon.

Right answer - Koebner phenomenon (choice 4). This phenomenon is seen mostly in psoriasis and lupus erythematosus and is explained by appearance of new skin lesions at the place of skin injury. Most often affected mucous membranes in pemphigus vulgaris are those of the oral cavity (choice 1), which is involved in almost all patients with PV and sometimes is the only area involved. Erosions may be seen on any part of the oral cavity. Erosions can be scattered and often extensive. Erosions may spread to involve the larynx with subsequent hoarseness. The patient is often unable to eat or drink adequately because the erosions are very uncomfortable. The primary lesion of pemphigus vulgaris (choice 2) is a flaccid blister filled with clear fluid that arises on normal skin or on an erythematous base. The blisters are fragile; therefore, intact blisters may be sparse. The contents soon become turbid, or the blisters rupture producing painful erosions, which is the most common skin presentation. Erosions are often large because of their tendency to extend peripherally with the shedding of the epithelium. In patients with active blistering, firm sliding pressure with a finger separates normal-appearing epidermis, producing an erosion. This sign is called Nikolsky's sign (choice 3).

168/ For what diseases is Nikolsky's sign negative?

1. Staphylococcal Scaled Skin Syndrome,
2. Layell syndrome,
3. Herpes zoster,
4. Pemphigus vulgaris.

Right answer – herpes zoster (choice 3). In herpes zoster numerous itchy vesicles are formed at the erythematous base following the main nerves. Sometimes bullas may be formed that are not spread into normal skin after pressure. In pemphigus vulgaris (choice 4) positive Nikolsky's sign is explained by the process of acantolysis as a result of autoimmune action. In Staphylococcal Scaled Skin Syndrome (choice 1) and Layell syndrome (choice 2) the peeling of the epidermis happens due to the epidermolitic toxins of Staphylococci.

169/ What is NOT used in the diagnostics of the pemphigus vulgaris?

1. Histology,
2. Direct immunofluorescence,
3. Tzank-test for Acantholytic cells,
4. Culture of the fluid from the bulla.

Right answer - culture of the fluid from the bulla (choice 4). Cultivation of the fluid from the bulla may not find anything or will reveal bacteria in the case of secondary bacterial infection but in all these cases this method is not useful. Histology examination (choice 1) can find intradermal blisters, suprabasal acantholysis that is typical for pemphigus. Direct immunofluorescence (DIF) on normal-appearing perilesional skin (choice 2) usually finds

IgG deposits on the surface of the keratinocytes in and around lesions. Tzank-test (choice 3) is a smear taken from the base of a blister or oral erosion that contains acantholytic cells.

170/ What is the drug of choice of pemphigus vulgaris?

1. Antibiotics,
2. Corticosteroids,
3. Immunostimulators,
4. Vitamins.

Right answer – corticosteroids (choice 1). Before the corticosteroids era the death of the patients with pemphigus vulgaris was almost 100%. Corticosteroid hormones – prednisolone, prednisone, methylprednisolone, triamcinolone, kenacort, polcortolon are used daily, the dose being about 120 mg. Antibiotics (choice 1) are administered only in the case of secondary bacterial infection. Immunostimulators (choice 3) as well as vitamins (choice 4) may be used as a secondary treatment in cases of compromised immune system and vitamin insufficiency.

171/ What is NOT true about pemphigus vulgaris?

1. Mucous membranes can be involved,
2. It is an autoimmune disease,
3. Is not dangerous and heal without treatment,
4. The primary element is bulla.

Right answer -- it is not dangerous and heales without treatment (choice 3). Treatment with systemic steroids has reduced the mortality rate to 5-15% that in cases of non treated pemphigus is up to 100%. Pemphigus vulgaris is an autoimmune (choice 2), intraepithelial, blistering disease (choice 4) affecting the skin and mucous membranes (choice 1) and is mediated by circulating autoantibodies directed against keratinocyte cell surfaces. In 1964, autoantibodies against keratinocyte surfaces were described in patients with pemphigus. Clinical and experimental observations indicate that circulating autoantibodies are pathogenic. An immunogenetic predisposition is well established.

172/ What diet should be taken by the patients with herpetiformic dermatosis?

1. Antiallergic diet,
2. Sugar free diet,
3. Gluten free diet,
4. Salt free diet.

Right answer – gluten free diet (choice 3). Dermatitis herpetiformis is an immune-mediated blistering skin disease with an associated, most often asymptomatic, gluten-sensitive enteropathy. Gluten-free diet is the only sus-

tainable method of eliminating the disease, not only from the skin, but also from the gastrointestinal mucosa. Patients on a gluten-reduced diet may experience decrease of symptoms; therefore, diet reduces the dosage of dapsone required for disease control. Intake of sugar (choice 2) and salt (choice 3) does not aggravate the condition of the patients. The disease has no allergic predisposition (choice 1).

173/ What is the most probable age of the benign of bullous pemphigoid (BP)?

1. 30-40,
2. 20-25,
3. after 40,
4. After 60.

Right answer – after 60 (choice 4). Bullous pemphigoid is a chronic auto-immune blistering skin disease which course is relatively benign. The patient's age is more than 60 years. The onset of BP may be either subacute or acute with widespread tense blisters. Significant pruritus is frequently present. BP has been reported to be precipitated by ultraviolet irradiation, x-ray therapy, and exposure to some drugs. Sometimes it can also be a sign of neoplasia.

174/ What is NOT the typical sign of herpetiformic dermatosis?

1. Severe itch,
2. Associated gluten-sensitive enteropathy,
3. Location on the extensor surfaces,
4. Positive Nikolsky's sign.

Right answer - positive Nikolsky's sign (choice 4), absence of this sign is used in differential diagnosis with pemphigus vulgaris were it's positive. Dermatitis herpetiformis is an immune-mediated blistering skin disease with an associated, most often asymptomatic, gluten-sensitive enteropathy (choice 2). Characteristic skin lesions found in patients with herpetiformic dermatitis are extremely itchy (choice 1) grouped vesicles most frequently located on extensor surfaces (choice 3).

175/ What is characteristic of bullous pemphigoid?

1. Flattered blisters,
2. Acantholytic cells,
3. Intradermal blisters.
4. Subdermal blisters

Right answer – subdermal blisters (choice 4). The bullae in bullous pemphigoid are tense and arise on any part of the skin surface, with a predi-

lection on the flexural areas of the skin. Bullous pemphigoid has a similar clinical picture with pemphigus vulgaris when flattered (choice 1) intradermal blisters are formed (choice 3). Acantholytic cells (choice 2) are found in the smears from erosions in pemphigus vulgaris.

176/ What is NOT characteristic of simple contact dermatitis?

1. Rupture appears after the contact with irritant,
2. Long period of sensibilisation,
3. Severity of raptures depends on the time of exposure to the irritant,
4. The most common sites of the contact dermatitis are hands.

Right answer - long period of sensibilization (choice 2). Simple contact dermatitis is an inflammatory response of the skin to an antigen or irritant (choice 1). Simple contact dermatitis can cause discomfort and embarrassment and is the most common skin condition among workers' compensation claims. Most cases of contact dermatitis have a similar appearance regardless of the mechanism or cause of inflammation. It can be acute, subacute or chronic depending on the time of the exposure of the irritant (choice 3). Mostly the open parts of the skin – hands are affected. Allergic contact dermatitis affects only individuals previously sensitized to the contactant (choice 2).

177/ What is characteristic of allergic dermatitis?

1. Long period of sensibilisation,
2. Polymorphological rash,
3. Itch is a common complain,
4. All of above.

Right answer – all of above (choice 4). Allergic contact dermatitis affects only individuals previously sensitized to the contactant (choice 1). It represents a delayed hypersensitivity reaction and requires several hours to complete the cascade of cellular immunity before symptoms manifest. The manifestations do not depend on the time of the exposure of the irritant and may be polymorphological (choice 2). The main symptom, in addition to the lesion, is pruritus (choice 3).

178/ What lesions are typical for erythema multiforme?

1. Grouped vesicles on the erythematous base,
2. Umbilicated violet papules.
3. Target like lesions,
4. Large blisters.

Right answer - target like lesions (choice 3). Erythema multiforme as an acute, self-limited condition with characteristic red papular skin lesions. The papules evolve into pathognomonic target lesions or iris lesions that appear within a 72-hour period and begin on the extremities. Lesions remain in a fixed location for at least 7 days and then begin to heal. Precipitating factors include herpes simplex virus (HSV), Epstein-Barr virus, and histoplasmosis. Because this condition may be related to a persistent antigenic stimulus, recurrence is the rule rather than the exception, with most affected individuals experiencing 1-2 recurrences per year. Erythema multiforme is typically a benign, self-limited disorder. In severe cases Stevens-Johnson syndrome can develop when the typical skin lesions of erythema multiforme are combined with involvement of the mucous membranes. Grouped vesicles in the erythematous base (choice 1) characterize herpes infections. Umbilicated violet papules (choice 2) are typical for lichen planus. Large blisters (choice 4) are seen in autoimmune disorders.

179/ What can be causative agent for erythema multiforme?

1. HSV,
2. Epstein-Barr virus,
3. Histoplasmosis,
4. All of above.

Right answer – all of above. Precipitating factors for erythema multiforme include herpes simplex virus (choice 1), Epstein-Barr virus (choice 2), histoplasmosis (choice 3), drug intake.

180/ What is NOT the clinical form of Layell syndrome (TEN)?

1. Infectious,
2. Drug induced,
3. Virus induced,
4. Toxic-allergic,
5. Idiopathic.

Right answer – virus induced (choice 3). TEN is a potentially life-threatening skin disorder that most commonly is drug induced (choice 2). However, other etiologies, including infection (choice 1), malignancy, and vaccinations, may exist (choice 4). TEN can be idiopathic (choice 5) and its occurrence is not predicted easily. The pathophysiology has not been fully elucidated; however, various theories have received wide acceptance. TEN is believed to be an immune-related cytotoxic reaction aimed at destroying keratinocytes that express a foreign antigen. Viruses more frequently may cause erythema multiforme the complicated form of which is Stevens-Johnson syndrome.



181/ What is a drug of choice in Layell syndrom?

1. High doses of corticosteroids,
2. Acyclovir,
3. Terbinafine,
4. Tetracyclin.

Right answer - high doses of corticosteroids (choice 1). Most patients with Layell syndrom require specialized care under the direction of physicians with experience in handling this disorder. Burn unit care represents an option worthy of serious consideration. It is necessary to withdraw all unnecessary medications. High doses of corticosteroids are obligatory as strong antiinflammatory medications. Antibiotics (choice 4) are administered in cases of systemic bacterial infection or for the prophylaxis. Acyclovir (choice 2) is an antiviral drug and Terbinafine (choice 3) is antifungal, so they are not used for the treatment of this condition.

182/ What is the clinical characteristics of Layell syndrom?

1. Lysis of more than 30% of epidermis,
2. Involvement of mucous membranes,
3. Negative Nikolsky's sign,
4. Target like lesions.

Right answer - lysis of more than 30% of epidermis (choice 1). Layell syndrom is a life threatening condition that is represented by necrolysis of epidermis. Sometimes it is difficult to distinguish Layell syndrom from the other similar condition – Stevens Jonson syndrom that is a complicated variant of erythema multiforme. In Stevens Jonson syndrom usually less than 30% of the skin is affected but mucous membranes can be involved (choice 2). Nikolsky's sign is negative (choice 3). Target like lesions (choice 4) are seen as typical lesions of erythema multiforme.

183/ What is used in treatment of Layell syndrom?

1. Corticosteroids,
2. Electrolites intravenously,
3. Antiviral therapy,
4. Right 1 and 2,
5. All of above.

Right answer – choice 1 and 2 (choice 4). Layell syndrom is a serious condition. Mortality is estimated to be 25-70%, depending on the quality of care and the rapidity with which treatment is initiated. Morbidity depends on the aggressiveness of the treatment strategy. It is necessary to withdraw all unnecessary medications. High doses of corticosteroids (choice 1) are obligatory as strong antiinflammatory medications. Monitoring of the fluids

and electrolytes should be performed. Administration of the fluids is based on central venous pressure and urine output. On average, 3-4 L are needed for patients with 50% of the body surface area affected. Nutrition by parenteral means or enterally via a nasogastric tube usually is needed. Antiviral therapy (choice 3) is not necessary.

184/ What is NOT the clinical picture of toxiderma?

1. Itch,
2. In anamnesis – intake of medical drugs,
3. Polimorfism of elements,
4. Necrolisis of the epidermis.

Right answer – necrolysis of epidermis (choice 4) that is a sign of a more severe condition such as TEN. Toxiderma is an allergic reaction of the skin due to intake of drugs (choice 2). It is characterised by severe itch (choice 1) and polymorphic primary elements – papules, maculas, rarely pustules (choice 3). For the treatment of toxiderma it is necessary to withdraw the ethiological agent, administer adsorbent therapy, corticosteroids are used in severe cases.

185/ What is the most superficial bacterious infevntion?

1. Impetigo,
2. Ecthyma,
3. Carbunculitis,
4. Furunculitis.

Right answer – impetigo (choice 1). Impetigo is a highly contagious gram-positive bacterial infection of the superficial layers of the epidermis. Impetigo presents as either a primary pyoderma of intact skin or a secondary infection of preexisting skin disease or traumatized skin. Impetigo rarely progresses to systemic infection, although poststreptococcal glomerulonephritis is a rare complication. The characteristic lesion is a pustule that can develop into a superficial flaccid bulla less than 1 cm in diameter on intact skin, with minimal or no surrounding redness. The roof of the bulla ruptures, often leaving a peripheral collarette of scale or a tubelike rim at the periphery. A varnishlike crust develops centrally, which if removed reveals a moist red base. After healing no scars are formed. Ecthyma (choice 2) is a profound infection usually caused by mixed flora. Ectima is characterized by formation of bulla (flictena). After the rupture of the bulla the ulcer is formed the bottom of which is filled with pus and can bleed. After the process of epythelization the scar forms. Carbunculitis (choice 3) is a cluster of furuncles with subcutaneous spread of staphylococcal infection, resulting in deep suppuration, often extensive local sloughing, slow healing, and a large scar. Furunculitis (choice 4) is a painful local inflammation of the apocrine glands resulting in obstruct-

tion and rupture of the ducts. Usually *S. aureus* is initially involved. Deep furuncles also resolve forming a scar.

186/ What is wrong about impetigo contagious?

1. Can be bullous and non bullous,
2. The ethiological agents are Staphylococci and Streptococci,
3. More often children of the school age are affected,
4. Doesn't need treatment,
5. May cause glomerulonephritis.

Right answer - doesn't need treatment (choice 4). Impetigo is a highly contagious gram-positive bacterial infection of the superficial layers of the epidermis; the treatment is necessary to prevent spreading of the disease. There are 2 forms of the disease, bullous and nonbullous (crusted) impetigo (choice 1) that are caused by *Staphylococcus aureus* and group A beta-hemolytic streptococci (choice 2). Both organisms can be present at the same time. It is often called "school sores" because it affects children and is quite contagious (choice 3). Impetigo rarely progresses to systemic infection, although poststreptococcal glomerulonephritis is a common complication (choice 5).

187/ What pathomorphological process is typical for eczema?

1. Ballooning degeneration,
2. Apoptosis,
3. Spongiosis,
4. Parakeratosis.

Right answer - spongiosis (choice 2). It's a widening of the interspaces between keratinocytes due to edema fluid without detachment of cells from each other. Ballooning degeneration (choice 1) is an intracellular edema with cellular swelling. This is often secondary to viral injury or nutritional deficiency. Apoptosis (choice 2) is a general process of cell death as individual cell necrosis; in skin, it often leads to a residual body containing many keratin filaments, which resemble amyloid. Parakeratosis (choice 4) is a process of keratinization in which the keratinocytes retain their nuclei; abnormal in skin, normal in mucous membranes.

188/ What is NOT the clinical form of eczema?

1. Seborrhoeic,
2. Professional,
3. Hyperkeratotic,
4. Nummular.

Right answer - hyperkeratotic (choice 3). Professional eczema (choice 2) is caused by different irritants that affect person at the place of work. Seb-

orrhoeic eczema (choice 1) may be the last stage of seborrhoeic dermatitis. Malassezia yeasts also make the contribution to the development of the disorder as the causative agent of dandruff and inflammation. Nummular eczema (choice 4) begins from the trauma or bacterial infection. The rash of nummular eczema has a typical nummular look with defined borders it is usually located in the palms, cruris.

189/ What can cause dyshidrotic eczema?

1. Trauma of the skin,
2. Mycosis of the feet or palms,
3. Sensibilisation of the organism
4. All of above

Right answer – all of above (choice 4). Dyshidrotic eczema - pompholyx - is a recurrent or chronic relapsing form of vesicular palmoplantar dermatitis of unknown etiology. Several hypotheses exist for the pathophysiology of dyshidrotic eczema. Exogenous factors (eg, contact dermatitis to nickel, balsam, cobalt; sensitivity to ingested metals; dermatophyte infection; bacterial infection) may trigger episodes (choice 1). Emotional stress and environmental factors as well as sensibilization of the organism (choice 3) reportedly exacerbate dyshidrosis. A distant fungal infection can cause eczema (choice 2). The finding that one third of pompholyx occurrences on the palms resolve after treatment for tinea pedis supports this hypothesis.

190/ What is a primary element characteristic for eczema?

1. Bulla,
2. Papule,
3. Pustule,
4. Vesicle.

Right answer – vesicle (choice 4). Vesicles in eczema are deep seated with a tapioca-like appearance, without a surrounding erythema. They typically resolve without rupturing, followed by desquamation. Bullas (choice 1) are typical for autoimmune blistering disorders of (choice 3) the skin. Papules (choice 2) are seen in such diseases as psoriasis, lichen planus. Pustules are formed in bacterial infections.

191/ What is characteristic for dyshidrotic eczema?

1. Location mostly on the palms and soles,
2. Location in the scalp,
3. Absence of vesicles,
4. Appearance after exposure to the irritant agent at work.

Right answer - location mostly on the palms and soles (choice 1).

Symmetric crops of clear vesicles on the palms and lateral aspects of fingers characterize dyshidrotic eczema. The rash can be generalized due to scratch-

ing. Location in the scalp (choice 2) and possible absence of vesicles (choice 3) are factors that characterize seborrhoeic eczema. Appearance after exposure of the irritant agent at work (choice 4) leads to the development of professional eczema.

192/ What is NOT the sign of nummular eczema?

1. Typical round elements,
2. Defined borders,
3. Symmetry of the elements,
4. Beginning from trauma or bacterial infection.

Right answer - symmetry of the elements (choice 3). Nummular eczema begins usually from the trauma or bacterial infection (choice 4). The rash has a typical nummular look (choice 1) with defined borders (choice 2). It is asymmetrical.

193/ What is NOT the sign of seborrhoeic eczema?

1. Location in the scalp,
2. Begins from dandruff,
3. Numerous vesicles,
4. May be accompanied by immunodeficiency.

Right answer - numerous vesicles (choice 3). Seborrhoeic eczema usually happens in patients with immunosuppression (choice 4). It may be as the last stage of seborrhoeic dermatitis and dandruff (choice 2). Malassezia yeasts also make contribution to the development of the disorder as the causative agent of dandruff and inflammation. The rash is localized in seborrhoeic parts of the body - scalp, axillae, groin, upper trunk (choice 1). Vesicles may be not present

194/ Which treatment is necessary at the stage of vesiculation in eczema?

1. Corticosteroid creams,
2. Corticosteroid ointments,
3. Dressings with solutions,
4. Pastas.

Right answer - dressings with solutions (choice 3). Local treatment depends on the stage of the disease. When there is an acute stage, vesicles are present and compresses with solutions (10% aluminum acetate, acidi borici, furacilinum, tannini). Topical corticosteroids are the mainstay of treatment and are prescribed at the stage of desquamation and lichenification. Creams (choice 1) are used in the subacute phase and ointments (choice 2) in chronic stages when the lichenification is present. Pastas (choice 4) may be applied in the subacute form also.

195/ What treatment will be the most appropriate in the stage of lichenification in eczema?

1. Creams,
2. Ointments,
3. Aerosols,
4. Pastas.

Right answer – ointments (choice 2). Local treatment depends on the stage of the disease. When there is an acute stage, vesicles are present and compresses with solutions - 10% aluminum acetate, acidi borici, furacilinum, tannini and aerosols (choice 3) are used. Topical corticosteroids are the mainstay of treatment and are prescribed in the stage of descumation and lichenification. Creams (choice 1) are used in the subacute phase and ointments in chronic stages when the lichenification is present. Pastas (choice 4) may be applied in the subacute form also.

196/ What is NOT used in the complex of treatment in eczema?

1. Diet,
2. Antihistamines,
3. Adsorbents,
4. Corticosteroids,
5. Acyclovir

Right answer – acyclovir (choice 5) that is an antiviral agent and is not used in the treatment of eczema. Diet (choice 1) - avoiding allergic components – oranges, chocolate should be kept. Antihistamine drugs (diazoline, dimedrol, loratadine) are used to prevent itch as the main complaint of patients (choice 2). Systemic corticosteroids may be administered in severe cases for a short time (choice 4); they are also widely used for the local treatment. Adsorbents - tar – are used for absorbing products that cause sensibilization (choice 3).

197/ When does the secondary syphilis develop?

1. 3-4 weeks after the sexual contact,
2. 10-12 weeks after the sexual contact,
3. 2-5 years after the sexual contact.
4. 1-3 years after the sexual contact.

Right answer – 10-12 weeks after the sexual contact (choice 2). The initial lesion of primary syphilis develops at the site of transmission after an incubation period of 3-4 weeks (choice 1) and lasts up to 7-8 weeks. Secondary syphilis develops about 7-8 weeks after the appearance of the primary lesion and has a wide range of presentations. The most common systemic

manifestations include malaise, fever, myalgias, and arthralgias with a generalized body rash and lymphadenopathy.

198/ What is NOT characteristic of the secondary syphilis?

1. Negative blood tests,
2. Presence of the latent phase,
3. Different clinical picture,
4. Approximately 25% of patients experience a relapse of secondary syphilis,
5. Lesions last 2-6 weeks before the patient enters the latent phase.

Right answer - negative blood tests (choice 1). There is a high bacteremia during secondary syphilis that is why blood tests are always positive. The lesions of the secondary syphilis have different clinical presentations. The rash may be macular, papular, pustular, or mixed (choice 3). Lesions last 2-6 weeks before the patient enters the latent phase (choice 5 and 2). The patients are asymptomatic during the latent phase, and the disease is detected only by serologic tests. Approximately 25% of patients experience a relapse of secondary syphilis (choice 4), when they have clinical presentation the other time.

199/ What is NOT true about the epidemiology of syphilis?

1. Different animals can be hosts for *Tr.pallidum* as well as a man,
2. 20-29 years group of the people is more exposed,
3. Men are affected more frequently,
4. Sexual contact is the most frequent way of transmission of the infection.

Right answer - different animals can be hosts for *Tr.pallidum* as well as a man (choice 1). Man is the only known host and transmission is virtually always by direct contact with infectious lesions, generally through sexual contact (choice 4). The incidence is highest in sexually active people (choice 2). Historically, rates of syphilis have been higher for men than women. The male-to-female rate ratio peaked at 3.5:1 in 1980 during the height of syphilis transmission among men who have sex with men (choice 3).

200/ What are the general characteristics of secondary syphilis lesions?

1. Lesions of secondary syphilis usually resolves without treatment,
2. There are no inflammatory signs in primary elements,
3. The rash can be polymorphic,
4. The lesions of the secondary syphilis are highly infectious,
5. All of above.

Right answer - all of above (choice 5). Secondary syphilis may be present in many different ways but usually includes a localized or diffused mucocutaneous rash and generalized nontender lymphadenopathy. The rash may

be macular, papular, pustular, or mixed (choice 3). Usually there are no inflammatory signs of the elements (choice 2). Lesions in secondary syphilis last 2-6 weeks before the patient enters the latent phase and resolves without treatment (choice 1); until this moment the rash is highly infectious (choice 4).

201/ With what diseases is it necessary to perform differential diagnosis of macular siphylid?

1. Pityriasis versicolor,
2. Pityriasis rosea,
3. Toxiderma,
4. All of above.

Right answer – all of above (choice 4). All the diseases may be characterized by formation of macules. In pityriasis versicolor (choice 1) macules are usually situated in the face, neck and upper trunk. They are mostly hypopigmented but also may be hyperpigmented. Hypopigmentation of macules in pityriasis versicolor is explained by formation of azelaic acid by *Malassezia furfur* yeasts. For the confirming diagnosis of pityriasis versicolor the Baltzer probe and microscopic examination are performed. Pityriasis rosea (choice 2) is characterized by the formation of Herald patch in the trunk and disseminative macules all over the body. They may be accompanied by itch and disseminate in case of irritation of the skin. Patients with toxiderma (choice 3) usually have one intake of drugs in anamnesis. Blood tests are the safest method of diagnostics of syphilis and in the secondary period tests are always positive. In all these diseases tests will be negative.

202/ What are the types of papular siphylid?

1. Miliar,
2. Lenticular,
3. Nummular,
4. Condiloma lata,
5. All of above.

Right answer – all of above (choice 5). Lesions of the secondary syphilis may have different clinical picture. The rash may be macular, papular, pustular, or mixed. Papular lesions may be situated in the skin of the body as well as in palms and soles. Miliar Papules (choice 1) are small papules less than 0.5 cm that can be grouped in rings and plaques. Lenticular papules (choice 2) are round red-bluish color papules 1-2 cm in diameter. Nummular papules (choice 3) are plain papules in the form of coins diameter of which is up to 2,5 cm. After healing of nummular papules hyperpigmentation persists for a long time. Condilomas latas (choice 4) are reddish brown papular lesions on the penis or anogenital area than can coalesce into large elevated



plaques up to 2-3 cm in diameter. These can be confused with condylomata acuminata or venereal warts. That is the most infectious lesion of secondary syphilis.

203/ What is NOT a type of papular syphilid?

1. Palmar-plantar,
2. Condiloma lata,
3. Acneform,
4. Nummular,
5. Miliar.

Right answer – acneform (choice 2). It is a pustular element of the secondary syphilis. Lesions of the secondary syphilis may have different clinical picture. The rash may be macular, papular, pustular, or mixed. Papular lesions may be situated in the skin of the body as well as in palms and soles (choice 1). Miliar papules (choice 5) are small papules less than 0,5 cm that can be grouped in rings and plaques. Nummular papules (choice 4) are plain papules in the form of coins diameter of which is up to 2,5 cm. After healing of nummular papules hyperpigmentation resists for a long time. Condilomas latas (choice 2) are reddish brown papular lesions on the penis or anogenital area than can coalesce into large elevated plaques up to 2-3 cm in diameter. These can be confused with condylomata acuminata or venereal warts. That is the most infectious lesion of secondary syphilis.

204/ With what diseases a differential diagnosis of the papular syphilid is performed?

1. Psoriasis,
2. Lichen planus,
3. Molluscum contagiosum,
4. Tuberculosis of the skin,
5. All of above.

Right answer – all of above (choice 5). All these diseases are characterized by the formation of papules as primary elements. In psoriasis (choice 1) papules tend to locate in knees and elbows, they are reddish and scaling. During the scaling Auspitz phenomenon is seen. Papules in lichen planus (choice 2) have a typical violet color and umbilical depression in the center. Koebner phenomenon can be observed in lichen planus as well as in psoriasis. Molluscum contagiosum (choice 3) tends to affect mostly children and is present as whitish papules in the face and upper trunk. White core can be removed from the papules of molluscum contagiosum. In tuberculosis of the skin (choice 4) new papules can develop in the place of the old ones; so the polymorphism of the elements can be observed. Tuberculosis of the lungs may be revealed in the X-ray examination. In all these diseases blood tests for syphilis will be negative.

205/ What is NOT a clinical sign of syphilitic leucoderma?

1. Baltzer probe,
2. Usually is located in the skin of the neck, upper trunk,
3. There is no itch,
4. There are no inflammatory signs and desquamation,
5. The macules disappear after 1-2 years.

Right answer - Baltzer probe (choice 1). This probe is used in the differential diagnostics with pityriasis versicolor and is characterized by hyperpigmentation of the macules due to absorption of the iodine in the upper layer of the epidermis in pityriasis versicolor. Syphilitic leucoderma develops in the secondary recurrent syphilis and is characterized by hypopigmentive macules usually located in the skin of the neck, upper trunk (choice 2). There is neither itch (choice 3) nor inflammatory signs (choice 4). The macules are resistant to the therapy, they disappear after 1-2 years (choice 5).

206/ What diseases can be characterized by the formation of hypopigmented macules?

1. Psoriasis,
2. Vitiligo,
3. Tinea corporis,
4. Right 1 and 2,
5. All of above

Right answer – psoriasis and vitiligo (choice 4). In psoriasis (choice 1) hypopigmented macules are secondary elements and are formed in the place of papules and plaques. Sometimes white macules are situated around the papule – Bielt sign. In vitiligo white macules are the primary elements; they are formed due to small number of melanocytes in the area of the affected skin. In tinea corporis (choice 3) macules are red, inflammatory, scaly. They have well defined elevated margins.

207/ What is leucoderma?

1. Hyperpigmented macula,
2. Hypopigmented macula,
3. Seropapula,
4. Large blister.

Right answer - hypopigmented macula (choice 2). Leucoderma may be primary (in syphilis) or secondary (psoriasis, eczema, atopic dermatitis). It is better seen in Wood lamp light. Seropapule (choice 3) is an element typical for the prurigo. It is a papule with a small vesicle at the top which dries into a crust. Large blister (choice 4) is called bulla.

208/ What is NOT a characteristic of alopecia in secondary syphilis?

1. Involvement of the hair of the barbae, axillas,
2. Alopecia persists many years after the treatment,
3. Lashes can be involved and have different length,
4. Can be areata or diffuse.

Right answer - alopecia persists many years after the treatment (choice 2). Alopecia usually develops in a secondary recurrent syphilis. The hairs fall due to bad nourishment of the roots. Usually occipital and temporal areas are involved. In hard cases the involvement of the hair of the barbae, axillas may take place (choice 1). Clinically alopecia in syphilis can be patchy or non patchy (choice 4). Lashes can be involved and have different length (choice 3). It is called Pincus sign. The skin in areas of alopecia is not itchy and is not changed. Usually alopecia is healed after 1-2 months after treatment.

209/ What clinical symptom has more diagnostic value for the confirmation of the diagnosis of secondary syphilis?

1. Multiple macular rash,
2. Hard chancre,
3. Polyadenitis,
4. Palmar-plantar papules,
5. Erythematous angina.

Right answer – hard chancre (choice 2). All these symptoms are seen in secondary syphilis. Multiple macular (roseolar) rash (choice 1) is the most frequent manifestation. Roseolas are typically round, discrete, reddish brown macules, and are usually distributed on the trunk and extremities. These measure approximately 5 mm in diameter. The rash is nonpruritic, and the macules are symmetric. There are many diseases that have similar clinical manifestation – pityriasis versicolor, pityriasis rosea, infectious diseases. Lymphadenopathy (choice 3) is typically generalized, and nontender. This symptom is not specific and seen in many inflammatory and infectious diseases. Red papular lesions may appear on the palms and soles (choice 4) and may become necrotic. Although it is frequently seen in secondary syphilis it is also typical for tinea pedis, tinea manis, palmar-plantar pustular psoriasis. Erythematous angina (choice 5) may be mixed with the infectious angina. Hard chancre that is present in the place of the primary inoculation gives the evidence of the primary period and evolution of the disease.

210/ What method is used for distinguishing *Tr. pallidum* from condiloma lata?

1. Gram staining,
2. Dark field microscopy,
3. Cultural method,
4. KOH test.

Right answer – dark field microscopy (choice 2). It is the only way of finding out *Treponema pallidum* because it is not seen in usual staining (choice 1) and is not cultivated (choice 3). KOH test (choice 4) is used for finding out fungi.

211/ Rash in secondary syphilis:

1. Is followed by severe itching,
2. Is followed by moderate itching,
3. Is not followed by any complaints,
4. Is followed by burning.

Right answer – is not followed by any complaints (choice 3). The rash in secondary syphilis can have a different clinical picture – macules, papules, pustules can be seen as primary elements of secondary syphilis. The rash is highly infectious and is not followed by itching (choice 1 and 2) and burning (choice 4). The rash is usually healed rapidly after specific antibiotic treatment.

213/ Blood tests in the secondary latent period of the syphilis are:

1. Negative,
2. Negative or positive,
3. Positive.

Right answer – positive (choice 3). The secondary period maybe active when the elements are seen and latent when there is no rash. But the blood tests are highly positive. Negative blood tests (choice 1) may be seen in early syphilis but in some weeks the tests become positive.

214/ What elements of secondary syphilis are more infectious?

1. Roseolas,
2. Condiloma lata,
3. Palmar-plantar papules,
4. Polyadenitis.

Right answer - condiloma lata (choice 2). The rash in secondary syphilis is highly infectious. It may contain different primary elements: roseolas, papules, pustules. Roseolas (choice 1) are typical early lesions that are round, discrete, nonpruritic, and symmetric macules distributed on the trunk and proximal extremities. Red papular lesions may also appear on the palms, soles (choice 3), face, and scalp and may become necrotic. Polyadenitis (choice 4) is not specific and is not tender. Condilomas latas (choice 2) are situated around anus and are mostly infectious due to exudation.

215/ What is a non-treponemal test from the above?

1. VDRL,
2. TPHA,

3. FTA-Abs,
4. IgM and IgG ELISA, Westernblot

Right answer – VDRL (choice 1). Nontreponemal tests measure anti-treponemal antibody using a cross reactive cardiolipin lecithin as an antigen rather than the actual bacterial antigens. They are mostly used for screening. Most popular screening tests are the rapid plasma reagin (RPR) test and the VDRL test. Sensitivities are 70-80% for patients with primary syphilis and approach 99-100% for patients with the secondary syphilis. These tests have high false-positive rates. Other factors (eg, lupus, concomitant viral or bacterial infection, recent immunization, pregnancy) may give false-positive readings. The *T pallidum* hemagglutination (TPHA) test (choice 2) is also generally used for screening. The FTA-ABS or fluorescent treponemal antibody-absorption test (choice 3) where you mix spirochetes with the patient's serum, adds FITC-tagged anti-human globulin and looks for fluorescence in a fluorescent microscope.

216/ What is NOT a characteristic of the lesions of the tertiary syphilis?

1. Highly infectious,
2. Destructive,
3. Monomorphology,
4. Absence of inflammatory signs.

Right answer – highly infectious (choice 1). Tertiary or late syphilis is a noncontagious but highly destructive (choice 2) phase of syphilis which may take many years to develop. Usually gummas or tubercles are formed. The elements are usually monomorphous (choice 3). Gummas are nodular lesions characterized by a granulomatous inflammation. Cutaneous gummas may be single or multiple. They are generally asymmetric and grouped together. The lesions may mimic other granulomatous ulcerative lesions and may be histologically indistinguishable from them. Visceral lesions often cause local destruction of the affected organ. There are no signs of inflammation around skin lesions (choice 4).

217/ What is NOT true about tabes dorsalis?

1. Develops after 5-20 years after primary or secondary syphilis,
2. Has three stages of its development,
3. Results in total loss of sensations,
4. Heals after an appropriate treatment.

Right answer - heals after an appropriate treatment (choice 4). Tabes dorsalis develops after 5-20 years after the 1st or 2nd stages. During the development there are 3 stages (choice 2) : 1). preataxic - lightning like pain ra-

diating from the gluteal region to the heel or foot paresthesia of the soles of feet; feels like walking on a carpet or wood, also the patient develops the loss of sense of position and passive motion. Poor control of the extremities. 2). Atoxic - loss of deep sensory abilities, difficulty in maintaining balance, sways side to side when eyes are closed, holds body stiffly. 3). Paralytic - requires one or 2 canes to walk, cannot feel feet touching surfaces (choice 3).

218/ What is typical for tertiary syphilis from the stated above?

1. Palmar-plantar papules,
2. Multiple roseolas,
3. Patchy alopecia,
4. Grouped tubercles,
5. Condillomas latas.

Right answer – grouped tubercles (choice 4). The rash in tertiary syphilis may have two kinds of elements – gummas or tubercles. Multiple roseolas (choice 2), palmar-plantar papules (choice 1), condillomas latas (choice 5) are the signs of secondary syphilis. Patchy alopecia (choice 3) is also seen in late secondary syphilis.

219/ What from the stated above is for the diagnosis of early congenital syphilis?

1. Localization at the soles,
2. Bullas,
3. Positive Nikolsky's symptom,
4. Clutton's joints.

Right answer – localization at the soles (choice 1). Congenital syphilis results when maternal syphilis spreads in utero to the fetus after the 4th month of gestation. Clinical evidence of early congenital syphilis is similar to that of secondary syphilis in adults. The rash has a higher probability of being atypical and can be bullous (choice 2) instead of the characteristic reddish brown macular rash. This sign however is not specific because there are many autoimmune and hereditary diseases that can be characterized by the formation of bullas. Nikolsky's symptom (choice 3) is usually negative in spite of SSS syndrome and pemphigus vulgaris. In autoimmune and hereditary diseases characterized by the formation of bullas they are usually not situated at the soles. Clutton's joints (choice 4) is the sign of late congenital syphilis and it is a painless symmetrical hydrarthrosis of the knee joint.

220/ What fungi usually cause endotrix infection?

1. *Microsporum canis*,
2. *Trichophyton tonsurans*,
3. *Trichophyton schoenleinii*,

4. *Trichophyton rubrum*.

Right answer - *Trichophyton tonsurans* (choice 2). All tinea capitis are classified as exotrix and endotrix infections. Ectothrix infection usually caused by *M. canis* (choice 1) is defined as the fragmentation of the mycelium into conidia around the hair shaft or just beneath the cuticle of the hair, with the destruction of the cuticle. *Trichophyton schoenleinii* (choice 3) causes favus. Favus, also termed tinea favosa, is a chronic inflammatory dermatophytic infection usually caused by Rarely, favus is caused by *Trichophyton violaceum*, *Trichophyton mentagrophytes* var *quinckeanum*, or *Microsporium gypseum*. Favus typically affects hair in the scalp but may also infect glabrous skin and nails. *Trichophyton rubrum* (choice 4) is the most frequent causative agent of tinea unguum and tinea corporis worldwide.

221/ What fungi usually cause exotrix infection?

1. *Microsporium canis*,
2. *Trichophyton tonsurans*,
3. *Trichophyton schoenleinii*,
4. *Trichophyton rubrum*.

Right answer - *Microsporium canis* (choice 1). *Trichophyton tonsurans* (choice 2) causes endotrix infection when arthrospores are present within the hair shaft in both anagen and telogen phases, contributing to the chronicity of the infections. *Trichophyton schoenleinii* (choice 3) causes favus. *Trichophyton rubrum* (choice 4) is the most frequent causative agent of tinea unguum and tinea corporis worldwide.

222/ Each of the following statements is true EXCEPT:

1. Mitosis are found in normal human epidermis, mostly in the basal layer,
2. The average normal germinative cell has a DNA synthesis time of 16 hours,
3. In normal skin, the average time required for the transit of a cell from the basal cell layer to the surface of the granular cell layer is between 26 and 42 days,
4. The passage of horny cells through the normal stratum corneum requires approximate 35 days,
5. The germinative cell population in normal human epidermis is principally in the basal layer.

Right answer - the passage of horny cells through the normal stratum corneum requires approximate 35 days (choice 4). Mitoses are mainly found in the basal layer of the epidermis (choice 1). The normal epidermal stem cell, or germinative cell, has a DNA synthesis time of 16 hours and divides approximately every 19 days (choice 2). The epidermal transit time is the time required for a cell to pass from the basal layer to the granular layer. In

normal skin, this is between 26 and 42 days (choice 3). Using radioactive labels or fluorescent dyes, the transit time through the horny layer has been estimated to be approximately 14 days. In conditions such as psoriasis, the epidermal transit time is much more rapid.

223/ Which of the following is NOT characteristic of generalized pustular psoriasis of von Zumbusch?

1. High fever, leukocytosis, arthralgia,
2. Occasional involvement of tongue and buccal mucosa,
3. A better prognosis in children than in adults,
4. Hypercalcemia.

Right answer – hypercalcemia (choice 4). Generalized pustular psoriasis of von Zumbusch is a rare and occasionally fatal form of acute generalized pustular psoriasis. High fever, leukocytosis, arthralgia, and malaise may accompany skin findings (choice 1). The tongue and buccal mucosa may be involved (choice 2), with the tongue often resembling "geographic tongue." Children have a better prognosis than adults (choice 3), and their conditions may resolve more quickly. Hypocalcemia is frequent, and may be related to hypoalbuminemia.

224/ In Reiter disease all the following are true EXCEPT:

1. There is a highly significant association with HLA-B27,
2. The disease occurs predominantly in young men,
3. In the urogenital form, mild urethritis usually occurs 4 to 20 days after sexual exposure,
4. The arthritis resolves after 1 to 4 months,
5. Recurrences after the acute episode may occur but are rare.

Right answer – recurrences after the acute episode may occur but are rare (choice 5). In Reiter disease, recurrent attacks are the rule and may occur within months or may be delayed for decades. It may progress to chronic erosive arthritis of the lower limbs and sacroiliac joints. *Chlamydia trachomatis* is the most important urogenital infective agent incriminated in Reiter disease. It is also the most important factor in nongonococcal urethritis (choice 3) that occurs after sexual contact. The pathophysiology of the disease is not studied totally, there is a highly significant association with HLA-B27 (choice 1). The disease affects young sexually active men (choice 2).

225/ What is the mean turnover, or renewal, time of normal epidermis?

1. 36 hours,
2. 5 days,
3. 13 days,
4. 26 days,
5. 39 days.



Right answer – 39 days (choice 5). The mean turnover of normal epidermis has been estimated to be 39 days, divided as following: 13 days for the proliferative compartment (compared with 36 hours for psoriatic epidermis), 12 days for the differentiated compartment, and 14 days for the cornified layer. This time may vary according to cutaneous sites.

226/ Multiple infective agents have been implicated in the provocation of Reiter disease. Which is the most common organism that causes urogenital form of the disease?

1. Chlamydia trachomatis,
2. Neisseria gonorrhoeae,
3. Ureaplasma urealyticum,
4. Gardnerella vaginalis,
5. Treponema pallidum.

Right answer - Chlamydia trachomatis (choice 1). Neisseria gonorrhoeae (choice 2) causes gonorrhoea, Ureaplasma urealyticum (choice 3) may cause urethritis, Gardnerella vaginalis (choice 4) is a causative agent for bacterial vaginosis, and Treponema pallidum (choice 5) causes syphilis.

227/ Each of the following may exacerbate psoriasis EXCEPT:

1. Chloroquine,
2. Vitamin A,
3. Alcohol consumption,
4. Lithium,
5. Propranolol

Right answer – vitamin A (choice 2). It is used in the treatment of psoriasis and regulates cell proliferation. Antimalarials (choice 1), beta-blockers (choice 5), and lithium (choice 4) have been shown to exacerbate psoriasis in susceptible individuals. Alcohol in large quantities also seems to aggravate psoriasis (choice 3). The withdrawal of systemic steroids may also provoke psoriasis.

228/ All of the following are considered to be relative common causes of erythroderma EXCEPT:

1. Atopic dermatitis,
2. Psoriasis,
3. Norwegian scabies,
4. Drug reaction.

Right answer - Norwegian scabies (choice 3). It also characterized by erythroderma, but this condition is quite rare. Exact figures for the cause of erythroderma are difficult to obtain because up to 50% may have no clearly identifiable cause. Psoriasis (choice 2), atopic dermatitis (choice 1), generalized eczematous dermatitis, drug reactions (choice 5), pityriasis rubra pilaris,

and various reticulosis (either mycosis fungoides or systemic reticulosis) are not uncommon causes in reported series.

229/ Find the wrong pair:

1. Ointment - water-in-oil formulation,
2. Cream - oil-in-water formulation,
3. Gel - propylene glycol-based agent,
4. Pasta – ointment with high concentration of oil.

Right answer - ointment with high concentration of oil (choice 4). Ointments are generally considered to be water-in-oil formulations (choice 1), whereas creams and lotions are oil-in-water formulations (choice 2). Solutions and tinctures are alcohol-based with solutions containing variable amounts of propylene glycol. Gels are propylene glycol-based agents (choice 3). Pastes are creams or ointments to which powder has been added.

230/Topical steroids can be used for all of the following EXCEPT:

1. Inflammatory lesions,
2. Hyperplastic lesions,
3. Infiltrative lesions,
4. Infectious lesions,
5. Pruritic lesions.

Right answer - infectious lesions (choice 4). Topical steroids possess both an anti-inflammatory effect (choice 1) and an antimitotic effect (choice 2 and 3). Pruritic lesions, depending on their cause, can often be relieved by topical steroids (choice 5). Topical steroids have no antimicrobial effects; rather, because they affect various cytokines, they may make people more prone to infections.

231/. Which of the following are adverse effects of long-term use of superpotent topical steroids?

1. Epidermal atrophy,
2. Striae,
3. Rosacea,
4. Sppression of the hypothalamic-pituitary-adrenal axis,
5. All of the above.

Right answer – all of above (choice 5). Superpotent topical steroids, when used daily for as short as several weeks (depending on the surface area, site, and patient age), may have serious and lasting side effects. Among the more commonly encountered side effects are steroid-induced rosacea (choice 3), epidermal atrophy (choice 1), and subsequent striae (choice 2). Rarely is suppression of the hypothalamic-pituitary-adrenal axis seen with topical steroid treatment, although this may occur, especially in children and infants (choice 4).

232/ Lipophilic topical steroid agents are generally more effective than hydrophilic agents because of all of the following EXCEPT:

1. Increased absorption across the stratum corneum,
2. Increased receptor binding of such agents within the cytoplasm of viable epidermal cell,
3. Increased active transport across cell membranes of epidermal cells,
4. Increased penetration across viable cells within the epidermis,

Right answer - increased active transport across cell membranes of epidermal cells (choice 3). The stratum corneum favors increased absorption of lipophilic agents. Increased absorption of lipophilic agents is seen within the viable cell layers of the epidermis (choice 1 and 4). In addition, there is increased cytoplasmic binding of such lipophilic steroid molecules within viable epidermal cells (choice 2). There is no appreciable active transport of these molecules across cell membranes.

233/ Characteristics of ointments include all EXCEPT:

1. Lipophilic preparations.
2. Usually water-in-oil emulsions.
3. Composed of microcrystalline hydrocarbons.
4. Ability to absorb water.

Right answer - ability to absorb water (choice 4). Ointments are lipophilic preparations that (choice 1), if prepared as an emulsion, are usually water-in-oil mixtures (choice 2). They are often composed of a petrolatum base containing a complex mixture of various hydrocarbons (choice 3), including microcrystalline hydrocarbons. Because of the hydrophobic nature of ointments, they tend to repel, not absorb, water unless an emulsifying agent is present to form an absorption base.

234/ Which form of steroid is generally most potent?

1. Cream.
2. Lotion.
3. Ointment.
4. Foam.
5. Gel.

Right answer – ointment (choice 3). The ointment form of a topical corticosteroid is generally more potent than other forms of the same drug. This is largely related to the occlusive effects of ointments, which tend to prevent water evaporation from the skin surface and enhance drug absorption.

235/ To how long should class 1 topical steroids should be limited to?

1. One day of therapy.

2. One week of therapy.
3. Two weeks of therapy.
4. One month of therapy.
5. Six months of therapy.

Right answer – 2 weeks (choice 3). Because of the superpotent nature of class 1 steroids, their use should generally be limited to 2 weeks of continuous therapy with a subsequent rest period to reduce the likelihood of side effects and tachyphylaxis of the agent used. Generally, a 1- to 2-week rest period is sufficient to avoid severe side effects of the stronger topical steroid therapies. The retreatment with more potent topical steroids should then be initiated for exacerbation of the disease process being treated.

236/ Which of the following diseases has been associated with systemic pruritus?

1. Biliary cirrhosis,
2. Anemia,
3. Uremia,
4. Polycythemia,
5. All of the above.

Right answer – all of above (choice 5). Pruritus may be a prominent feature of several systemic disease processes. Frequent causes include malignancies (especially lymphoma), uremia (choice 3), obstructive biliary disease (choice 1), polycythemia (choice 4), hypo/hyperthyroidism, carcinoid, and anemia (choice 2). A work-up for chronic generalized pruritus includes a complete history and physical examination, CBC with differential, thyroid, liver, and renal function, laboratory studies; fasting blood sugar, and a chest x ray.

237/Which one of the following is TRUE regarding pruritus?

1. Pruritus is produced primarily within the subcutaneous tissues,
2. Itch and pain sensations are carried to the central nervous system via the same sensory afferents,
3. The reflex response to itch is the same as the reflex response to pain,
4. Itch cannot be elicited when the dermis and epidermis have been removed,
5. Itch and pain cannot be experienced in the same site simultaneously.

Right answer - itch cannot be elicited when the dermis and epidermis have been removed (choice 4). Pruritus is produced primarily at the dermal-epidermal junction (choice 1 is wrong); consequently, itch cannot be elicited without an intact dermis and epidermis. The sensory fibers transmitting pain and itch sensation from the skin to the central nervous system are unique and are composed of two distinct populations of primary sensory afferents

(choice 2 is wrong). Because there are two unique sensory afferents for itch and pain, these two sensations can be experienced at the same site simultaneously (choice 2). The reflex response to itch is scratching, whereas the reflex response to pain is withdrawal (choice 3 is wrong).

238/ Which of the following is FALSE regarding hair biology?

1. The hair matrix gives rise to hair and the inner root sheath,
2. The outer root sheath represents a downward extension of the epidermis,
3. The keratin of cortex represents hard keratin,
4. The inner root sheath contains melanin,
5. The three layers of the inner root sheath keratinize by means of trichohyaline granules.

Right answer - the inner root sheath contains melanin (choice 4). The bulk of a hair is formed by the hair cortex within which is the core, or medulla. The cortex is surrounded by a cuticle composed of the inner root sheath cuticle, the Huxley layer, the Henley layer (which stains dark because of the presence of trichohyaline granules), and the outer root sheath (choice 5). The outer root sheath is continuous with the superficial epidermis (choice 2). During hair growth, the hair exhibits a hair bulb at its inferior end. The dermal papilla protrudes into the bulb and maintains the growth of the hair follicle. Within the hair bulb, the cells of the hair matrix produce hair and the inner root sheath (choice 1). The outer root sheath, however, is a downward extension of the epidermis. The hair cortex contains hard keratin (choice 3), that is, keratinization occurs without the formation of keratohyaline granules. In contrast, in the inner root sheath, keratohyaline granules form. Thus, the inner root sheath represents soft keratin, whereas the cortex represents hard keratin. The inner root sheath does not contain melanin. Melanin is produced by melanocytes between the basal cells of the hair matrix superior to and lateral to the dermal hair papilla.

239/ Each of the following is true about hair EXCEPT:

1. Anagen lasts around 3 years; telogen, 3 months; and catagen, 3 weeks,
2. On the scalp, the average daily growth is approximately 0.4 mm,
3. The loss of around 100 scalp hairs daily is considered normal,
4. Isthmus refers to the upper portion of the hair follicle extending from the entrance of the sebaceous duct to the surface of the skin.

Right answer - Isthmus refers to the upper portion of the hair follicle extending from the entrance of the sebaceous duct to the surface of the skin (choice 4). Hair grows at different rates in different regions of the body. On the human scalp, the daily growth rate is around 0.4 mm (choice 2). In

women, scalp and body hair grows faster and slower, respectively, than in men. The activity of hair follicles is intermittent. Anagen is the active period, which may last for 3 or more years (choice 1). Telogen is the resting phase, usually lasting about 3 months. Catagen is the transition or regression phase, usually approximately 3 weeks in duration. In the human scalp, at any one point in time, approximately 84% of hair is in anagen, 14% in telogen, and 21% in catagen. Assuming that the scalp contains about 100,000 hairs, it can reasonably be expected that 100 hairs will be shed daily (choice 3). Histologically, the hair follicle consists of three parts: the lower portion, which extends from the base of the follicle to the insertion of the arrector pili muscle; the isthmus, which extends from the insertion of the arrector pili muscle to the entrance of the sebaceous duct; and the infundibulum, which extends from the entrance of the sebaceous duct to the follicular orifice.

240/ Which of the following are FALSE about nails?

1. The nail bed is primarily responsible for the production of the nail plate,
2. Keratinization in the matrix occurs without a granular layer,
3. Absence of subcutaneous tissue, allowing close association with the vasculature, is a unique feature of the dermal component of the nail structure,
4. The rate of growth of the thumbnail is around 0.1 mm/day.

Right answer - the nail bed is primarily responsible for the production of the nail plate (choice 1). The four epidermal components of the nail are the matrix, the nail bed, the proximal nail fold, and the hyponychium. The nail plate is primarily synthesized by matrix, in which keratinization occurs without a granular cell layer (choice 2). A few horny cells are, however, added to the undersurface of the nail plate from the nail bed and hyponychium. The dermal component of the nail unit is in close association with its vasculature because of the absence of subcutaneous tissue (choice 3). The rate of growth of the nail plate depends on the rate of turnover of the matrix cells. Fingernails grow faster than toenails. The average daily rate of growth for the thumbnail is 0.1 to 0.2 mm (choice 4).

241/ All of the following are TRUE regarding Langerhans cells EXCEPT:

1. They present antigen to B lymphocytes,
2. They play an important role in contact sensitization,
3. They are important in skin graft rejection,
4. They increase in number in skin after UV radiation.

Right answer - they increase in number in skin after UV radiation (choice 4). Langerhans cells are bone marrow-derived cells that are important in antigen processing and recognition (choice 1). They constitute 2 to 4% of

the total epidermal cell population and express Ia and HLA-DR antigen as well as S100 protein and actin-like and vimentin filaments. They can be identified with adenosine triphosphatase, aminopeptidase, OKT6, and gold chloride. Because of their ability to present antigen to T cells, Langerhans cells are important in contact sensitization (choice 2), skin graft rejection (choice 3), and immune surveillance. Their numbers in the skin decrease after ultraviolet radiation.

242/ Langerhans cells:

1. Constitute 2 to 4% of the total epidermal cell population,
2. Express immune response-associated antigens IA and HLA DR,
3. Express S100 protein,
4. Possess actin-like filaments,
5. All stated above are true.

Right answer – all of above (choice 5). Langerhans cells are bone marrow-derived cells that are important in antigen processing and recognition. They constitute 2 to 4% of the total epidermal cell population (choice 1) and express Ia and HLA-DR antigen (choice 2) as well as S100 protein (choice 3) and actin-like and vimentin filaments (choice 4). They can be identified with adenosine triphosphatase, aminopeptidase, OKT6, and gold chloride. Argentaffin stains melanocytes but not Langerhans cells. Because of their ability to present antigen to T cells, Langerhans cells are important in contact sensitization, skin graft rejection, and immune surveillance. Their numbers in the skin decrease after ultraviolet radiation.

243/ Diagnostic morphologic features of a psoriatic lesion include all of the following EXCEPT:

1. Surrounding clear peripheral zone,
2. Deep red colour often referred to as "salmon pink",
3. Well-defined borders,
4. Asymmetric distribution,
5. Silvery-white scaling.

Right answer - Asymmetric distribution (choice 4). The diagnostic features of psoriasis may not all be present at the same time, but they are useful in recognizing numerous variants of psoriasis. The pale halo occasionally seen around psoriatic lesions is known as Woronoff ring (choice 1). The deep red color (choice 2), silvery white scale (choice 5), sharp borders (choice 3), and symmetrical distribution are useful diagnostic features. Another helpful characteristics is the Auspitz sign, referring to fine bleeding points seen when the psoriatic scale is removed.

244/ Systemic effects from erythroderma include all of the following EXCEPT:

1. Disturbances in thermoregulation,
2. Impaired renal function,
3. Increased cardiac output,
4. Ankle edema.

Right answer - Impaired renal function (choice 2). The most common systemic effects in erythroderma are disturbance of thermoregulation (choice 1) and ankle edema (choice 4). The high-output cardiac failure (choice 3) is less common.

245/ All of the following statements are true of prurigo EXCEPT:

1. The lesions are itchy,
2. The lesions are grouped,
3. The lesions are traumatized,
4. Hypopigmentation and brown hyperpigmentation are commonly present,
5. The "tent" sign is negative.

Right answer - the lesions are grouped (choice 2). The examples of grouped lesions are those of herpes simplex or herpes zoster or of papular urticaria due to cat or dog flea bites. When you squeeze a dermatofibroma, the epidermis is puckered inwards because of the attachment of the dermal fibrous tissue to the epidermis. This does not occur in prurigo (choice 5).

246/ All of the following are true about psoriasis EXCEPT:

1. Bacterial infections may induce or aggravate the course of disease,
2. HLA-Cw 6 is more common in patients with early-onset disease,
3. Guttate psoriasis most commonly is seen in the elderly,
4. Rapid tapers of systemic corticosteroids may induce a pustular flare.

Right answer - guttate psoriasis most commonly is seen in the elderly (choice 3). Guttate psoriasis is characterized by small discrete papules and scaly plaques on the trunk and proximal extremities, and most commonly is seen in children. Very often, an upper respiratory infection precedes the acute eruption (choice 1), and patients often have elevated antistreptolysin titers indicating a role for streptococcal infections. The prognosis is excellent in children. Psoriasis has a hereditary component in its onset (choice 2). Corticosteroids are contraindicated in the treatment of psoriasis (choice 4).



247/ What is true about contact and allergic dermatitis?

1. It is often impossible to distinguish clinically between irritant and allergic contact dermatitis,
2. The use of bactericidal soaps is often helpful for patients with severe hand dermatitis to treat concurrent bacterial infections,
3. Finger dermatitis localized under a ring is almost always due to allergic contact sensitization to the metal nickel,
4. The majority of patients with hand dermatitis will respond to a nickel-free diet.

Right answer - it is often impossible to distinguish clinically between irritant and allergic contact dermatitis (choice 1). Although the majority of hand dermatitis is contact or endogenous by nature, patch testing can be beneficial to evaluate the possibility of an allergic component (found in approximately 20% of patients). The examination of a patient with hand dermatitis should always include feet to evaluate the possibility of a systemic disease such as psoriasis or infectious etiology such as tinea. The management of contact hand dermatitis includes avoidance of irritants such as harsh detergents, soaps, and antiseptics (choice 2 is incorrect). Patients should be instructed to use vinyl or rubber gloves (with cotton liners) when exposed to irritants. Corticosteroids in bland emollient creams or ointments often result in improvement of dermatitis. Because bactericidal soaps are often irritants, secondarily infected hand dermatitis should be treated with oral antibiotics or antibacterial ointments such as mupirocin. Although nickel allergy is common, finger dermatitis localized under a ring is more often the result of trapped irritants such as soaps, detergents, waxes, and polishes (choice 3). A nickel-free diet is often impossible to achieve and probably does not play a role in the vast majority of hand dermatitis, even in individuals allergic to this ubiquitous metal (choice 4).

248/ Which of the following is a true statement regarding seborrheic dermatitis?

1. Fluorinated topical steroids are the treatment of choice for facial involvement,
2. Incidence is increased in Parkinson disease,
3. Blepharitis is never an associated feature,
4. Seborrheic dermatitis appears to be equally prevalent in males and females,
5. Neither of stated the above is true.

Right answer - incidence is increased in Parkinson disease (choice 2), although the mechanism is poorly understood. Seborrheic dermatitis consists of a dry form (dandruff) with dry scales and little erythema as well as an oily form with greasy scales on an erythematous base. It tends to occur in seborrheic areas, including eyelid margins (seborrheic blepharitis) and may have

an associated conjunctivitis (choice 3 is incorrect). Seborrheic dermatitis has a predilection for males (choice 4 is incorrect) and is usually more severe in winter. Usually, low-potency topical corticosteroids are adequate for facial involvement. Fluorinated steroids should rarely if ever be used on areas such as the face as they may lead to cutaneous atrophy and acneiform eruptions (choice 1 is incorrect). Newer agents like tacrolimus and pimecrolimus are effective alternatives for the face.

249/ Which feature is associated with atopic dermatitis?

1. Nipple dermatitis,
2. Isolated adult hand eczema,
3. Follicular accentuation,
4. Normal serum IgE level,
5. All stated above are associated with atopic dermatitis.

Right answer - all stated above are associated with atopic dermatitis (choice 5). Atopic dermatitis can have a number of associated findings. These include either moist, oozing, and crusting nipple eczema or chronic dry and scaly nipple dermatitis (choice 1). Patients frequently have hyperlinear palms, follicular accentuation (choice 3), and bilateral hand eczema (especially common in adults and adolescents) – choice 2. Increased IgE serum levels and normal values have been documented in atopic patients (choice 4). Additionally, elevated IgE levels are not unique to atopic dermatitis patients, since increased serum IgE levels have also been reported in patients with contact dermatitis and psoriasis. Most investigators believe that increased IgE levels are not a specific feature of atopic dermatitis.

250/ Which ONE of the following statements is true regarding occupationally related skin disease?

1. Atopic persons with a history of childhood eczema are not at an increased risk for the development of occupational dermatoses,
2. Irritant contact dermatitis of the hands is the most common occupationally related skin disease,
3. Occupationally related skin diseases account for less than 20% of occupational illnesses,
4. All stated above are true,
5. Neither of stated the above is true.

Right answer - irritant contact dermatitis of the hands is the most common occupationally related skin disease (choice 2). Skin diseases account for a disproportionate large percentage of occupational diseases with estimates ranging from 24 to 37% (choice 3 is incorrect). The true number of occupa-

tionally related dermatoses is thought to be 10 to 50 times higher because of underdiagnosing, underreporting and misclassification of cutaneous disease. Irritant contact dermatitis of the hands is felt to be the most common work-related dermatosis. Atopy has been shown to a significant risk factor for the development of occupational skin disorders (choice 1 is incorrect). Studies have suggested that the risk of occupational skin disorders is 13 times greater for atopic individuals.

251/Topical antifungals achieve good result in:

1. Seborrheic dermatitis,
2. Nummular eczema,
3. Both.
4. Neither.

Right answer - seborrheic dermatitis (choice 1). Topical antifungals such as ketoconazole 2% cream have been shown in numerous studies to be effective both in the acute treatment of seborrheic dermatitis and in lowering the relapse rate after their use. That is explained by antifungal effect on *Malassezia* yeasts.

252/ All of the statements regarding cosmetic allergic contact dermatitis are true EXCEPT:

1. Allergens applied to the scalp can often produce dermatitis of the eyelids, ears, and hands, whereas the scalp remains normal,
2. Fragrance ingredients are the most frequently identified allergens causing cosmetic allergic contact dermatitis,
3. Unilateral facial dermatitis is often due to allergic contact reactions to facial cosmetics,
4. Eyelid dermatitis can be due to allergic contact reactions to nail products.

Right answer - Unilateral facial dermatitis is often due to allergic contact reactions to facial cosmetics (choice 3). Sensitization to ingredients in cosmetics is not uncommon; one study indicated 5.4% of patients were identified by patch testing as having reactions caused by cosmetic ingredients. The three top causes of cosmetic allergic reactions are perfume (choice 2), preservatives, and hair dyes. Cosmetic dermatitis is usually patchy and is bilateral on the face. Common causes of unilateral facial dermatitis include nail polish and contact dermatitis. Eyelid dermatitis from cosmetics is usually due to those applied elsewhere, like fingernail polish, rather than by direct application of periocular cosmetics (choice 4 and 1).

253/ Characteristics of allergic contact allergens include all of the following EXCEPT:

1. Ability to penetrate the epidermis,

2. Ability to form covalent bonds with proteins,
3. Ability to act as haptens,
4. Ability to act as polyagonal T-lymphocyte mitogens in vitro.

Right answer - ability to act as polyagonal T-lymphocyte mitogens in vitro (choice 4). Allergic contact allergens share several properties, including the abilities to penetrate the epidermis (choice 1), act as haptens (choice 3), and to form covalent bonds with proteins (choice 2). The latter property is necessary because haptens are not allergens by themselves. The immune system recognition occurs only after the combination with a carrier protein. Unlike polyagonal T-lymphocyte mitogens (phytohemagglutinin, concanavalin-A) that nonspecifically activate lymphocytes, allergic contact allergens characteristically induce a mitogenic (monoclonal) response in only previously sensitized lymphocytes.

254/ All of the following statements are true of pityriasis rosea EXCEPT:

1. It is least common during the months of June, July, and August.
2. Lesions are characteristically distributed along skin lines of cleavage on the trunk and proximal extremities,
3. Sunlight often exacerbates the lesions,
4. Oral lesions may occur,
5. All of the stated above are true.

Right answer - sunlight often exacerbates the lesions (choice 3). Pityriasis rosea (PR) is a common, self-limited dermatosis with a suspected viral etiology (HHV7). PR is typically found in children and young adults. This disease is more common during the fall, winter, and spring months (choice 1). Lesions are round to oval, erythematous to salmon-colored papules and plaques with an inner collarette of fine scale. Lesions are characteristically distributed along skin lines of cleavage on the trunk and proximal extremities (choice 2). Oral lesions may occur (choice 3). Prodromal symptoms are uncommon (approximately 5%), and the rash often begins with the appearance of a "herald patch" 3 to 14 days before onset of the generalized exanthem. New lesions continue to appear over several weeks, and gradually resolve over a time course of 3 to 8 weeks. Sunlight actually improves the rash, and areas that receive significant sun exposure are often free of lesions. Approximately 10 to 20% of PR does not follow the classic course. Variations consisting of papular, vesicular, purpuric, and urticarial lesions in both characteristic and "inverse" distributions (extremities and intertriginous areas) have been described. Children often have more widespread lesions than adults, and involvement of face and extremities is not uncommon. Rashes that can clinically mimic PR include psoriasis (especially guttate), small-plaque parapsoriasis, secondary syphilis, and tinea versicolor.

255/ What is true about calcipotriol and its use in psoriasis?

1. Calcipotriol is indicated mainly for mild to moderate stable plaque psoriasis,
2. Calcipotriol does not affect immunologic and inflammatory mediators that may play a pathogenic role in psoriasis,
3. Calcipotriol does not act directly on the keratinocyte to inhibit proliferation and promote differentiation,
4. The safety of calcipotriol has not been established for children.

Right answer - Calcipotriol, a derivative of vitamin B<sub>3</sub>, is indicated mainly for mild to moderate stable plaque psoriasis (choice 1). There is a mounting evidence that calcipotriol acts both by direct effects on the keratinocyte and by modulating the immune system (choice 2 and 3 is incorrect). Calcipotriol has been shown to be a potent inhibitor of interleukin-1 and other cytokines. The best results are usually obtained after 6 to 8 weeks of application.

256/ What is NOT true about lichen simplex?

1. Location on perianal skin and semimucosa.
2. A nonspecific histologic picture.
3. Koebnerization.
4. Isolated peripheral lichenified papules.

Right answer - koebnerization (choice 4). Lichen simplex chronicus is common on the nape of the neck, upper inner thighs, perianally (involving the semimucosa but not the true mucosa), lateral aspects of legs, and forearms (choice 1). Koebnerization occurs in psoriasis, lichen planus, and verruca plana but not in lichen simplex. Lichenification seen in lichen simplex chronicus consists of a coalescence of nondescript excoriated and scaly lichenoid papules (choice 4).

257/ All of the following are true about Odland bodies EXCEPT:

1. They are discharged from the spinous cells into the intercellular space,
2. They help to establish a barrier to water loss,
3. They mediate stratum corneum adhesion,
4. They measure 300 to 500 nm in diameter.

Right answer - they are discharged from the spinous cells into the intercellular space (choice 1). Odland bodies are also known as membrane-coating granules or lamellar granules. They are found within the granular layer of the epidermis and are rich in lipids, which include phospholipids, glycolipids, and free sterols. They discharge their contents into the intercellular spaces, helping to establish a barrier to water loss (choice 2) within the stratum corneum and mediate adhesion of the cells (choice 3). Odland bodies measure 300 to 500 nm in diameter (choice 4).

258/ What is NOT true about Meissner corpuscles and Merkel cells?

1. Meissner corpuscles mediate the sense of heat and their concentration is the highest on the ventral aspect of hands and feet,
2. Merkel cells constitute less than 1% of the epidermal cell population and basically are slowly adapting mechanoreceptors,
3. The largest number of Meissner corpuscles is in the fingertips,
4. Merkel cells are present in the oral mucosa.

Right answer - Meissner corpuscles mediate the sense of touch and their concentration is the highest on the ventral aspect of hands and feet (choice 1). Meissner corpuscles are special nerve end-organs that mediate the sense of touch. They are present in the dermal papillae on the palms and soles. Their number is the highest in the fingertips (choice 3). Their size averages 30 to 80 micrometers in diameter. Merkel cells constitute less than 1% of the epidermal cell population and basically are slowly adapting mechanoreceptors (choice 2).

Merkel cells are scarce, irregularly distributed, slow-adapting mechanoreceptors. They are present in the epidermis, oral mucosa (choice 4), and outer root sheath of hair follicles. On the electron microscopy, they show characteristic membrane-bound granules with dense cores.

259/ Eccrine glands are present in the following sites EXCEPT:

1. The labia minora,
2. The palms,
3. The soles,
4. The axillae.

Right answer - the labia minora (choice 1). Eccrine glands are present in all areas of the body except the vermilion border of the lips, the nail beds, the labia minora, the glans penis, and the inner aspect of the prepuce. Large numbers of eccrine glands are found in the palms (choice 2), soles (choice 3), and axillae (choice 4).

260/ Cells that are NOT involved in the immune response in the skin:

1. Langerhans cells,
2. Keratinocytes,
3. Indeterminate dendritic cells,
4. Melanocytes.

Right answer - melanocytes (choice 4). The three types of cells that are known to be involved in the immune response in the skin are the Langerhans cells (choice 1), the indeterminate dendritic cell (choice 2), and the keratinocytes (choice 3). Langerhans cells are bone marrow-derived cells that are functionally and immunologically related to the monocyte-macrophage-histiocyte series. They are important for antigen processing and presentation

to lymphocytes. Among other things, they express immune response-associated antigens CD1a and HLA-DR as well as Fc and C3 receptors. With the electron microscopy, they are seen to contain characteristic racquet-shaped Birbeck granules. They are believed to play an important role in contact sensitization, graft rejection, and immune surveillance against viral infections and tumors of the skin. The indeterminate dendritic cells are much less well defined. They occur in the dermis and the epidermis and can only be seen by the electron microscopy. They demonstrate several of the molecules found on the surface of Langerhans cells but lack Birbeck granules. Keratinocytes participate in the immune response by producing thymus-like hormones,  $\alpha$ -interferon, prostaglandins, colony-stimulating factors, and a thymocyte-activating factor.

261/ The mechanical properties of the skin depend primarily on the:

1. Epidermis,
2. Dermis,
3. Subcutaneous tissue,
4. Stratum corneum.

Right answer – dermis (choice 2). The mechanical properties of the skin depend mainly on the dermis. This is achieved by collagen and elastic fibers as well as ground substance. Initially, skin stretches easily, primarily as a result of reorientation of collagen fibers toward the load axis and a reduction in their convolution. Elastic fibers maintain the tone of the skin and are responsible for restoring the extensibility of slack skin. After the initial slack has been taken up, skin becomes much harder to extend. However, under continued stretch, further irreversible extension does occur through the process of viscous slip extension. This is mainly dependent on collagen fibrils, which are believed to slip either relative to each other or within the related ground substance. This viscous slip is ordinarily restrained by the highly viscous interfibrillar substance. When compressed by a small object, skin seems to mould around that object. This reduces pressure at any one point by a flow of ground substance through the dermal collagen fibers. Although the stratum corneum (choice 4 and 1) has a relatively high tensile strength, it offers little protection against mechanical forces. The subcutaneous tissue helps by providing a cushion against blunt trauma (choice 3).

262/ Which is FALSE regarding black skin?

1. Melanosomes can be found throughout the epidermis,
2. Melanosomes can be found in the stratum corneum,
3. Melanosomes and keratinocytes are aggregated within membrane-bound melanosome.
4. Melanosomes are larger in size in black skin than in white skin.

Right answer - Melanosomes and keratinocytes are aggregated within membrane-bound melanosome (choice 3). Melanosomes are found in the basal layer as well as throughout the epidermis (choice 1) and in the stratum corneum (choice 2). However, in skin, particularly in non-sun-exposed areas, melanosomes tend to be concentrated in the basal layer of the epidermis. In black skin, most melanosomes are dispersed singly. Few melanosome complexes are found. This is in contrast to white skin, in which the melanosomes tend to be aggregated within membrane-bound melanosome complexes. In addition, melanosomes are degraded more rapidly than in white skin relative to dark-skinned individuals. The size of melanosomes is the same in both populations (choice 4).

263/ The main barriers to the passage of water and electrolytes in the skin are the:

1. Epidermis.
2. Stratum corneum.
3. Dermis.
4. All of the above.
5. A and B.

Right answer - epidermis and stratum corneum (choice 5). The major function of the skin is to protect the body, be it against mechanical injury, radiation, fluid loss, or penetration of unwanted material. The barrier to inward or outward the passage of water and electrolytes resides mainly in the epidermis and more specifically in the stratum corneum (choice 2). This is achieved by the tight packaging of the cornified cells as well as by the lipid-rich intercellular material produced by the Odland bodies. The barrier properties of the skin vary, depending on the permeability constant of the substance involved (permeability constant equals the ratio of flux to the concentration applied), body site, age, and environmental conditions.

264/ Each of the following is true about apocrine glands EXCEPT:

1. They usually open directly into the surface of the skin,
2. Their secretion is odorless,
3. Their secretion is pulsatile,
4. Their secretion is controlled by adrenergic nerves.

Right answer - they usually open directly into the surface of the skin (choice 1). Apocrine glands are scent glands found mainly in the axillae and perineal region. Although occasionally apocrine glands may open directly to the skin surface, they usually open into the pilosebaceous follicles at the level of the infundibulum, above the entry of the sebaceous duct. Histologically, they are composed of three segments: a secretory portion, constituted of a single layer of secretory cells and an outer layer of myoepithelial cells; in-



tradermal and epidermal ducts, both of which are composed of a double layer of basophilic cells; and a periluminal eosinophilic cuticle. Apocrine glands become functional at puberty. Their secretion, which is pulsatile (choice 3), is controlled by adrenergic nerves (choice 4). They release their secretion through "decapitation," i.e., part of the cytoplasm of secretory cells is pinched off and released into the ductal lumen during secretion. Products of secretion have individual smell (choice 2).

265/ Which dermatophyte infection does not usually affect hair?

1. Epidermophyton floccosum,
2. Trichophyton tonsurans,
3. Microsporum canis,
4. Microsporum audouinii.

Right answer - Epidermophyton floccosum (choice 1). Tinea capitis is associated with trichophyton and microsporum species. In Europe tinea capitis caused by Microsporum canis is more frequent (choice 3) while in other parts of the world other causative agents may be more usual (choice 2 and 4). Epidermophyton species do not cause hair infection; the infection with epidermophyton may lead to tinea cutis.

### III. CLINICAL CASES

1. A patient with the diagnosis primary seronegative syphilis was admitted to the venereological department. From the anamnesis it was found out that the patient had the allergy to penicillinum and its derivatives. What can be the doctor's tactics?

**Answer:** tetracycline group of antibiotics, azytromycin, macrolides.

2. A 52 years old patient complained of the rash in the back. During the examination a group of tubercles with a size up to 1,5 cm with a reddish color, and solid consistence was revealed. Some elements were ulcerated. Serological reactions were positive. What diagnosis can be made? What is the differential anamnesis? What can be the doctor's tactics?

**Answer:** active tertiary syphilis, tubercles of the back. The differential diagnosis has to be performed with tuberculosis, leprosy, leishmaniasis.

3. A 55 years old patient complaining of the ulceration of the cruris was admitted to the dermatovenereological department. Serological reactions were positive (RW 3+, RC 3+, RIF 4+, RIT 100%). It was found from the anamnesis that he had had primary syphilis 4 years ago but hadn't received a complete treatment and had left the hospital without permission. The ulcer 3\*4 cm in diameter with solid margins and pusish bottom developed after a

trauma of the cruris. What can be the anamnesis? What is the differential anamnesis?

**Answer:** active tertiary syphilis, gummatous syphilid of the cruris. The differential diagnosis has to be performed with tuberculosis, leprosy, leishmaniasis.

4. A 37 year old complaining of the discomfort and burning in the anus area came to the surgeon. The complaints appeared two weeks ago. He was treated with solutions without any effect. Obviously vegetative papules with moist surface are seen in the skin of anus. There are also papules in the soles and palms and diffuse alopecia of hair on the head. Slight polyadenitis was also revealed. What is the diagnosis? What methods must be performed to confirm the diagnosis? What can be the doctor's tactics?

**Answer:** secondary recurrent syphilis, condiloma lata, palmar plantar syphilid, syphilitic alopecia. Serological tests as well as dark field microscopy must be revealed. The patient has to consult the dermatovenerologist.

5. A 34 years old woman came to the dermatovenerologist. She said that her partner had syphilis and was being treated in the dermatovenerological hospital. They had a sexual contact 10 days ago. Serological tests of the woman are negative. During the examination brownish spots in the skin of the upper trunk were revealed. Baltzer probe was positive. What is the diagnosis? Does the patient need a preventive treatment?

**Answer:** Pityriasis versicolor. Yes, the patient needs a preventive treatment.

6. A 25 years old pregnant woman (7 week pregnancy) with positive serological reactions came to the dermatovenerologist. During the examination nothing was revealed, there was no rash in the skin of the patient. But the patient said that she had a multiple rash in the skin that wasn't followed by itch. The rash was healed without an treatment. What is the diagnosis? What will be the tactics of the doctor?

**Answer:** early latent syphilis. Serological tests must be performed to confirm the diagnosis and a specific treatment has to be administered.

7. A 26 year old woman with a complaint of hair loss came to the dermatovenerologist. During the examination diffuse alopecia was revealed. In the lateral part of the skin hypopigmented patches in the form of collard were found. Baltzer probe was negative. What is the diagnosis? What will be the tactics of the doctor?

**Answer:** secondary recurrent syphilis, diffuse alopecia, syphilitic leucoderma. The collection of anamnesis and a specific serological examination must be performed.

8. A 32 year old woman came to the dermatovenereologist complaining of the multiple rash. She said that 3 months ago she had had a sexual contact with an unknown man. During the examination multiple roseolar rash and polyadenitis were found. What disease can be suspected? What examinations must be performed? What will be the tactics of the doctor?

**Answer:** secondary syphilis. Serological tests and specific treatment have to be administered.

9. A young man came to the dermatovenereologist and complained of phymosis that had developed a week ago. Lymphatic nodes in inguinal area were enlarged, had elastic consistence, not connected with the skin and were painless. The upper skin was not changed. The patient was not married, had a sexual contact 1 month ago. What can a probable diagnosis be? What examinations must be performed?

**Answer:** primary syphilis (hard chancre complicated by phymosis). Serological tests, dark field microscopy and specific treatment have to be administered.

10. A patient presents several ulcers 1 cm in diameter in the skin of penis. They appeared 3-4 days ago. He thinks that they have appeared after a sexual contact with an unknown woman. Lymphatic nodes are not enlarged, serological reactions are negative. What diseases can be suspected? What is the plan of the examination?

**Answer:** the most possible diagnosis is primary seronegative syphilis. But dark field microscopy and a further serological examination must be made. A differential diagnosis is performed with gonococcal ulcers, genital herpes, traumatic erosions.

11. A 27 year old patient came to the dermatovenereologist and complained of a frequent urination and a pain at the end of it. The disease has developed 5 days after a sexual contact. He was not treated. During the examination an inflammation and erythema around the opening of the urethra were revealed as well as purulent urethral discharge. Glass probe revealed a turbid urea in both portions. The microscopy revealed numerous leucocytes and budding yeast cells. Bacteria and trichomonadas were not revealed. Cultural examination revealed *C.albicans*. What is the diagnosis and what treatment can be administered?

**Answer:** acute total urethritis caused by candida infection. Systemic antifungal therapy (itraconazole or fluconazole) and local treatment (nystatin ointment) can be prescribed.

12. A 19 year old patient had complaints of a profuse purulent urethral discharge and a pain at the beginning of urination. He has been ill for a week after sexual contact. Glass probe revealed a turbid urea in the first portion. After microscopical examination numerous gonococcus were revealed inside and outside the cells. What is the diagnosis and what treatment can be administered?

**Answer:** acute down urethritis caused by gonococci. Antibiotics (penicillin, doxycyclin, azitromycin) have to be prescribed.

13. A 35 year old patient came to the dermatovenerologist and said that 16 days ago he had had a sexual contact with a woman with secondary syphilis. During the examination nothing was revealed. Specific blood tests were negative. What measures must be taken?

**Answer:** administrate preventive treatment for primary syphilis.

14. A 26 year old woman complains of the affection of the skin in genitalia. During the examination an ulcer of 0,5 cm in diameter was revealed. The ulcer was of an oval shape, painless and a scar was beginning to form. In the skin, mostly in lateral surfaces multiple roseolar rash was revealed. Lymphatic nodules were enlarged, they were elastic and painless. What is a probable diagnosis? What should be the tactics of the doctor?

**Answer:** secondary syphilis. A dark field microscopy from the bottom of the ulcer must be performed, specific treatment has to be administered.

15. A 27 year old woman was sent to the dermatovenerologist after a consultation with the infectionist. She complained of severe itch. She said that the disease had appeared after she has eaten sea fish. The next day rash appeared in the skin and the patient applied 5% iodine. In 5-6 days the rash spread all over the skin. During the examination numerous vesicles, bullas, macules and papules were revealed. In the place of bullas erosions had been formed. Nikolsky's sign in bullas was negative. From the bottom of erosions smears were taken where 21% of eosinophils was revealed. In immunofluorescence analysis IgA in dermis were revealed. What is the diagnosis and possible treatment?

**Answer:** herpetiformic dermatitis During. Treatment includes gluten-free diet, dapsone, sulfanilamides, corticosteroids. The examination of the intestine has to be made.

16. A 28 year old man came to the dermatovenerologist and complained of eruptions in the skin of his penis. He was not married and had many sexual contacts with different women. In the skin of the penis multiple cauliflower-like lesions were revealed. In PCR HPV (herpes papilloma virus) of 6 and 11 types were found. What is the diagnosis and treatment?

**Answer:** genital warts (condilomas). The treatment includes surgical incision, cryodestruction.

17. A 57 year old woman was admitted to hospital with the diagnosis of "local psoriasis". She complained of the rash in the skin of cruris and permanent severe itch. She has been ill 13 years and has been treated in the local hospital with UV, prednisolon ointment without any benefit. Obviously in the skin of the cruris a plaque 3\*5 cm in diameter, with well defined borders is revealed. There are plain violet, polygonal papules in the wrists with a depression in the center. The symptoms of Wickham and Koebner are positive. The symptom of Auspitz is negative. What is the diagnosis and treatment?

**Answer:** lichen planus. The treatment can include antihistamines, antimalarial drugs, local corticosteroids.

18. A 13 year old child presents numerous miliary papules in the neck and face region. The papules are not inflammatory and are not infiltrated. The diameter of papules is 2-4 mm. In the papules is seen the core of whitish exudates that is easily removed. What is a probable diagnosis? What methods of treatment can be used?

**Answer:** molluscum contagiosum. Usually surgical removal or cryotherapy are used.

19. A young man was administrated to the dermatovenereologist with a complaint of the little ulcer in the skin of his penis that he had noticed two weeks ago. He treated the ulcer with prednisolone cream without any benefit. During the observation the ulcer had a cartilaginous consistency at the edge and base; it had the color of fresh meet. In groin region a painless enlargement of lymph node at the right side was seen. The patient was not married, had many sexual partners. What is a probable diagnosis? What methods of observation have to be administrated?

**Answer:** primary syphilis. Serological tests and a dark field microscopy must be done after a specific treatment is administered.

20. A 5 year old child presents round areas of alopecia where the hair is broken at 5-8 mm from the scalp. Papular borders are seen at the peripheral part of the elements. The patient has a cat at home. The microscopy reveals spores that are situated around the hair. What is one of the probable diagnosis? What causative agent may cause the disease? What treatment should be used?

**Answer:** tinea capitis caused by *M. canis*. Systemic antifungals are used for the treatment. Griseofulvin is a drug of choice that is usually administered in the dosage of 22 mg/kg during 30 days. Itraconazole and terbinafin can be used as well.

21. The woman complained of the rash in the skin of the neck, chest and back, and had moderate itch. She has been ill about 4 months. She used hydrocortisone cream but with little benefit only. 5 months ago she bought a new deodorant and uses it now every day. During the examination radish patches of different size as well as excoriations and bloodish crusts are revealed in the neck, chest and back. What is a possible diagnosis? What treatment can be administered?

**Answer:** allergic dermatitis. Antihistamine drugs and local corticosteroids can be used. Avoidance therapy should be recommended.

22. In the morning a telephone call was received by the emergency. The woman complained of multiple rash all over the body that was followed by severe itch. The rash resembled urticaria. When the physician came he didn't reveal any primary elements, only excoriations and bloodish crusts were seen in the skin of buttocks, back, chest and extremities. It was found out that the woman had eaten oranges and red wine the day before. What disease can be suspected? What should be recommended?

**Answer:** urticaria. A consultation of the allergologist is necessary to reveal the reason of urticaria.

23. A 28 year old woman with the complaining of the affected periungual areas came to the physician. She works as a dishwasher in a restaurant and has the contact with water every day. During the examination red, swollen periungual areas were revealed. The nails were not affected. What is a probable diagnosis? What examination does the doctor have to administer to confirm the diagnosis? What are possible methods of treatment?

**Answer:** paronychia infection. A microscopical examination has to be done to exclude candida infection. Antibiotic ointment can be used, in case of candida infection antifungals are necessary.

24. A child of 7 years old was administered to the hospital. First the pustules appeared around the nose and ears and became a honey-yellow, adherent, crusts with minimal or no surrounding redness. In 2 days the infection has spread for all over the body. What is the diagnosis? What are the methods of treatment? What methods of prophylaxis should be used?

**Answer:** impetigo. The child must be isolated and treatment with systemic antibiotics should be administered.

25. A 10 year old girl presents a single plaque with a scaling in the cheek with the diameter of 3 cm. The lesion appeared 2 months ago and was

unsuccessfully treated with topical corticosteroids. 5 months ago the family of the girl returned from Turkey where they had spent their vacations. After the microscopical examination the amastigots were found in a swab. What is a probable diagnosis? What methods of treatment can be used?

**Answer:** local cutaneous leishmaniasis. There is no etiological treatment. For systemic therapy pentavalent antimony drugs, antibiotics (rifampicin) are used; for the local therapy incision, hyperthermia cryosurgery are used.

26. A patient came to the physician with a complaint of nodular elements in the area of his penis. The patient has made analyses of sexually transmitted diseases and nothing was revealed. Some months ago he was treated from the scabies with sulfur ointment. He had used the ointment only for 2 days. During the observation the little papules grouped in pairs were revealed in the region of the stomach. 3 nodules with the diameter up to 1 cm without any signs of inflammation were revealed in the skin of the penis. What is a probable diagnosis? What treatment will be administered?

**Answer:** nodular scabies. The treatment of scabies should be administered with sulfur ointment or benzilbenzoate. Hydrocortisone or prednisolon creams can be used in the place of nodules.

27. A patient with Down syndrome presents generalized rash in the form of numerous crusts, pustules. The patient doesn't complain of itch. Laboratory analyses revealed numerous scabies mites. What is the form of scabies? What treatment should be administered?

**Answer:** Norwegian scabies. The treatment with sulfur, benzilbenzoate or permethrin can be used.

28. A patient with the pulmonary tuberculosis presents apple jelly papules in the face. In the center of the papules the atrophy of the skin is seen. What can be the diagnosis? What laboratory methods can be used for to confirm the diagnosis? What is the prognosis for the patient? What can complicate the disease? What treatment should be administered?

**Answer:** lupus vulgaris. In order to confirm the diagnosis skin biopsy must be performed. The prognosis for the patient is bad and without an appropriate treatment lupus carcinoma can develop. Classical tuberculosis treatment is used with streptomycin, rifampin or pyrazinamid.

29. After the observation of the head of a 6 year old child the mother found white eggs attached to the hair shaft, close to the skin surface. The child complained of the itch of the head at night. The child spent 2 months in a camp. What is a probable diagnosis? What kind of treatment can be used? What methods of prophylaxis should be recommended?

**Answer:** pediculosis. Permetrin shampoos are usually administered.

30. A woman of 45 years came to the dermatologist with the complaints of the rash in the upper lip. She said she had had such condition before and usually it had happened in winter. Obviously numerous vesicles with serous liquid in the erythematous surface, crusts are seen. The patient also complained of itch and burning. What is the diagnosis? What methods of treatment can be used?

**Answer:** herpes simplex. Acyclovir treatment can be administered locally as well as systemically.

31. A 19 year old boy was admitted to the skin department with the complaints of the itch in the skin of elbow and knee folds. The disease began when he was 6 months old. Recurrences of the disease happen after the intake of chocolate, oranges, spicy food. Objectively the skin is lichenified in the elbow and knee folds, numerous excoriations and crusts are seen. What is a probable diagnosis? What treatment can be used?

**Answer:** Atopic dermatitis, erythematous squamous with lichenification form. Avoidance therapy as well as antihistamines and corticosteroids locally have to be recommended.

32. A 9 year old boy presents red, flaking, greasy areas of the skin on the scalp, nasolabial folds, chest. He has been ill for two years and states that the disease usually aggravates in winter. The hair seems to be greasy, has white flakes. The patient uses shampoo every day but in the evening the hair seem to be greasy again. The patient has slight itch but mostly is conscious about cosmetic effect. He uses different cosmetic creams for oily skin but without any effect. What is a probable diagnosis? What groups of medicine can be administered in this case?

**Answer:** seborrhoeic dermatitis. Local antifungals as well as antifungal shampoos (Nizorale, Freederm, etc) are administered.

33. A 16 year old boy was administered to the dermatologist with the complaints of the eruptions of the skin of the face, chest, back and shoulders. After the observation polymorphic rash was revealed that had numerous black and white heads, papules, pustules at the erythematous base. Nodules, cysts and scars were absent. The boy has been ill during 3 years and points that the rash aggravates in winter. He has used some cosmetic lotions with low benefit. What is a probable diagnosis? What treatment can be used?

**Answer:** acne vulgaris, papular-pustular form. A systemic antibiotic treatment can be administered as well as local therapy with azelaic acid, anti-



biotics, retinoids. If the treatment is not successful, systemic retinoids can be recommended.

34. A 35 year-old woman came to the dermatological department with the complaints of the rash in the face and back. The woman took the course of tetracycline 2 years ago with slight improvement and regularly uses benzoyl peroxide and topical antibiotics. She also mentioned irregular menses. After the examination inflammatory papules, pustules and nodules were revealed in cheeks, forehead, and back. In some places after healing of nodules atrophic and hypertrophic scars were formed. Hirsutism was seen in the face. The woman was examined by gynecologist and numerous cysts were revealed in ovaries. What is a probable diagnosis? What kind of treatment can be administered?

**Answer:** acne. The treatment of gynecological problems is necessary. Estrogens may be used in birth regulation pills.

35. A 47 year old woman came to the dermatologist with the complaint of a burning rash in the face. She has been ill during 6 months when she noticed red "pimples" appearing on the face. But she also admitted that her face became red any time she had emotional stress. The condition of the face became worse every time she had physical exercises, emotional stress, when the weather was windy, while drinking coffee and hot tea, or alcohol. In order to prevent the redness she had been prednisolone cream during 2 weeks after what the condition rapidly became worse. During the examination numerous telangiectasias, papules and pustules were seen in the forehead, perinasal area, cheeks. What is a probable diagnosis? What are the methods of the treatment and prophylaxis of the disorder?

**Answer:** rosacea, steroid induced. The treatment includes metronidazol systemically and locally, a consultation of the gastroenterologist and an anti-helicobacter treatment is necessary.

36. A 25 year old woman with the complains of numerous whitish macules in the area of the upper trunk came to the physician. 2 months ago she was in the Crimea. Obviously many macules with a slight scaling were seen. Baltzer probe was positive. What disease can the doctor suspect? What methods can be used for the confirmation of the diagnosis? What treatment can be used?

**Answer:** pityriasis versicolor. The microscopy is used to confirm the diagnosis. The treatment includes local antifungals (ketokonazole, miconazole, clotrimazole). If local treatment is not effective systemic treatment with ketokonazole or itraconazole can be used.

37. A child of 6 years old was administered to the dermatologist. His mother noticed a round patch of hair loss on the scalp. The patch appeared a week ago. The mother treated the patch with the solution of garlic. During the examination the solitary patch of hair loss was found with a slight scaling in the center. The hair has broken in 5-8 mm. What is a probable diagnosis? What methods should be administered? What treatment must be used?

**Answer:** tinea capitis caused by *M. canis*. Microscopical and cultural examination is used to confirm the diagnosis. For the treatment systemic anti-fungals are used. Griseofulvin is a drug of choice that is usually administered in the dosage of 22 mg/kg during 30 days. Itraconazole and terbinafin can be used as well.

38. A 28 year old woman was admitted to the venereological hospital. She complained of high temperature (38<sup>o</sup> C), pain during urination, pain in the down part of the stomach, pussish exudate from vagina. She is not married and has several sexual partners. During a microscopical examination gonococci were not revealed. What is a possible diagnosis? What should be the tactics of the doctor?

**Answer:** the patient should be hospitalized because endometritis is tending to develop. Cultural examination in order to reveal gonorrhea has to be done. The diagnostics of other STI must be performed as well.

39. A 24 year old woman came to the dermatologist with the complaints of the rash in the skin of the face that had appeared 2 years ago after a long sun exposure. During the examination in the skin of the nose and cheeks reddish patches were revealed in the form of a butterfly. At the surface whitish scales were seen. The scales were difficult to remove. In the center of the patches atrophy was seen and in distal parts – teleaengaectasias and hyperpigmentation. What is a possible diagnosis? What is a differential diagnosis? What treatment can be used?

**Answer:** discoid lupus erythematosus. A differential diagnosis is performed with photodermatitis, lupus vulgaris. LE cells if found can confirm the diagnosis. For the treatment delagil and photoprotective creams are used.

40. A 20 year old woman complains of the rash in the skin of the face without any subjective feelings. She has been ill for 2 years when she noticed the rash after getting tanned at the beach. In the skin of the nose and cheeks is seen erythema in the form of a butterfly with well defined borders. What is a possible diagnosis? What is a differential diagnosis? What treatment can be used?

**Answer:** erythematosus of the face. A differential diagnosis is performed with photodermatitis, lupus vulgaris. The treatment includes local corticosteroids, protection from the sun, photoprotective creams.

41. A 40 year old woman came to the dermatologist with the complaints of the partial firming of the skin of the stomach. She noticed it a month ago, made a massage and used creams without any effect. She suffers from hyperthyreosis, chronic tonsillitis, vegetal dystony. During the examination a firm area of 6 cm in diameter has been revealed. Around the element violate hyperpigmentation is seen. The skin is firm. What is a possible diagnosis? What treatment can be used?

**Answer:** plaque scleroderma. Penicillin and lidasa treatment is used.

42. A 47 year old male diabetic patient with a history of relapsing chronic diarrhea came to the physician. He is an office worker and does no sports. A month ago a small erythema with a single pustular lesion appeared at the foot. The lesion had a rapid growth with a necrotizing centre, undermined borders. The lesion was very painful and had a massive purulent exudate. The patient was examined by a surgeon and treated with antibiotics without any benefit. The skin biopsy revealed superficial ulceration, infiltrates with neutrophiles, lymphocytes, histiocytes. Vasculitis of the small blood vessels was found in the derma. What is the most probable diagnosis? What kind of treatment can be used in this case?

**Answer:** pyoderma gangrenosum. For the treatment corticosteroids and antibiotics are used.

43. A laboratory assistant on the farm developed warty papules in the hands. The papules resembled warts but were enlarging very slowly. The lesion showed central involution with an atrophic scar. What can we prognose? What analyses can we do to make the diagnosis?

**Answer:** tuberculosis verrucosa. Further laboratory examination (X-ray, tuberculine test) as well as skin biopsy is necessary to confirm the diagnosis.

44. A 15 year old boy presents nodular lesions in the neck. The lesions present as firm, painless, subcutaneous nodules that are gradually enlarging and suppurating, and then ulcers and sinus tracts have been formed in overlying skin. Typical ulcers have undermined edges and the floor of granulation tissue. Tubercle bacilli were isolated from the purulent discharge. Tuberculin sensitivity was marked. What is your probable diagnosis?

**Answer:** scrofuloderma.

45. A 34 year old patient has well-demarcated, brown-red macular patches in the area of groin folds. In the Wood lamp examination the coral red coral fluorescence of scales was revealed. What disease can we suspect?

What other problems may be considered? What is the treatment of this condition?

**Answer:** erythrasma. The microscopy should be performed to confirm the diagnosis. The treatment is performed with erythromycin ointment.

46. A 57 year old man was admitted to hospital with complaints of rashes in the trunk. The temperature was 38,0 C. Some days ago he had a strange sensations and pain in the chest region. Obviously numerous vesicles following the nerves lines were seen. What is a probable diagnosis? In what department the patient should be admitted? What methods of treatment can be used?

**Answer:** herpes zoster. The patient has to be consulted at the infectious department. Acyclovir and symptomatic local treatment should be administered.

47. A 15 year old boy presents multiple papules with a rough irregular scaly surface on the palms. They range from smaller of 1 mm to larger of 1 cm. The papules are asymptomatic and have the colour of normal skin. What is a probable diagnosis? What treatment can be used?

**Answer:** warts. A differential diagnosis should be performed with tuberculosis verrucosa. The treatment includes cryotherapy, surgical incision, chemical application ("solcoderm", 5-fluoruracyl).

48. A 35 year old woman complained of painful elements on the skin of the soles that prevented her from walking. During the examination in the places of pressure rough thick hyperkeratotic elements that were painful while pressing were revealed. What is a probable diagnosis? What treatment can be used?

**Answer:** plantar warts. The treatment includes cryotherapy, surgical incision, chemical application ("solcoderm", 5-fluoruracyl), laser treatment.

49. While treating a 46 year old patient with generalized burns the surgeon noticed that the patient had no feeling of pain. From the anamnesis it was found out that the patient had lived in Uzbekistan for 7 years. He had no pain, tactile and temperature feeling all over the skin. The nerves of the upper extremities are thickened and painful. Slight atrophy of muscles of the upper extremities is seen. In the skin of the face in the region of brows and ears numerous little infiltrates are palpated. The face is not mimetic. The patient suffers from sexual dysfunction. What is a probable diagnosis? What analyses have to be performed? What treatment can be used?

**Answer:** a possible diagnosis may be – leprosy, tuberculosis of the skin, pathology of nerves. To confirm the diagnosis lepromine probe should

be done, X-ray must be performed. The patient has to be consulted by the neuropathologist.

50. A patient was treated from angina with high doses of antibiotics. He had no allergy to this group of antibiotics in the anamnesis. After the treatment the temperature was normal but numerous itchy rash appeared in the skin of the trunk. The rash was presented by reddish patches. What is a probable diagnosis? What treatment can be used?

**Answer:** toxiderma (drug reaction). The treatment includes avoidance policy, antihistamins. The patient must avoid this group of antibiotics in future.

51. A young man with the complaint of the rash in the lip with burning and itching came to the dermatologist. In the upper lip numerous grouped vesicles with serous fluid were revealed. What is a probable diagnosis? What treatment can be used?

**Answer:** herpes simplex. At the beginning of the disease acyclovir ointment can be used. If the disease is recurrent the consultation of the immunologist is necessary.

52. A 20 year old woman complains of multiple rash in the skin of the body that is followed by itch. She has been ill for a week. The first patch is situated in the skin of the trunk and after the sauna the rash dissipated all over the skin. In the skin of the trunk numerous patches with slight scaling in the center are seen. Fungi are not found. What is a probable diagnosis? What treatment can be used?

**Answer:** pityriasis rosea. The disease doesn't need any treatment. The patient can be recommended to avoid irritating the skin.

53. A 45 year old man was admitted to hospital with the complaints of rashes in the chest, pain in the chest, dizziness, high temperature. Obviously numerous vesicles 2-4 mm in diameter are seen followed the nerves lines. What is a probable diagnosis? In what department the patient should be admitted? What methods of treatment can be used?

**Answer:** herpes zoster. The patient must be consulted in the infectious department. Acyclovir and symptomatic local treatment should be administered.

54. A 30 year old man complained of multiple painful erosions in the skin of the penis. He stated that previously he had had such condition before. In the skin of the penis grouped erosions as well as vesicles were seen. There was no infiltration, lymphatic nodes were not enlarged. What is a probable diagnosis? What methods of treatment and prophylaxis may be used?

**Answer:** recurrent herpes genitalis. At the beginning of the disease acyclovir ointment can be of some benefit. For the prophylaxis of the disease the herpes vaccine and systemic acyclovir can be used.

55. A 62 year old woman came to the dermatologist with the complaints of erosions in the mucous membrane in the mouth that were healed without treatment and after appeared once again. In the normal skin appeared the blisters. The blisters are rigid, contain serous fluid, after opening large erosions were formed. Erosions are healed slowly. Nyckolsky's symptom is positive. What is the probable diagnosis? What methods of diagnostics can be used to confirm the diagnosis?

**Answer:** pemphigus vulgaris. Smears for acantolytic cells should be studied. Biopsy and direct immunofluorescence reaction are the "golden standard" in the diagnostics of blister disease.

56. A 57 year old patient noticed numerous blisters that had appeared in the normal skin of the trunk. Blisters were large with serous fluid. There were erosions in the mucous membrane in the mouth that was followed by pain while eating. Nyckolsky's symptom is positive. Acantolytic cells are found in the smears from erosions. What is a probable diagnosis? What treatment is used?

**Answer:** pemphigus vulgaris. High doses of prednisolon as well as local therapy of erosions are necessary.

57. A patient of 70 years old complains of severe itch. During the examination it was found out that the skin was dry, numerous excoriations as well as lichenification were seen. There were no primary elements. What is a probable diagnosis? What treatment can be used?

**Answer:** skin itch that may be caused by many disorders (kidney, liver disease, neurological or psychiatric disturbances). The patient must be examined thoroughly (blood and urine tests, ultrasound examination of the internal organs, X-ray, etc). Local corticosteroids and antihistaminical drugs can be used as symptomatic therapy.

58. A 43 year old patient came to the dermatologist with the complaint of the itch in the soles. During the examination a scaling of the soles was found. The nails of the feet were yellow and totally destroyed. What is a probable diagnosis? What methods of diagnostics are necessary to perform? What treatment can be used?

**Answer:** tinea pedis and tinea unguum. A microscopical examination will help to find fungi. Systemic antifungals (itraconazole, terbinafine, fluconazole) as well as local therapy have to be administered. Methods of prophylactics (disinfection of the shoes) should be performed.

59. A 36 year old women with the complaint of the lesions in the axillae areas came to the surgeon. She has been ill during 3 years and has received the treatment with antibiotics. After the treatment the disease repeated in six months. During the examination tender, reddish purple nodules in the axillae areas filled with the pus and numerous crusts were revealed. What is your diagnosis? What kind of treatment will be the most appropriate?

**Answer:** hydradenitis suppurativa. Surgical incision will be the most appropriate in this case.

60. On the 5<sup>th</sup> day after birth a child had temperature, was nervous, and didn't eat. Two days ago the mother saw a crusty lesion around the umbilical stamp. In the evening all the surface of the skin was erythematous and tender. In the morning large bullas began to form in all parts of the skin surface. After the raptures of the bullas large erosions are formed. The Nikolsky's sign is positive. What is the most probable diagnosis? With what other diseases is it necessary to perform a differential diagnosis? What is the treatment of this disease?

**Answer:** staphylococcal skin scaled syndrome (SSSS). The condition is similar to congenital syphilis and autoimmune blister diseases. Systemic antibiotics as well as infusion of the fluids are necessary.



Учебное издание

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**PRACTICAL DERMATOLOGY**  
Methodical recommendations

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Компьютерная верстка Валлес – Козловская В.В.  
Корректор

Подписано в печать *11/10* 2006 г. Формат 64×84/16  
Бумага типографическая №2. Гарнитура тип Усл. печ. л. *7,9*  
Уч. изд. л. *5,9* Тираж *200* экз. Заказ № *1332*  
Издатель и полиграфическое оформление  
УО «Витебский государственный медицинский университет»  
ЛИ №02330/01133209 от 30.04.2004 г.

Отпечатано на ризографе в Витебском государственном медицинском уни-  
верситете  
210062. г. Витебск. пр. Фрунзе. 27  
Тел. (8-0212)26-19-66  
Переплет изготовлен в РИПЦ ВГМУ