Term	Topic content
Fungus diseases of skin (mycosis)	The great spreading of fungus diseases, at the considerabl proportion, explains the heightened interest some of medica workers about problems of mycology. Pathogenic mycosis-agent mycosis concern to the class of inferior plants. The mos group of pathogenic mycosis is hyphomycete or filar fungu: dermatophitus (athlete's feet), which can form filars of mycelium and spores. They also can parasitize into the soil, on the plants on the skin and hair of animals. Because of that infection with fungus can going as directly from ill man so as during contaci with animals and by contact with household goods. Out ol organism people or animals the fungus can safe their vieability md virulence owing to forming of spores during a lot of years: life under the most unfavourable conditions. The factors which are conductiving of infection with fcngus diseases are not enough density and compactness of keratin into the corneous sphere of epidermis, pH's biasing of protective mantle of skin into the neutral or even into the alkaline ade and heightened sweating. The most auspicious to the infection with fungus diseases are persons which had infection diseases, have diabetes, have nervous or endocrine disease. The history of science about dermatophitus was begun with opening in 1839 by Shenliain the pathogenic organism by name "phavus" (tetter)- achorion. In future the most important events into the mycology was discovery of pathogenic organism of Pityriasis versicolor (multicolor herpes) and erythrazma and actinomycets. The considerable was discover by Saburo special vivifying medium what gave possibility to microbiologist to realize discovery of series of new fungus at the expense of their growing at this medium. It's also necessary to recall the discovery of penicillin (lat. Penicillinium) by Fleming in 1928. The scientist observed that the colonies of staphylococci, which were surrounded by bluish- green mold stopped in their growth and development. All fungi can be relatively divided into 3 groups according to their behavior as to the man's organism, saprophytes, dermatophitus (athlete's foot) and molds. Such fungi are called saprophytes which form colonies of different size without any clinical appearances of

	inflammatory kind. The changes caused by these fungi are not infectious and they are not man transmissible or by surrouding us objects. According to the carried out observations the fungi make up their location exclusively in the horny layer (lat. Stratum corneum) of the epidermis. For example, micro-sporons and trichosporons are such fungi. Dermatophitus (on the man's skin) parasites not only in the horny layer of the epidermis but they also penetrate into deeper layers of the skin, into hair follicles, hair. As the result of the toxic effects of metabolism of these fungi there appear inflammation of various types on the affected skin of the patient. In some cases the most part of the fungi can afflect the internals (lungs, liver, kidneys and a spleen) and even skeletal system. In contrast to (unlike) the fungi-saprophytes the dermatophitus (athlete's feet) are infectious and they are transmissible from one man to another or from affected animals to a man. Fungi of hyphomicets class are related to the molds (mould fungi). Except the dermal changes they often cause affections of internals (internal organs) but like the fungi-saprophytes they are not infectious and transmissible from people and animals, neither in direct contact, nor by house-hold articles. Their parasitism depends on the general health status of the man's organism. In some cases the molds can change the clinical picture of the existing dermal disease (for example, the eczema), or they can delay the treatment process of some diseases. Among fungal diseases the keratomycosises are distinguished, during which the process takes place only in the horny layer of the epidermis without marked changes and with slight contagiousness; the dermatophitus (athlete's foot) during which the fungi parasitizeing in the skin and affecting its appendages (nails, hair), cause strongly marked inflammations; the mucocutaneous candidiasises, the candidiasises of internals and deep mycosis during which the fungi penetrate not only into the derma but also into the deeper located tissues, often causing hard forms of the overall affections of internals.
Keratomycoses	The diseases of this group are characterized by the presence of changes only in the homy layer of the epidermis, the absence of any inflammatory processes on the skin and slight contagiousness. The keratomycosises also include many

	Pityriasis versicolor and erythrasma. More often the keratomycosises affect persons with heightened perspiration and displacement of the pH surface of the skin toward alkaline side. In the keratomycosises nails and hair are not affected.
Pityriasis versicolor	The pathogen - Pityrosporum orbiculare (micro-spore furfur) was discovered by Eichstedt in 1846. In the microscopy the fungus represents by itself short and thick fibers of the mycelium, which are interlaced between themselves. Small spores of this fungus are round shape and they are grouped in the separate nest-like formations. In connection with the practical absence of any contiguousness the family cases of morbidity by this herpes are not described. During the histological examination of biophtats from the affeted places there is marked some loosening of the homy layer of the epidermis with the presence of the fungus colonies. **Clinically** the Pityriasis versicolor is characterized by the appearance of brown maculae of different tints with slight peeling on the skin. More often these maculae have yellowish-pink color or yellowish-brown one (the color of coffee with milk), the disease begins with the appearance of small maculae which are located around the hair follicle. As a rule the nidus of the affection doesn't cause any unpleasant (Further the maculae grow along the periphery, interflow and form nidus with uneven, scalloped edges.) subjective feelings but in some cases there can be slight itch. In the different climatic zones there can be observed various coloration of the nidus (even with violet tint). Negroes have more light tint of the affected place on the background of black skin. Such peculiarity of the color variety gave the reason to name the disease as the Pityriasis versicolor and the presence of small squame on the surfaces of the nidus affection - to name it as rash-liked herpes. The disease can exist for many years and often even after the valuable treatment it can give relapse. Under the action of sun isolation the fungus colonies are perished, and hypochromic or achromic (the loss of pigment) maculae that often resemble vitiligo or syphilitic leukoderma are formed on the places of the affection; (the homy layer of the skin exfoliates). It happens because the fungus colonies don't pass ultra- violet rays into the deep layers of the epidermis

	and melanocytes don't produce melanin in the affected places and the all around skin is covered with sun-tan. When the tan is over these maculae disappear as a rule. **The diagnostic** of the Pityriasis versicolor is not difficult. The diagnosis is made on the basis of the typical appearance and location of the maculae and the presence of small peeling on their surfaces. In active form this herpes must be differentiated from syphilitic roseole and Gibbert's pink herpes. The syphilitic roseola and maculae during the pink herpes have round and oval shapes, and they don't grow on the periphery and do not flow together. The syphilitic roseola doesn't peel and the maculae during the pink herpes only can peel in the center, leaving brightly-pink thin rim along the periphery (the symptom of medallion) and their ovals are on the cleavage lines (or Langger's lines). During diascopy the syphilitic roseola and maculae of the pink herpes disappear and during Pityriasis versicolor they stay. In the complicated causes for the differential diagnosis it can be conducted the sulfur reactions determination which are always positive in the secondary syphilis. The semi- leukodermoid maculae of the Pityriasis versicolor must be differentiated from the syphilitic leukoderma, the difference is in their places of localization and their uneven scalloped outlines. A number of additional methods of analysis (research) is also used for the diagnostics of the Pityriasis versicolor. The most significant thing in such diagnosis is the defections of the mycelium threads in the squamae taken by scraping from the affected parts of the skin. It can be done by microscopy. The so- called Balzer's test has also the diagnostic importance. The affected parts of the skin are painted with 5% iodine or 1-2% solution of methane blue or brilliant (ethyl) green. Because of the fact that the fungus loosens the horny layer of the epidermis, the affected sections (parts) are painted with iodine more intensively or with aniline dyes. In syphilis and pink herpes Gibbert's test is negative. During the Pityriasis versicolor in the affected places it's also possible to observe (to mark) the positive symptom of "chips" or "hit by a nail" (the exfoliation of squamae during scraping them by a nail). The luminescent diagnostics can also be applied, especially for finding out any affections on the hair part of the head which has the special significance for the right valuable treatment. In the

	rays of the mercury-quarts lamp which passed through Wood's filter, the maculae of the Pityriasis versicolor shine with red-brown or yellowish color. **Treatment** is mainly based on the prescription of exfoliate and anti-parasitical means. For this purpose 10% sulphurtaric or 15-33% sulphuric ointments and nitrofungin (lat. Nitrofunginum) are applied. Also Demjanovytch's method of the skin treatment can be used: after having a shower in hot water with soap (for steaming out the skin) 60% solution of sodium thiosulphate is rubbed in to the skin and soon it must be covered with small crystals of this salt in the result of evaporation. After that 6% solution of hydrochloric acid is rubbed. The following solutions are used for the treatment of the Pityriasis versicolor spirit infusion of white hellebore, (especially in the affection of the hair part of the head), Andriasian's solution (10,0 of Urotropin [lat. Urotropinum]; 20,0 of glycerin; 70,0 of 8% Acetic acid). In the resistant forms for the treatment of the given herpes Wilkinson's ointment is used for rubbing into the skin. In the cases of separate nidus the painting with 5% iodine will be enough. Such treatment proceeds for 4-10 days and after its completion all under - and bed - clothes are changed. For prophylaxis of the disease relapses it's necessary to rub daily the skin with 2% spirituous solution of salicylic acid during several weeks.
Erythrasma	ome authors consider that the pathogen of erythrasma is the fungus Corynebacterium (microsporon) minutissimum from the family of Actinomyces but on the basis the erythrasma is unable to be treated by Griseofulvin (lat. Griseofulvini [Fulcini]) unlike other fungous diseases, and it can be treated by erythromycin (lat. Erythromycinum) lately the most of authors believe to consider to be the pathogen, and that the disease belongs to semi-mycosises. And as in the Pityriasis versicolor the pathogen is only in the horny layer of the epidermis and it doesn't affect nails and hair. More often the erythrasma can to be met in men than in women, and in children it occurs extremely rarely (very seldom). The folds are beloved place of localization of the erythrasma such as: inguinal - scrotal, into the axillas anal ones, under mammary gland in women. More seldom the erythrasma can affect other folds (the literature gives description of its localization in the spaces between toes of

	feet). As a rule, the limited nidus of the disease are not accompanied by any unpleasant subjective feelings but during the process spreading the slight itch can be noticed. The erythrasma begins with the appearance of the sharply limited pink-red maculae of uneven shapes which are enlarged due to their growth on the peripheralparts and during long existence they become brown-red. The maculae are covered with delicate rash-liked squamae. Sometimes a rim can be observed on the edge of the macula which is slightly increased above the surrounding surface. The erythrasma proceeding is chronic and it often relapses, especially in obese people with high perspiration. **The diagnosis** of the erythema can be confirmed by detecting of the coral-red luminescence which is observed under the ultra-violet rays that passed through Wood's Filter. Such fluorescence is caused by the water-soluble porthyrins , which are secreted by the pathogens of the disease in the process of their vital activities. The erythrasma can be differentiated from the epidermophytosis inguinal due to the absence of the marked rim along the peripheral parts of the macula, highly inflammatory processes and vesicles. **The erythrasma treatment** is carried out in the same way as for the Pityriasis versicolor, with the exception that the flaking-out means are used in less concentrations, taking into consideration the erythrasma localization. 2% spirit solution of iodine, 3-5% salicylic spirit, nitrofungin, mycoseptin (lat. Mycoseptinum), ointment with undecylenic (or undecenoic) acid (undeculen, zincundan [lat. Zincundanum]. 5% Erythromycins ointment is of great effectiveness. For prophylaxis of the erythrasma relapses as well as for the Pityriasis versicolor daily rubbing with 2% spirituous solution of salicylic acid or chlorine quinaldine are conducted.
Dermomycoses	Dermomycoses are called Ssch diseases during which fungi while penetrating into the deepest layers of the epidermis cause inflammatory reactions of the skin. The epidermophytosis and rubrophytia belong to them. **Epidermophytosis** The epidermophytosis is an infectious fungous disease which affects the epidermis of glabrous skin and nails.

	Hair isn't affected during the disease. There are two types of this disease: the epidermophytosis of feet and epidermophytosis of folds. The epidermophytosis of folds (inguinal epidermophytosis or epidermophytosis inguinalis). Its name before was "eczema mardinatum" because during this disease there is an infiltrate rim with the eczema like reaction along the edges of the affection. Its pathogen is Epidermophyton inguinale Sabouraund. People get the infection while using: public bath, sponges, towels, thermometers and etc. There are descriptions of getting the infection of the inguinal epidermophytosis by sexual way. Heightened perspiration furthers this infection. More often the disease occurs in men, and children are affected very rarely. The disease begins with the appearance of red-brown maculae in the folds, rarely in the armpit folds or under the mammary glands in women. These maculae have round shape with squamae peeling on the surface and while growing along the periphery they get ring-like or garland-like shapes and not rarely they go out of the borders of the folds. The above- mentioned marked infiltrate rim along the peripheral parts of the maculae has on its surface various bullas, miliary nodules, papule-vesicles, small pustules, serous, or serous-purulent scabs (the eczema-like reaction). The fungal process can transfer from the inguinal sections to the skin surfaces of perineum, umbilicus, pubis, buttocks and even poplitea foveolas. Subjectively the patients feel the intensive itch. At the beginning the disease proceeds sharply, getting further its chronic character with periods of exacerbation and subsidence. Such process can last for months or years especially in the patients that suffer from diabetes, endocrine disturbances, hypovitaminosis, vegetoneurosis with high perspiration and etc. The diagnostics of the inguinal epidermophytosis is not difficult. The diagnosis is made on the basis of the affected localization and its typical clinical picture. The disease must be differentiated from the erythrasma during which the infiltrate rim on the periphery is absent or it is not marked very much without the papule-vesicles presence. The microscopic examinations can also confirm the diagnosis. In the acute form with the presence of sharply expressed inflammatory processes it's advisable to prescribe to foment (to make lotions) 2% solution of boric acid or 1-

	2% solution of tanin (lat. Tanninum). Further in the chronic proceeding of the disease it's also advisable to apply iodine solution, to paint the affected places with 2% spirituous solution of iodine, with ointments containing salicylic acid, tar and sulfur (1,0 salicylic acid, 2,0 sulfur, 20,0 Vaseline), Zincundan, Undecin (lat. Undecinum), Mycoseptin, Afungyl, Locacorten-vioform (lat. Locacortenum-vioform), Nizoral ointmentand etc. Daily rubbing of the skin with 2% solution of salicylic spirit and powdering with talc or boric acid relapse after the treatment for prophylaxis of the inguinal epidermophytosis. The dermatophitus is one of the most spread dermal diseases. In some regions of Ukraine the sick rate (the prevalence of the disease) of the disease among its population makes up 60-70%, and in some contingents of people (miners, soldiers, sportsmen) this rate is up to 100% and that's why in the foreign literature this disease is often called as "the athlete's foot" It is caused by the fact that the athlete's foot as a rule is transmitted in the public bath-houses under favorable conditions (the pathogen appearance in squamae which stay on the surfaces, the maceration of the epidermis, of the feet skin and spaces between toes during steaming out). The epidermophytosis of feet is caused by the pathogen-fungus Trichophyton mentagrophytes interdigitale (Kanfmann - Wolf). The following forms of the epidermophytosis of feet are defined: squamous, intertriginous, dishidrotic and epidermophytosis of nails. The squamosal form of the disease is displayed in the appearance of squamae or ring like peeling on the soles and in spaces between toes of feet. The skin is delicate pink color, from the over-hanging fragments of the horny layer of the epidermis along the peripheral parts of the nidus there appear "skins" In some cases only slight peeling without any marked inflammation is observed. These are so-called "effaced forms". Subjectively the patients complain on slight itch. In the case of the fissures appearance there can be joinedthe secondary pyococcus (pyococcal) infection. Along with the named form the hyper-keratosis form can be met during which are diffuse thickenings of the skin covered with squamae and fissures. In such cases the

	patients complain on pain in soles. The treatment of the squamosal form of the feet epidermophytosis is based on the prescription of some fungicide solutions (3-5% spirituous solution of iodine, Kasteliani's solution Nitrofungin), smearing the skin with tar-sulfuric, salicylic ointments, Zincundan, Undecin, chlorine quinaldine, Amycazol (lat. Amicazolum) Beta-oil ointment [soft petroleum ointment Vaseline], Aphungyl. Also the exploitative ointments of whitefield [whitefield's ointments] can be used (0,1 Benzoic acid; 2,0 salicylic acid; 30,0 Vaseline) or Arievitch's means (6,0 lactic acid; 12,0 salicylic acid; 82,0 Vaseline). After the completion of the treatment for the prophylaxis of the disease relapses it's necessary during several weeks to rub the spaces between toes with 2% salicylic or 1 % thymol spirit and to powder with 10% boric powder. As a rule inter-tri-ginous form of the feet epidermophytosis develops from the squamosal one though it can appear as a primary affection. More often this form is located in the 3-rd and the fourth spaces between toes, but also in the neglected cases it can affect the skin of all these spaces as well as the toes pads and the back surface of the foot. The clinics of the form is characterized by maceration of the homy layer with further appearance of slight reddening, and formation of the sections of swelling with vesiculation, fissures and wettings. This process rarely occurs with the back of the foot. In the further development of the disease such itch increase, causing paint and burning. The diagnosis is made on the basis of the typical clinic and in the cases of any doubt the microscopically examination is applied. The treatment of inter-tri-ginous epidermophytosis in its acute form starts with the prescription of the medicated small bathes with potassium-permanganate solution and 1-2% solution of Resorcinol (lat. Resorcinum). After subsidencing of the acute inflammatory processes and stopping of wettings the nidus are smeared with 1% solution of aniline dyes, 2-3% solution of iodine, Kasteliani's solution, and later on the fungicide ointments are rubbed like in the squamosal form. For the prophylaxis of any relapses after the completion of the treatment there are applied a number of dusting powders which contain zinc oxide, talc, 3% serum, salicylic acid,

	10% boric acid. Along with the external treatment some desensitizing means, injections of vitamin B1, nicotinic acid etc are applied. The dyshidrotic epidermophytosis is the most serious form of the feet mycosis. As a rule this form begins its development on the sole skin, especially on its insteps. The clinical picture is characterized by the appearance of small vesicles in the homy layer. They are as big as millet grains that reming (look like) sago grains. The process is sreaded on the side sections of feet and on the toes surface from the side of the sole. The vesicles are quickly interflowed, forming multi-cell bullas. In the beginning the contents of the vesicles and bullas are serous or slightly turbid and then they can become purulent and covered by dark-grey scab while drying up; after its falling away the pink sections of the skin, covered with squamae or the erosions with the over-handing fragments of the horny layer of the epidermis are formed. Such rashes cause intensive itch. Often the process is observed to become complicated by pyogene infection and in the result of this the vesicles and bullas are formed into pustules. In some patients the rash appear on the skin sections that are remoted from the main nidus (stomach, hands, breast). This rash has allergic character and it's called epidermophytids. Such secondary reactions are developed typically as the dyshidrotic eczema (papule-vesicular, erythemato- squamal elements), that's why it is considered that due to their mechanism of development they stand close or are identical to the eczematous process. Histologically during the dyshidrotic form of the epidermophytosis everyone can observe the spongiosis nidi in the malpighian layer, the cell vacuolization in the prickle cell layer of the epidermis, small empty spaces. The threads of the fungus mycelium are found in the homy layer. The moderate vascular distention with an infiltrate around them is marked in the papillary layer of the derma. The infiltrate consists of neutrophils and lymphocytes. It's necessary to differentiate the inter-tri-ginous form of the epidermophytosis of feet with eczema. During the epidermophytosis in the most cases the affection has unilateral charactere, it has clear shapes of efflorescence and forms evident inflammation. The final diagnosis is made on the basis of the positive result of microscopic

	analyses for the fungi. The treatment of the dyshidrotic form of the epidermophytosis of feet must be complex. For the general therapy on the basis of the supposed allergic genesis of the disease development the desensibilizative means are used. They are the following: intravenous infusions of 10% solution of calcium chloride or intramuscular of calcium gluconate (lat. Calcii gluconas), antihistaminic preparations, 0,5 of ascorbic acid tree times daily, injections of vitamin B1 and nicotinic acid [vitamin PP], sedatives. In the acute form of the disease, externally and temporarily until the subsidence of acute inflammations the following means can be prescribed: corticosteroid ointments for rubbing (prednisolonic, hydrocortisonic, triamcinolonic, lorinden "C" ointments and others), lotions of 25% (3,0) solution of Resorcin, silver nitrate, 1-2% solution of Tanin, 2% solution of boric acid, 0,05% solution of furacilin, 0,1% solution of rivanol. The erosions, which are formed after opening vesicles and bullas, are smeared with 1% solution of methyl blue [lat. Methylenblau], Kasteliani's solution. After the subsidence of the mentioned above processes it's advisable to use the following flaking-out and antifungal ointments. 5% Borico-naphthalanic, 2% Ichthyolic ointments, Mycoseptin, Zincundan, Undecin, 3-5% sulfur-taricointment, nozoral and ect. Further such dusting powders as 10% boric acid, 1-2% salicylic acid, zinc oxide and talc with addition of 3% sulfur. In the case of complication of the dyshidrotic form of the epidermophytosis of feet by the secondary infection it's necessary to prescribe antibiotics or sulfanilamide. The epidermophytosis of nails is observed only on the toes of feet. The nails of great toes and little toes are affected more often but nevertheless the nails of all toes can be also affected. There appear yellow maculae and yellow stripes in the trickiness of the nail plates which gradually are joined together and spreaded along the whole nail plate. The nails are thickened, deformed, located over the skin level, crumbled and broken. At the same time the under-nail hyperkeratinization develops. The diagnosis of the epidermophytosis must be confirmed by microscopic examination for the fungal discover. The treatment of the fungal affection- of nails is complicated. It's necessary first of all to apply perorally anti-fungal antibiotics such as Griseofulvin and Nizoral.

	The first one is prescribed for the patient with the epidermophytosis and according to his body weight. If the patient's weight is up to 60kg, then it'll be 1 tablet 4 times a day, from 60 to 70kg - 5 times daily, from 70 to 80kg - 6 times a day, from 80 to 90kg - 1 time and with the weight more than 90kg 8 times daily during 1 month, and next 3 months - in a day. Nizoral is prescribed in the dose of 1 pill daily during a month. It's necessary to notice that the anti-fungal antibiotics must be taken after meals because they are not water - soluble and they are imbibed together with fats. The principle of the external therapy is based on the preliminary extraction of the injured nail by surgical or therapeutic way with the help of keratolytic means with further smearing the nail bed with fungicidic preparations. The nail extraction with the help of the keratolytic means is carried out with the application of the ureaplast, the ointment with potassium iodide or Na2S. The ureaplast is a plaster containing 20% of urea. For its preparation we need: 20 gr. of urea are diluted in 10ml. of hot water and pour it into the melted mass of the plaster which consists of 45gr. (of) lead plaster, 20gr. (of) lanolin and 5gr. (of) bee wax. The ureaplast or the ointment with potassium iodide (potassium iodide and lanolin in the same proportions) is put on the nail plate in a thick layer and then it is covered with paraffin paper and fixed by court plaster or bandaged and living them for 4-5 days. After complete softening of the nail plate, it's scraped with the help of a scalpel. After the nail extraction the nail bed must be rubbed for a long time with 5% spirit (nous) solution of iodine, Nitrofungin, Kasteliani's solution, tar-sulfiiric ointments. For the liquidation of the forming homy masses from the nail bed it's recommended to put a bandage, with the ointment, containing 5-10% salicylic acid for 2-3 day. Generally, the treatment lasts for several months. Taking into consideration the considerable spreading of the epidermophytosis of feet and high contagiusness it's become understandable the great significance of the public and individual prophylaxis of this disease. The public prophylactic measures include first of all the popularization of the needed information about the clinics and ways of spreading of the disease among inhabitants. For this purpose publications in the press, giving lectures among

	the population, etc are provided. It's also necessary to carry out regular medical examinations of the personal of bath-houses, swimming-pools, shower-baths, especially observing attentively the skin state of folds. A number of authors observed during their researches that wooden arches and furniture in the bath- houses make good medium for the fungi and that's why they are needed to be painted over by oil-paints and to cover floor with linoleum. At the close of the day all branches, arches, as well as all plates and dishes have to be disinfected with 5% Chloramin (lat. Chloraminum), 5% Formalin (lat. Formalinum), Lysol and 2% soda with further sponging down them by hot water with soap powder. It's also recommended to make special additional accommodations for washing feet before leaving both-houses ("water rugs"). For individual prophylaxis of the epidermophytosis of feetand after its treatment as well as in the cases of using somebody's foot-wears. It's necessary and advisable to make their disinfecting. For this purpose the foot-wears are sterilized in the parafonnalinic cameras or rubbed with 10% solution of Formaldehyd (lat. Formaldehydi solution) (it's also possible to put news-paper impregnated with 40% solution of Formalin) and after they are put into the hermetically sealed sack for 48 hours and then they are aired for 24 hours. Socks and stockings are sterilized by their boiling for 10 minutes. To the individual prophylaxis also belongs the hygiene of the fold skin with the help of Vodka or 40% spirit and using boric acid mixture, zinc oxide and talc, as well as the elimination of all factors, (that) favoring heightened perspiration (application of small bathes for legs for 15 minutes daily. **Rubrophytia** The pathogen of this disease is Trichophyton rubrum. It is often called as red trichophyton due to its ability to affect Prenatal hairs and it takes middle place between epidermophyton and rubrophyton. In some cases the red epidermophyton can cause affections resembling dyshidrotic or inter-three- ginosis epidermophytosis, have high contagiousness. Mainly adults are ill with the rubrophytia, however lately there are cases of affections in children. Such affliction can be made during close contact with the affected person as well as by articles and clothes

	that are infected by the fungus. In the last case this affection can be made in bath-houses, swimming-pools and on beaches, etc. In the pathogenesis of the rubrophytia development the neuro-vegetative and hormonal disorders of organism, skin dryness in the presence of the hyperkeratinization, etc. take their active part. More often the Rubrophytia is localized on the skin of palms and soles, in the folds between fingers, in the inguinal and inter-buttock folds. The nails of hangs and soles are affected tog. In some cases this process can be spreaded on the glabrous skin of buttocks, stomach, breast, back and even on a face. In contrast to the epidermophytosis all spaces between toes of soles are affected with the same frequency. The skin gets lightly-pink coloring, it is thickened because of the hyperkeratinization and it is covered with small rash-like squamae. Th largest peeling is observed in the places of skin picture with the resulting lines of white colors on the affected surface. The separate disco-like nidus of the erythematic-squamosal type are observed on the skin of body and extremities. In the places of large folds there appeared small erythematic maculae of the chronic type, covered with follicular papules. On the soles and palms there can be observed mucous peeling and maceration in the spaces between toes. The maculae during the rubrophytia are able to grow along the peripheries parts, to flow together with further formation of the ring-like nidus and acute inflammatory processes in these sections. Vesiculation and sulfur-scabs are marked rarely. Only sometimes there can be observed separatly affections of nailswhich appears in the thickness of nails like grey-white yellowish maculae and stripes. Sometimes the nail plate can exfoliate from the nail bed. The rubrophytia is accompanied with significant itch, especially when this process takes place in the folds. In the pathogenesis of the rubrophytia development it's very important to pay attention to the irrational application of various diseases. The observations of the last years shows the possibility of the rubrophytia spreading by lymphogene (by finding out the fungal spores in the glands) or by hematogenic ways from the affected internals. During the process of the rubrophytia localization on the palms and soles its diagnosis doesn't make any difficulties

	and it is made on the basis of the typical clinical picture. The isolated affection of the spaces between toes of feet needs the necessary microbiologic confirmation for its diagnostics. The rubromycosis differs from the trichophytosis of glabrous skin by more clear borders with large scalloped edges and by the appearance ofnidus of small follicular papules along the periphery. The rubrophytia especially in children differs from the diffused neuro- dermatitis only by the marked inflammatory processes, by the lichenification absence and clear borders of the affections nidus. The final diagnosis is determined by finding out the rybrophytia pathogen. For the general therapy of the rubrophytia in all its forms such preparation as Griseofulvin (lat. Griseofulvinum) is applied at 15mg. per 1kg of body weight of the patient. During the first 20 days the drug is taken every day and during the next 20 days - in a day. Because of the fungistatisis of Griseofulvin it is necessary to apply it without any interruptions. According to some authors' observations Griseofulvin doesn't destroy the fungus, it has only the so-called "concurrent" affect, so in the cells impregnated with this preparation the fungus can't parasitize (the presence of the mycelium threads and spores in the upper sections of hairs and their absence in the growing parts). In this connection it is recommended (advisable) to cut hair during the treatment with Griseofulvin. Simultaneously with the general therapy the local one is prescribed, and its method of application is based on the peeling measures of the homy layer of the epidermis with further rubbings the nidus of the affections with fungistatic means. For the exfoliation Whitefield's or Arievitch's ointments can be prescribed (see "the treatment of the squamosal form of the epidermophytia of feet), and fungicidal keratolytic lacquer of the following content: 2,0 of iodine, 5,0 of ethyl alcohol; 5,0 of carbolic acid; 12,0 of salicylic acid; 6,0 of lactic acid; 10,0 of acetic acid; 10,0 of tar; 6,0 of resorcin; 100,0 of Collodii elastici ud. The lacquer is put on the affected surfaces of soles and palms during 3-4 days and daily. After the peeling of the affected sections they are smeared with 2% solution of iodine or are rubbed with 10-15% sulfuric ointment 2-3% ointment with tar or Wilckinson's

	ointment. The treatment of the nails affection is carried out like in the epidermophytosis of feet.
Trichomycosises	This disease belongs to the diseases during which the glabrous skin, hair and nails are affected and in the result of this the inflammatory reaction from the deep layers of the skin cellular tissue appears (derma or hypodermic fat cellular tissue) The pathogens of these groups of the diseases (trichophytosis [lat. Trichophytiae], micro-spore, honeycomb tetter) have high contagiousness, they grow well on the nutrient mediums and affect animals skin and more often they can be met in children due to their insufficient resistance and morphological immaturity of keratin of the homy layer of the epidermis. Trichophytosis (lat Trichophytiae) This disease can be caused by authropophilic or zoophilic fungi. The anthropopilic fungi parasitize on the skin and its appendages do it only in people (Trichophyton violacenm and Trichophyton crateriforme). These fungi are also named as Trichophyton endotprix because of their location in the middle of a hair. The zoophilic fungi (trichophyton gypseum and Trichophyton faviforme) al€ located around a hair and that's why they are also named as Trichophyton ectotrix. The antropophilic fungi cause the so-called surface trichophytosis and the zoophilic - infiltrate fungi - the purulent (deep) and they can parasitize on animals (cattle, horses, cats, dogs, mice and etc.). The surface trichphytosis in its turn is subdivided according to its localization into the surface trichophytosis of the glabrous skin and the hair parts of the head, beard and moustaches in men. The surface trichophytosis of the glabrous skin appears mainly on the opened parts of the body (on the skin of faces, necks, upper extremities) in the form of one or several clearly limited pink macula enlarging due to their growth along the periphery. The macula surface is covered with the rash-liked peeling with overrising edges. On the regional rim there can be observed small vesicles and serous scabs. As the result of the maculae growth along the periphery and after some time there can be formed a new ring with a rim in their center (the inoculation process). During the separate

	maculae interflowing the nidus of queen form with scalloped edges are formed. As a rule the subjective feelings are absent or the patients feel only slight itch. In some cases during the surface trichophytosis of the glabrous skin there can appear erythematous disks covered with numerous small vesicles (or vesicular form). These vesicles are quickly dried out with the further scabs formation and new vesicles are formed on their places. Histologically it can be observed the slight achanthosis in the prickle - cell layer (the homy layer loosening). In the dermis there is a slight tumor of the papilla layer, vascular distention and the cellular infiltrate. The surface trichophytosis of the hair parts of the head is accompanied at first by the appearance of one or several nidus of erythematous affections of round or oval forms with 2-copecks coin shape which are enlarged along the periphery and are covered with squamae. After the fungus penetration in the hairs, they are broken off at the distance of 1 -2 mms over the skin surface with the resulting formation of the so-called "cut off sections". Sometimes the hairs can be broken off on the skinlevel and then the nidus take the appearance of black spots that resemble camedones. The process is spreading along the periphery and the disease can exist for many years without any unpleasant subjective feelings. During the surface trichophytosis of moustaches and beard in men forming the rim-like nidus with the broken off hairs on the skin level (the black spots). The trichophytosis of the hair parts of the head must be differentiated from the favus and micro-spore. The last one differs by more large shapes of the nidus, the hairs are broken off more higher (4-8mms over the skin level). In some cases this disease can resemble the seborrhea or vulgar impetigo. The result of the fungal analysis makes the final diagnosis. The infiltration-purulent (deep) trichophytosis is characterized by its intensive inflammatory processes with formation of pustules and necrotic masses. During the glabrous skin affection there are formed infiltrations of the deep-red color covered with the follicular pustules covered in their turn by massive purulent scabs. On the infiltrates surfaces there are marked rash-like peeling. Due to their outlying growth the infiltrations can reach their

	shapes in 6sm and more in the diameter. In the process of infestation by Trichophyton ectotrix on the hair parts of the head, beard and moustaches (in men) there can appear the deep nodulose-follicular abscesses of regular round shapes as large as a walnut and even larger. After pressing on their surface there are exuded drops of honeyed-yellows pus out of the hair follicles together with hairs. This phenomenon is named as "the symptom of honeycomb" and it was described by the ancient Roman doctor Celsus. The deep trichophytosis of the sections of moustaches and head is called "the parasitic sycosis". As a rule this disease causes strong pain in the affected places, lymphadenitis, lymphangitis, high temperature. The deep trichophytosis nidus after existing for several weeks are resolved independenly without any treatment leaving pigmentation and pulled inside follicular cicatrices. Histologically in all layers of the derma it can be observed the cellular infiltrate which mainly consists of neutrophiles and the low number of lymphocytes on its starting stages of the disease. Later the infiltrate represents mainly lymphocytes, plasma cells, eosinophiles (eosinocytes) and also giant cells of langans type. In the upper part of the hair follicle these neutrophiles form a massive infiltrate. The hair follicle is becoming widen and it is filled with pus and there is a hair inside of it that has lost its connection with the follicle. Some follicles as well as sebaceous glands are completely destroyed and some cavities filled with pus are formed on their places. Around the follicles in the derma there are highly enhanced vessels, the elastic and collagen tissues are destroyed with the further presence of the numerous argentophilic fibers. On the place of the granulation tissue a cicatrice is formed. The nails affection in the trichophytosis is observed in 30% cases among adult, children are ill with the disease comparatively rarely. More often the finger nails are affleted. Such nails lose their brightness and get dimly, dirty- grey color. The free edges of the nails look as if being bited, their surfaces are covered with cross fissures. At the same time some other nails are affected, they are thickened because of the subnailed hyper-keratinization and are crumbled. The subjective disturbances as well as the inflammatory processes of the rim are absent. The chronic trichophytosis is observed mainly in women

	especially during the hypofunction of the thyroid and genital glands. More often the hair part of the head (black spotted trichophytosis) and nails are affected. And on the glabrous skin the surface trichophytosis is located more often on forearms, shins black of the hands, buttocks, on the inner surfaces of the elbow and knee joints. On the occiput and on the side surfaces of the scalp the hair is broken off on the skin level, taking look of black spots and the skin peels and resembles the seborrhea. On the glabrous skin there are formed erythematous (erythematic) - squamosal nidus, pale-pink maculae without clear borders and of anomalous shapes. Their squamae can be of the rash-like or small-plate appearance. Sometimes there can be observed small papulous rashes that can be grouped or can form rings. On the palms and soles along-side with the peeling there can be the hyper-keratinization. The subjective feelings during the chronic trichophytosis are slight. Nails are affected approximately in the third part of the patients. They are thickened, become grey and begin to crumble. The free nail edge separates from the nail bed. In some cases in the affected by the trichophytosis patients there can appear allergic rashes on the distant skin sections from the nidus of affections - the so-called trichophytides. More often they appear during the deep trichophytosis in the result of irritation or irrational treatment of the nidi. These trichophytides can be displayed as the scarlatiniform erythema, parapsoriasis, spreaded eczema and etc. Two forms of the trichophytids are distinguished: the lichenoid and the scarlatiniform ones. In the first form there appear brightly-red miliary papules with follicular distribution. The trichophytides surface peels. After 3-4 weeks the process is resolving. The scarlatiniform trichophytides are located mainly on the body skin and occupying sizable area they appear in the form of small roseolous maculae of the brick-red color. In some places they are interflowed especially in the folds and resemble the scablstional erythema. As a rule the trichophytides rash is accompanied by high temperature, pain in the joints and blood leakocytosis. The trichophytides development depends on the penetraion into the blood system the metabolic products of the fungus (toxins), the process that makes the allergic evolution of organism with the allergic appearance. The neuroreflex changes also take

	part in this process. The intradermal tests with trichophyton in the patients with trichophytes give the highly- positive reaction.
Microsporia	This disease can be caused by zoophilic fungi - (Microsporum lanosum) and anthropophilic fungi Microsporum ferrugineum. Both types of the named fungi are highly contagious and mainly children are ill with this disease (microsporia), and they can be afflicted both from domestic animals (cats, dog) and from the affected person (man). The infection can also be transmitted through the household articles or the fungal mycelium. The incubation period during the microsporia lasts from several days to 6 weeks. Mostly the disease affects the glabrous skin and the scalp. As a rule this process has the surface character, nails are afflicted extremely rarely. On the glabrous skin there appear pink maculae with clearly limited round forms and slight peeling, separate vesicles and serous scabs are observed on their surfaces. The maculae grow along the peripheral part and get the shapes of a metal Hryvna or some more, some paleness (pale coloring) appears in their center - the process of regression is coming. Sometimes in the result of inoculation there appears a new nidus in the center of the maculae and the ring inside the ring is formed; the maculae can flow together and form odd figures with large – scallops edges. There can be marked inflammatory reaction during the microsporia caused by Mycrosporum lanosum (the lanugo microsporum) and in some cases it can even be with the formation of kerio-liked infiltrates (the so-called deep infiltrative microsporia) that occurs extremely seldom. Lanugo hairs are often affected during the microsporia of glabrous skin. The microsporia of the scalp is typical by formation of 1- 2 quite large nidus of right round shapes with clear borders. During the microscopia caused by the anthropophilic fungus there can be formed many small nidus with irregular shapes, especially on the scalp periphery that further on are flow together between each others. The skin is inflammatory in the affected places, it has pink color and is covered with squamae and sometimes with small vesicles. The hair on the sections are dim, greyish and almost all of them are broken off at the height of 4 - 8mm. above the skin level. On the pulled out hair there can be seen a small greyish white case around it; and around the nidus of affection there are

	riddlings that were formed in the result of inoculation. This microsporia can also be displayed in the form of pityriasiformical diffuse peeling or small scabs appearance. In connection with the typical clinical picture of the microsporia its diagnosis is not difficult. It's possible to differentiate the microscopia with the surface trichophytosis on the basis of the fact that hairs are broken on higher level and the intensive asbestos-liked peeling is presented. The luminescent diagnosis is of particular importance for the nidus lighting by ultraviolet rays passed through the violet glass (Wood's filter). The skin sections and hairs affected with the fungus can fluoresce with bright-green (emerald) light. During this process even small nidus can be found that is significant in detecting cases of affection with the microsporia among children in collectives (kindergardens, schools) and in controlling the therapy effectiveness and the treatment completeness. The final diagnosis is confirmed by detection of the mycelium threads and spores in squamae and hairs during the microscopic examination. Histologically during the microscopy there can be observed slight thickening of the epidermis, acanthosis, swelling and vacuolization of the malpighian layer cells, slight spongiosis in the homy layer of the epidermis, parakeratosis and the presence of exfoliated squamae. In the derma there can be noticed slight swelling, vascular distention and perivascular lymphoid infiltrates. The small fungal spores wrap up each hair with a wide layer, forming the so-called "little case". The mycelium threads are also take their places over the hair cuticle.
Candiasises	The candidasies pathogens are the yeast-liked fungi (Candida)- the most spread representatives of the conditionally - pathogenic flora which cause the disease in the cases of the resistance disturbance of organism. The unaffected skin and mucous membranes, the acid reactions of their surfaces, the presence of free fat acid, the constant physiological peeling of the epidermis, the extraction of lyzocite by mucous membranes, the secretory immunoglobulin A and other preventive factors sufficiently effectively counteract the penetration of the fungi of Candida type. To the factors that promote the candidiasis infection development belong mechanical traumas of the skin or mucous membranes, high humidity

	and temperature of the surrounding environtment, the skin perspiration, pregnancy, hypovitaminosis and iron deficiency, the following endocrine diseases (diabetes mellitus, hypocorticoidism, hypoparathyroidism, obesity), immunodeficient states (leurosis, lymphogranulomatosis, AIDS), chronic intoxications (alcoholism, narcotism), disbacteriosis, infectious diseases (tuberculosis, chronic pneumonia and etc.). The main pathogen of the candidiasis in a man is Candida albicans, the constant representative of microscopic flora of people, animals and birds. The yeast fungi as Candida albicans or monilia don't form spores, they have pseudomyceliums and propagate themselves by gemmation. The candidiasis of mucous membranes more often occurs on the oral mucosa in the appearance of stomatitis, glossitis, tonsillitis. The affection can also be in the form of intertrigo rashes (18,3%) onychine (onychitises) and paronychiae (17,6%), vaginitis (14,8%), balanitis (2,8%), jams (2,4%). After its taking off the bleeding surface is formed on its place. The mucosa is swollen. Subjectively there are observed oral cavity dryness and changes in taste perception. The following clinical forms of the oral mucous candidiasis are: the acute pseudomembraneous, chronic hyperplastic, acute atrophic, chronic-atrophic candidiasises. It can be rarely observed the mucous membrane affection of vagine (vulvovaginitis), which can occur either in adult women or in little girls. During this in the case with oral mucosa there appear greyish-white lid-like or film-like coating on the hyperemia background and intensive excretions in vagina and on cervix of the uterus. In such cases the patients suffer from intensive peeling. As casuistry it can also possible to observe the mucosa affection of a urinary bladder and urethra. The disease has a long-lasting character with frequent relapses. The acute Atrophic candidiasis more often develops on the background of prolonged application of broad - spectrum antibiotics or glucocorticoids. The tongue mucosa becomes glabrous, hypermiacal, thin and without papillas. During the chronic hyperplastic candidiasis of folds on the oral mucosa there appear transparent or white plaques with uneven bottom and irregular edges. The plaques are surrounded by hypermiacal narrow wreath. The development of the candidiasis of mouth angles (angular stomatitis [lat. Angulus infectiosus Candidamycoticus]) is

	furthered by their maceration by saliva during increased salivation; or by the habit to lick our lips. As a rule both muco - gingival (oral angular) folds are affected. There are formed erosions and painful fissures surrounded by nacreous – white edging of the macerative Homy layer. Gradually the mucous membranes of the affected place is infiltrated and because of this process the fissure is becoming aim-like. The fissure can bleed and cause drastic painfulness. During the years affection of the vermilion border, the transitory zone from the skin to the mucosa (Klein's zone) is mostly injured. On the background of the swelled hyper- mucosa there are formed islets of nacreous white layers with closely attached squamae. Also in some places there are formed fissures and small erosions. During the streptococci type of the disease [lat. Angulus infectious streptococcus] (the variant of impetigo) there can be observed honeyed-yellow scabs that cant be during the candidiasis. The candidiasis of external genitals mainly develops on the ground of cutoinfections, more often from the intestine or from the affected hands, rarely it occurs as affection from sexual partners. The development of the candidiasis vulvovaginitis is furthered by pregnancy, application of steroidical contraceptive means, antibiotics, gynecologic diseases, diabetes, hypovitaminosis and etc. The candidiasis vulvovaginitis is accompanied with the feeling of intensive peeling, especially in the premenstrual period, vaginal secretions of cream-like appearance. The following inflammatory processes are observed on the vaginal mucosa and on the external genitals: hyperemia, dryness, swellings, granulation, greyish-white layers. Sometimes in the section of small vulvar lips (labiums) and clitoris there appear small vesicles with thick walls, after which the dotted erosions with polycyclical outlines. These candidiasis rashes on the external genitals resemble leukoplasia or vulvar hraurosis. The candidiasis balanitis and balanoposthitis in their most cases are transmitted by sexual ways and that's why they are lately considered to be relative to the group of diseases that are transmitted by sexual ways. After sexual intercourse in several hours an the prepuce and penis there appears temperate hyperemia, little papules which transformed into pustules and vesicles with further formation of dotted erosions. Later on there appear white layers of the thurus (dotted) type on the erosions. During

	the recuring candidiasis balanitises and balanoposthitises it is necessary to examine the patient for the presence of diabetes mellitus. The surface intertriginosal candidiasis of folds (intertrigin blastomycosis) is mainly localized in the section of neck large folds, inguinal, arm-pit and anal regions, under mammary glands, around umbilicus, in abdominal folds, parotic folds and in spaces between toes. The disease begins with small (with the size up to of a match head) vesicles and pustules rash which quickly transformed into erosions that grow along the periphery, then they are flow together with formation of polyciclical outlines. The erosion surfaces are cherry-red color and lightly humid. There can be observed fissures with white layers deep inside the folds. Sometimes around the erosions there can be noticed new small nidus covered by besides and small pustules (the so-called "sittings" or " riddling"). Among the workers of confectionary factories and conneries there can be observed the candidiasis of spaces between fingers of hands (especially often of 3 spaces between fingers) as their professional disease. The candidiasis differs from the folds affections of other etiology by dark-red coloring of the erosions surface. Its final diagnosis is made on the basis of the microscopic and cultural investigations. The candidiasis of glabrous skin develops in the result of spreading of the process from the folds. The following two varieties of the glabrous skin candidiasis are differentiated: the erythematic and the vesicular ones. In the first form there appear erosive sections of dark-red color with glabrous shining surface on the skin. The appearance of dispersed vesicles with pinheads size on the erythematous or erosive background is typical for the second form of the disease. The candidamycosis (candidiasis) of nail folds and plates is mainly marked in adults and very seldom in children. The disease starts with the affliction of nail folds that are smelled. become red and painful. After pressing on the back part of the nail fold there often appears a drop of pus out from it and the fold looks as if he hangs over the nail. The nail plate affection begins from the lunula and lateral edges. The nail gets brown color, begins to crumble and becomes more thin. After some time the nail-plate in the lunula section is exfoliated from the nail bed. Candidamyrida (lat.) are developed rarely and they can appear as the paraallergic reaction on antibiotics

	application. Morphologically they proceed in the form of erythematic or papulo-vesicular rashes. The candidiasis treatment is conducted with taking into consideration the clinical picture of the disease, its process spreading, the localization of affected places. During spreading, torpidly proceeding processes the following anti-yeast (fungal) antibiotics are prescribed - Zevorin or Nystanin, perorally in the dose of 500.000-1.000 000 Units, 4-5 times daily during 2-3 weeks with simultaneous application of B-group vitamins, ascorbic acid and Rutin. In the acute period with considerable swelling, erosions, wetting it is advisable to prescribe lotions with Alibur's solution, 2% solution of Resorcin, 1-5% solution of Tannin, solution of Aethacridin Lactate [1 1000] (lat. Aethacridini lactas) and others. After calming down of acute inflammatory processes the affected regions are painted with water or spirit solutions of anilinic yeast (2% solution of methylene blue, Gentianviolet, Kasteliani's solution). The treatment is finished with ointments prescribtion: Nystatinic (3.000.000 units per lgr.), Zevorinic (5.000.000 units per lgr.); Nitrofuralenic ones, etc. It's better to use such combined preparations as Triderm, Travokort, Kanesten, Ketokonazol, Micoseptin, Nitrofungin, Eccoderile. During the affection of the oral mucosa it is prescribed painting with 5-10% solution of borax and Lugol's solution. The following anticandidiasis means of the present day for intravaginal application are used for the treatment of vulvovaginitis: batriphen, hyno-dactaryn, clotrymazolo etc. The nails blastomycosis is treated in the same way as during other fungal diseases (see "Epidermophytosis of feet").