Term	Topic content
Pemphigus Vera	Pemphigus Vera is a malignant autoimmune disease which declares itself as elaboration on uninflamed skin and mucous coats of bulla being developmental as a result of acantholysis and generalized for whole skin integument without appropriate treatment.
Etiopathogenesis	Aetiology is not investigated fully but autoimmune mechanisms are very important in pathogenesis. The circulating autoimmune antibodies of lgG type related to intercellular substance of prickle-cell layer and membrane antigens of prickle epithelial cells were discovered in organism of patient with pemphigus. For the now, there is no clear vision of autoimmune antibodies' action mechanisms during pemphigus vera. The patients have been discovered autoimmune antibodies for albumins of skin keratinocyte cell-cell becoming a part by desmos and forming relations between cells - desmoglein-3 (DSG3) and desmoglein-1 (DSG1). Interaction of autoimmune antibodies with DSG1 and DSG3 leads to acantholysis (breaking of cytoadherence between keratinocytes) resulting in formation of clefts filled up with subcutaneous water inside the epidermis and mucous coats and appearance of bulls. As far as epidermis growths the bulls are opens resulting in formation of anabrosis on skin and mucous coats. The difference in damages being observed during pemphigus vulgaris and during pemphigus foliaceus is aligned with distinction in localization and density of DSG 1 and DSG3 expression. Desmoglein-3 is expressed in deep layers of epidermis and in epithelium of mucous coats while desmoglein-1 is expressed in facial layer of skin keratinocytes. The expression of these desmogleins is observed mostly in cells of laminated epithelium. It depends on human's age and changes in accordance with allocation of cells in epidermis. It is understandable that bundling of autoimmune antibodies with DSG3 molecules on the surface of keratinocytes plays decisive role in process of acantholysis. Great significance in acantholysis induction the apoptosis has induced by failure of cells normal functioning because of lost contact with adjacent cells. It is proved that dominant class of autoimmune antibodies at pemphigus the IgG antibodies are of IgG4 subclasses mostly, more rarely these are antibodies of IgG, and IgG2 classes. The patients with active form of disease have the immunoglobulins of IgG, and IgG4classes as main autoimmune antibodies. The patients in disease-free

	survival the dominant antibodies are antibodies of IgG, class but they also have antibodies of IgG4 class since its dilution is much less than at recrudescence of disease. The result of antibodies action is an attenuation of intercellular substance and destroying by desmos i.e. loss of connection between epidermal cells (acantholysis). As a result of acantholysis the acantholytic bullas typical of Pemphigus Vera are appear in epidermis (in distinction to pemphigoid).
Clinic findings	There are four clinical forms of pemphigus vera which are vulgaris (common), seborrheal (pemphigus erythematosus), vegetans and foliaceus.
Pemphigus foliaceus	declares itself by bulla which has soft rugate tegmentum, layered scaly furfur and crusts. The differential characteristic of this form is absence of regeneration under crusts and formation of new bulla on place of cicatrization.
Pemphigus vulgaris	occurs more often in comparison with other types of pemphigus vera. As a rule, the disease begins from damage of oral mucosa and throat which could exist separately during few months. Bulla breaks fast and transforms into painful bright-red or covered by whitish deposit of anabrosis bordered by pieces of epithelium (residues of bulla cover). Then bulla appears on skin. Bulla are located on externally unchanged skin and they full of transparent serosal content. After existence during few days the bullas are open having been left anabrosis of bright red color. Sometimes their content becomes opacity or suppurative. Common condition of patients is satisfactory at first but it becomes worse gradually. The weakness appears and a low-grade fever. Anabrosis are epithelized slowly.
***Pemphigus seborrheal (erythematosus*)**	occurs on seborrheal areas of skin (face, hairy part of the head, cervix, dorsum). It is characterized by occurrence of spots and soft surface bulla with thin tegmentum which are fast-transformed into scaly crusts. After crusts being removed the wet eroded surface is open. The formation of bulla could be hidden resulting in impression of primary appearance of crusts which reminds seborrheic dermatitis. As distinct from pemphigus vulgaris the course of disease is long-standing and relatively nonmalignant. The common condition of patients is agglutinin aggravates at condition of prominent prevalence rate of process only.
Pemphigus vegetans	is characterized by such differential characteristic as appearance on the bottom of bulla of enlargements in form of vegetations which overhang over the faying surface. Typical places of hives localization are outer genital organs, big sentinel piles, inner

	surface of hips, oral mucosa.
Diagnostic	The criteria of diagnostics for pemphigus vera include clinical and laboratory evidences of presence of acantholysis in epidermis and epithelium of mucosa coats. There are seven most criteria distinguished: typical clinical picture of damage, the bulla on unchanged skin, long-standing anabrosis on skin and on unchanged oral mucosa, conjunctiva, nasal mucosa, genital organs. There are residues of bulla tegmentum could be observed on the periphery of anabrosis; Nikolsky s sign on externally unchanged skin. At weak tension by finger of outwardly healthy skin near the bulla and sometimes far from them the lamination of epithelium surface layers occurs with formation of anabrosis. This phenomenon is considered to be most informative at diagnosis of all types of pemphigus. However, it is not pathognomonic; Nikolsky s edge sign (while pulling by forceps of pieces of bulla tegmentum the lamination of epithelium out of borders of visible anabrosis occurs); Asboe-Hansen sign. Pushing the bulla leads to increasing of its square; determination of Nikolsky's and Asboe-Hansen's signs are important diagnostic clues for establishing of provisional diagnosis, however, they are non-specific, the cytological, histologic and immunomorphologic approaches are used for diagnosis confirmation; cytological approach of diagnostics (cytodetection by Tsank) provides obtaining of impression smears from the bottom of fresh anabrosis. For this the object carrier is used which is solidly applied to the surface of fresh anabrosis. For getting of smears from anabrosis on mucosa coat of bony and soft palate and throat the mediated approach of its obtaining is used, the soft scraping of anabrosis surface is performed by blunt depressor or by nutrient spoon avoiding visible damage of surface and escape of blood after which the material being taken from the bottom of anabrosis is applied carefully to the object surface in form of smear. Obtained smears are dried and painted by the method of Romanovsky-Gimza. During further microscopic evaluation of specimens the Tsank's acantholytic cells are determined. This is a changed cells of spinous layer which were subject to acantholysis, degenerated and thus obtained morphological and tinctorial properties which differs them from normal cells of this layer: they are round (oval), disengaged, and less than normal epidermal cells by size; the nucleus of acantholytic cells are painted intensively; there are two or three small nucleus could be discovered inside the enlarged nucleus; cytoplasm of cells is extremely basophilic and is painted unregularly; the light-blue area is formed around the

	nucleus and the condensation of painting in view of intense blue border occurred on periphery; under pemphigus the acantholytic cells could form a symplast cells which have several nucleus. Histologic approach of examination is one of the most and obligatory while confirmation of pemphigus vera diagnosis. It is necessary to biopsies the fresh bulla or marginal layer of anabrosis with pinch of undamaged skin. The most earlier histologic changes in epidermis under pemphigus vera are vacuolar degeneration and disappearance of cell bridges in bottom part of spinous layer. Because of acantholysis the clefts appears inside the epidermis and then a bulla located suprabasally (i.e. over basal layer of cells, intraepithelial). The typical histologic characteristic under pemphigus vera is also discovering of separate changed prickle cells which after loss of connection with each other are left attached to the layer of unchanged basal cells. Immunomorphologic approaches play decisive role in diagnostics of pemphigus vera. Even at early developmental stages the approach of direct ELISA on frozen skin sections allows to discover the deposits of class G immunoglobulines and complement localized in intercellular space of epidermis (greenish fluorescence). The approach of indirect immunofluorescence in blood and bulla liquid allows to discover high dilutions of autoimmune antibodies (IgG) in relation to proteins of elements by desmos. The height of their dilutions is straight correlate with heavy of section for pemphigus vera.
Treatment	Till now, the causation of pemphigus vera is not known so the treatment of this group of diseases is left pathogenetic and directed to depression of fusion of autoimmune antibodies to the proteins of epidermis spinous cells' desmosomal linkages. The main remedy of the systemic medication of patients with pemphigus vera are the glucocorticosteroid hormones. They are assigned independently (monotherapy) of together with cytostatic (combination therapy) - with azathioprine or metatrexate, cyclophosphamide, cyclosporine A. Combination therapy is implemented during treatment of pemphigus which is resistant to the high doses of glucocorticosteroids and in case of necessity of its daily dose decreasing (loading or maintenance). The treatment of patients with pemphigus vera should be started from loading doses of glucocorticosteroids, preferably from prednisolone or prednisone. The dose of prednisolone of 100-120 mg per day is an adequate loading dose allowing to stop the forming of bulla and to enforce the epithelialization of anabrosis. When the glucocorticoid therapy is assigned it is necessary to

	remember that efficiency of treatment is increased if daily dose of hormone is divided in accordance with physiological rhythm of provisional cortex secretion hormones. Maximum dose of glucocorticosteroids (usually it is a two thirds of daily dose) is being used after meal in morning and one third more at day. The therapy should be started after complete clinical examination of the patient and verification of diagnosis (biopsy of damaged skin, immune histochemical tests). Unfortunately, there are no such drugs which will decrease selectively the formation of autoimmune antibodies of pemphigus only without simultaneous depression of biosynthesis of many other protective antibodies. A variety of other undesirable effects (Exogenetic (medicamental) Cushing syndrome, immunosuppression, water-salt balance failures, hypoproteinosis, intestine issues and other) is opposed to the same anti-inflammatory and antiproliferative action of glucocorticosteroids. There are water and alcohol solutions of aniline colorants used for local therapy as well as aerosols, unctures and creams containing glucocorticosteroids.
Course and prognosis.	The course is chronicity with intermitting remissions and recrudescence. The using of glucocorticosteroids and immunosuppressants rapidly improves the prognosis. Cause of death for the now is generally results of continuous treatment by glucocorticosteroids and immunosuppressants.