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GOODPASCHER'S SYNDROME - THE CHALLENGES IN A TIMELY DIAGNOSIS AND TREATMENT IN MEDICAL PRACTICE (CLINICAL CASE)

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There is an increase in incidence of Goodpascher's syndrome (GS) in modern practice of doctors. This syndrome is one of the fast developing, prognostically unfavorable diseases with extremely complex diagnosis. The adequacy of the provision of medical care depends from timeliness of diagnosis. It slows the progression of the disease and increases the average life expectancy of patients. Unfortunately, most of the described clinical cases have not been diagnosed in vivo and had a fatal outcome. All this determines the relevance of the coverage of each individual clinical case of GS for the accumulation of general experience and timely recognition of the symptoms. Let's dwell briefly on the literature review.

The term "Goodpascher's syndrome" was introduced as a nosological unit by M. Stanton and J. Tange in 1958. Syndrome was named in honor of the Harvard's Univercity pathologist E.W. Goodpasture, who in 1919 first described the disease, which combined in itself pulmonary haemorrhage and severe glomerulonephritis (GN) with a lethal outcome [3,8,10].

According to the current classification of systemic vasculitis (Chapel Hill Consensus Conference, 2012), GS refers to immunocomplex vasculitis with lesions of small-caliber vessels [3,8,12]. By WHO definition GS is an antiglomerular basal membrane GN associated with hemorrhage in pulmonary alveoli and with the presence of circulating antibodies (IgG) to the basal membrane of glomerular capillaries (BMC) and/or alveoli (BMA) [5,8,10]. This syndrome in the literature can be found under various names: "glomerulonephritis with pulmonary hemorrhage", "hemorrhagic pneumonitis with nephritis", "pulmonary syndrome with glomerulonephritis" and most often - pulmonary kidney syndrome (PKS) or "anti-GBM illness" [3,13,14]. At the same time, some authors point out the possibility of developing GS under condition of vasculitis associated with anti-neutrophil cytoplasmic antibodies (ANCA) [9,13,14].

Incedence of is only 0.5-0.6 cases per 1 million of population. Most often it is observed in two age groups: 20-30 and 50-60 years old. There is prevalence of GS in men in young age group, but in the older age group, men and women suffer with the same frequency [2,7,14]. The average life expectancy of patients does not exceed 7.3 years [12].

The reason for the occurrence of GS is not well known, however there are several proven factors in the etiology of GS: genetic predisposition (histocompatibility antigen HLA of DR class (HLA-DRW2, HLA-DR15 and HLA-DR4) [3,7,8], tobacco smoking, hypothermia, the influence of bacterial infection, viruses (influenza A_2 virus), medicines (carbimasole, D-penicillamine, amphetamine etc.), organic solvents, varnishes, gasoline [8-10], the possible after-effects of shock-wave lithotripsy and ureteral obstruction [1,10,13].

Diagnostics of GS is extremely complicated. Clini- cal manifestations depend on the degree of damage to the lungs and kidneys. Depending on the localization of the primary lesion, the disease may start with pulmonary or nephrology symptoms, so the clinical picture of GS may vary. There are also cases when the disease began with general nonspecific symptoms like manifestations of acute respiratory viral infection, arthralgia, myalgia, dyspeptic phenomena, abdominal syndrome, fever, weight loss [8], with the appearance of pericarditis, hemorrhages on the skin and mucous membranes, general weakness. Later to these manifestations the symptoms of pulmonary-renal syndrome (PRS) may join [3,8,13].

The thorough examination of the patient with the detection of pathognomonic symptoms and the evaluation of the results of laboratory-instrumental diagnostic methods is decisive in diagnostic of GS. The diagnostic criteria for classical course of GS include: cough, acute prophylactic alveolar hemorrhage or slowly passing hemosiderosis of the lungs with hemoptysis; dyspnea; GN with hematuria, rarely - nephrotic syndrome and rapidly progressive renal insufficiency (RI) with oligo-anuria; anemia, arterial hypertension (AH) (rarely) [4,6,7]. The main diagnostic markers of GS are the positive results of immunological studies of serum for the presence of antibodies to BMC and BMA [12-14] and antibodies to the immune globulins G or M and C3 fractions of the complement along the glomerular basal membrane of the glomeruli revealed by immunofluorescence study of the renal tissue biopsy [5,8,15]. Certain role in the diagnosis of GS have: X-ray (Ro-gram) of the chest cavity organs (CCO), which can reveal symmetrical cloudy, diffuse infiltrative or focal changes in the basal and central lung departments; nonspecific laboratory changes in the general blood test (GBT), which can show signs of iron deficiency anemia, neutrophilic leukocytosis, acceleration of erythrocyte sedation rate (ESR); general analysis of urine (GUA) can reveal proteinuria, erythrocyturia, cylindruria; in the biochemical analysis of blood (BBA) can show increase in the content of creatinine, urea, uric acid, potassium, total cholesterol and triglycerides (even in the absence of nephrotic syndrome); in the Reberg test there may be a decrease in the velocity of glomerular filtration (GFV) [4,7,13]; in the study of sputum we can discover hemosiderin and during bronchoscopy with bronchoalveolar lavage there will be siderophages and a large number of red blood cells [8,10,13].

There are three variants of the course of PRS under GS: 1) recurrent hemorrhagic pneumonia and diffuse fast developing GN with RI; 2) slowly progressing lung and kidney damage; 3) GN with RI, to which join symptoms of lung injury on the final stage: cough, often without hemoptysis or pulmonary hemorrhage [6,7,9]; cardiac asthma and pulmonary edema are also often present [8,13,15].

The presence of different variants of the PKS and the lack of awareness of the general medical community regarding GS complicates early diagnosis and timely and adequate appointment of treatment. Such situation leads to acceleration of the the disease progression and reduces the average life expectancy of patients [1,3,11].

One of the main factors determining the prognosis of such patients is the timeliness and adequacy of medical care. In the absence of treatment of GS the lethality among patients reaches 75-90% [1,8,10].

Modern therapy of GS include urgent immunosuppression and standard induction therapy with glucocorticosteroids (GCS), cytostatics and the conduct of plasmapheresis sessions, and when remission is achieved, cytostatic maintenance therapy in combination with minimal or moderate doses of GCS [1,2,11]. For patients with terminal renal insufficiency, baseline therapy is combined with hemodialysis sessions, and, if necessary, in the absence of antibodies in the blood for 6 months - permanent substitution renal therapy [2,3,9].

However, despite the timeliness and the adequacy of treatment, the mortality rate varies from 10 to 40% [1,8,11].

In our practice we encountered a complicated diagnostic case of the rapidly progressing GS, which manifested a GN with urinary tract syndrome. To this symptoms on the 5th month of decese joned AH, progressive RI, anemia, and symptoms of lung injury, accompanied by shortness of breath, episodic appearance of blood streams and pulmonary hemorrhage that arose on the penultimate day of the patient's life.

Case report. We propose to your attention history of illness of patient L., 22 years old, arrived at the reception office of the POKL in an urgent order on August 31, 2017.

His complaints upon arrival were: edema of the legs, face, increase of arterial pressure (AP) up to 200/100, pain in the lumbar region of both sides, severe weakness, dyspnea during physical activity, dizziness during changes of body position, nausea.

From anamnesis: sick since April 2017, when for the first time, without evidence, there were swelling on his legs. He received medical help on May 26, 2017. Hospitalized in the therapeutic department of the Kyiv Clinical Hospital. In the course of the examination, for the first time, the presence of GN with uric acid syndrome and low urine concentration ability were detected. Left-sided nephropathy and neoplasm of the left kidney (angiolipoma?) were detected by ultrasound examination of the abdominal cavity organs (ACO). Following the diagnostic procedures appropriate antibacterial, diuretic, anti-aggregate therapy was conducted. On June 6, 2017, during computed tomography (CT) with intravenous contrast of the chest organs (CCO) and ACO, signs of hypertrophy of the Berten's pillar in the left kidney and cyst of right kidney were revealed. The patient did not apply for further medical assistance.

The deterioration of the condition was noticed in the beginning of August when new edema on legs and face appeared again. Edema was not treated. On August 25, 2017 apeared headaches, dizziness, nausea, vomiting and AP went up to 160/90 mmHg. Patient used antihypertensive drugs, but the condition did not improve. On August 26 patient had cough, hemoptysis, raised body temperature to 37.8 ^{0}C. Later he was hospitalized in the

therapeutic department of the Clinical Hospital in Kyiv. On August 28, 2017 he spontaneously left the hospital, and on August 29 he was hospitalized to the CRH at the place of residence with complaints of headache, increased blood pressure, coughing, periodic sensation of heaviness in the chest, edema of the legs and general weakness. On August 29, 2017, in the course of examination follow- ing changes were observed: in GBT - anemia (erythro- cytes - $3,5^{x}10^{12}$/L, Hb - 108 g/L), leukopenia with a shift of the leukocyte formula to the left (white blood cells - $3,8^{x}10^{9}$/L, rod-nuclear neutrophil -8%); in GUA - proteinuria - 1.0 g/L, red blood cells - 5-6 in field of vision (f/v), leukocyturia - 20-15 in f/v and cylinduria (grainy - 1-2 in f/v); on an electrocardiogram (ECG) an intravenous conduction violation; on the R_0-gram of CCO in the middle pulmonary fields: to the left the infiltration of the pulmonary figure was found, on the right focal shadows of medium intensity was found. Phthisiatrician conclusion: bilateral mid-partial non-hospital pneumonia, hemoptysis. On August 30, 2017 after ultrasound scanning following changes were observed: ultrasound signs of hepatomegaly, dyskinesia of the biliary tract, nephritis, ascites. Assigned antibacterial, antihypertensive and mucolytic therapy did not have effect. Symptoms of anemia have increased with time (Hb - 108 - 106 g/L; Er. – $3.5^{x}10^{12}$/L; Leu. - $3,4^{x}10^{12}$/L); there were signs of lymphopenia (11%) and accelerated speed of erythrocyte sinking (SES) to 20 mm / hour. In GBT there was azotemia (creatinine 278 - 293 μmol/L), in urine there was proteinuria (1.0-1.47 g/L) and microhematuria (5-6 - 20-25 - 25-30 in f/v). Therefore on August 30th the patient was transferred to the department of intensive care, and on August 31 he was sent to the center of nephrology and dialysis POKL named after M.V. Sklifosovsky for stationary treatment with a diagnosis: "Acute glomerulonephritis. Acute kidney damage of the second degree. Anemia of a mild degree. Arterial hypertension stage I, stage 2, the risk is very high. Uremic pneumonitis? Right kidney cyst".

From anamnesis of life: he often suffered from ARVI. Patient worked in construction, performed hard physical work. There were frequent overcooling events. He smokes up to 20 cigarettes a day, abuses alcohol, energy tonics. Patient states that he has taken amphetamine for 4 months. Allergic and hereditary anamnesis is not burdened.

When observed: Height - 175 cm, body weight - 74 kg. Patient was in moderate condition, skin and visible mucous membranes were pale, there was a pastosity of the legs. Frequency of respiratory movements was about (FRM) - 18/min. Lungs examination revealed: breath- ing rigid, weakened in the middle and lower parts. Pulse (Ps) was 88/min, rhythmic. AP was 190/120 mmHg. The rythm of the heart was correct, the tones were weakened, there was an accent of the second tone over the aorta. Abdomen was soft, painless. The tapping symptom was slightly positive on both sides. Daily diuresis (DD) was without changes, roughly 1.5 liters. Patient had no act of defecation for four days.

Analysis on Cito was conducted. On ECG there were signs of sinus tachycardia. Heart rate was 107/min. The electric heart apex was slightly deviated to the left. QRS Voltage was reduced. There were signs of hypoxia of the anterior wall of the left ventricle. On the R_0-gram of CCO: pulmonary image is thickened, strengthened and deformed - mostly prurond (possibly due to the vascular component). Roots of lungs are with bands. Sinuses are free. Heart has no peculiarities. In GBT: (Er. $3.1\text{-}3.5^{x}10^{12}$/L, Hb - 88 - 108 g/L), leukocytosis ($7.5\text{-}17.1^{x}10^{9}$/L), ESR 15 mm/hour; in the GUA: increased proteinuria (1.47-1.87 g/L), leukocyturia (20-15 - 8-10 in f/v), hematuria (er. - 20-30-1/2 (unchanged) and 8 in f / v (changed), isolated single waxed cylinders were detected; in the BBT: alanine aminotransferase (ALT) - 76 units/L, aspartate aminotransferase (AST) - 91 units/L, total protein - 58 g/L, creatinine - 330.6 μmol/L, urea - 9.2 mmol/L, potassium - 6.8 mmol/L. Patient received detoxication therapy, correction of arterial hypertension, anemia and hyperkalaemia. Treatment of ulcer was performed.

During the next four days, the patient's condition did not change significantly. During physical examination: skin was pale, legs had signs of swelling, FRM was 18-20/min, in the middle and lower parts of the lungs crepitation was periodically heard on the background of weakened vesicular breathing, a tachycardia was observed (heart rate - 94-98/minute), AP was stabilized at 140-150/90-100 mm Hg. Palpation of the abdomen revealed minor pains in the right hypochondrium, along the intestine, without signs of irritation of the peritoneum. DD was within 1800-2400 ml.

From 1st till 4th of September, 2017, the patient was consulted by following specialists: a pulmonologist, a gastroenterologist, a cardiologist, an urologist, a hematologist, an oculist. Patient received following diagnos- tic procedures: esophagogastroduodenoscopy (erosive duodenopathy, erythematous gastropathy), ultrasound examination of the ACO and urogenital system (ultrasound examination revealed signs of the nephritis, moderate strengthening of the liver structure). During control ECG we observed a decreased heart rate to 80 / min and reduced the amplitude of the T wave in V2-V5, echocardiography there were no changes detected. We performed control of clinical and laboratory parameters of the patient every day. In the dynamics of GBT we observed following changes: anemia has increased (Hb 86-74 g/L, Er. $2.98 - 2.63 - 2.47^{x}10^{12}$/L), leukocytosis has decreased ($10.2 - 5.8^{x}10^{9}$/L), ESR changed in range: 36 - 10 - 37 mm/h. In BBT: ALT, AST, α-amylase, alkaline phosphatase, and γ-GGT indices were normalized, however, there was an increase in LDH (620 units/L), cholesterol (6.68 mmol/L), triglycerides (2.42 mmol/L) and a decrease in albumin concentration (30 g/L) and total protein (48-54 g/L). There was a tendency to decrease of creatinine concentration (354.8-328-290.7 μmol/L), urea (19.7 - 13.2 - 14.6 mmol/L) and potassium (5.5-5.3 - 4.32 mmol/L). The level of serum iron and the latent iron binding ability of the blood serum were within the normal range (15.8 and 24.5 μmol/L, respectively). Analysing blood proteins

we revealed a slight increase in α_2-globulins (12.73%) and a decrease in γ-globulins (13.59%) concentration. In the coagulogram we observed a high content of fibrinogen (4,5 - 4,6 g/L), shortened latent period, moderate hyperagregation of platelets, increase of soluble fibrin-monomeric complexes (9 mg%) was a sing of activation of blood clotting. Immunological analysis showed reduction of T-lymphocytes (39%): T-helper (28%) and T-suppressor (12%). The negative results of analyzes on the C-reactive protein, antistreptolysin-O, rheumatoid factor, LE-cells, RW, HBs-Ag, HCV, and HIV were obtained. In GUA proteinuria has decreased to 1.28 g/L and erythrocytriuria has decreased to 25-30 in f / v (unchanged); grained cylinders appeared (1 in f/v); daily proteinuria - 2.23 g/day; in the analysis of urine by Nechyporenko method we observed eritocyturia; analysis of urine by Zimnytsky revealed signs of hypoisostenuria and nicturia.

Taking into account the newly discovered kidney changes on May 26, 2017, a constant increase in blood pressure (max up to 200/110 mm Hg) for 10 days and the detected changes in laboratory and instrumental studies on the September 4th, 2017 the diagnosis was established: Chronic kidney disease (CKD) III stage: glomerulonephritis, urinary syndrome. Cronic kidney insufficiency (CKI) II degree. Arterial hypertension II stage 3rd degree, the risk is very high. Dislipidemia. Secondary normochromic anemia of moderate severity. Right kidney cyst. Incomplete doubling of the left kidney. Nonspecific reactive hepatitis. Chronic gastritis. Erosive Duodenitis. Angiospasm of both eyes' retina. Taking into account the presence of GN with progressive RI, sudden development of bilateral lung damage with signs of disturbance of their function (shortness of breath, fever, cough with episode of hemoptysis, objective and Ro-gram research in history), presence of hypertension, progressive anemia, signs of systemic inflammation (leukocytosis, acceleration ESR, elevation of α2 globulins), hyperkalaemia, dyslipidemia in a young man, in the presence of many risk factors, we made an assumption that patient had Goodpascher's syndrome. Following examinations were recomended: blood test for antibodies to BMC and ANCA, cystoscopy; fibrocolonoscopy, prostate secretion analysis. Consultation of reumathologist was prescribed. Membrane-stabilizing therapy, antithrombotic agents and proton pump inhibitors were added to treatment protocol.

On the September 5th, 2017, in the morning at 8.00, the patient was inspected by the attending physician. Physician observed following clinical picture: the condition was stable, there were complaints about general weakness. The body temperature was 37.5^0C. AP was 140/90 mm Hg., Ps - 100/min. Other organs and systems were without changes. Following clinical tests were made: coagulogram: fibrinogen - 4.8 g/L; GUA: total protein - 47 g/L, creatinine content - 284 μmol/L, urea - 13.0 mmol/L; Reberg's test revealed a decrease in the velocity of glomerular filtration (42.2 ml/min) and tubular reabsorption (93.1%).

On the same day at 11.45 the patient's condition deteriorated rapidly: developed abdominal syndrome, body temperature increased to 37.7 ^{0}C, weakened vesicular respiration and crepitation were detected in the middle and lower parts of the lungs. Ps was 100 beats per minute, AP was 130/80 mm Hg, heart activity was rhythmic. Auscultation revealed weakened vesicular breathing in the middle and lower parts of the lungs, crepitation, palpation was extremely painful in the right abdominal region. The condition of the patient was differentiated with an adjunctive syndrome during GS and with acute surgical pathology - acute appendicitis. On Cito following analysis were performed: GBT, ultrasound examination of ACO. Consultation of surgeon was also requested. In GBT there were signs of severe anemia (Er. 2.64^x10^{12}/L, Hb - 75 g/L), leukocytosis (12.9^x10^9/L), lymphopenia (8%), ESR was 27 mm/h; on ultrasound scan: ultrasound signs of GN, the presence of free fluid in the lower abdomen, mostly on the right. Therefore, at 13.30 the patient was hospitalized with a diagnosis "acute appendicitis" to the surgical department, where after he had spinal anesthesia, appendectomy was performed. Postoperative period had no peculiarities. On September 6th, 2017 at 06.00 there was a cough with blood spitting, signs of rapid progression of pulmonary insufficiency. Blood stopping therapy was prescribed. CT of CCO shawed signs of bilateral pronounced infiltration, bilateral small hydrothorax, lymphadenopathy. Taking into account the anamnestic data (hemoptysis), it is not possible to exclude the presence of alveolar hemorrhage (Fig. 1,2).

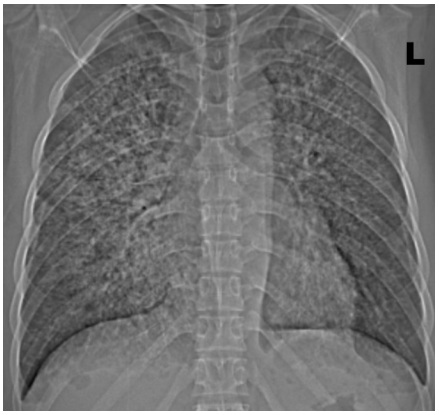

Fig. 1. Results of computer tomography (CT) of chest cavity organs in the coronary projection of the deceased L. CT-signs of alveolar hemorrhage

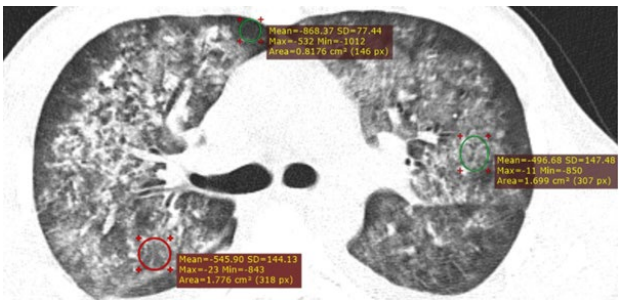

Fig. 2. Results of computer tomography (CT) of chest cavity organs in axial projection of the deceased L. CT-signs of alveolar hemorrhage

From September 6th to 7th, 2017, otolaryngologist, thoracic surgeon, rheumatologist, pulmonologist, phthisiologist consulted the patient. Clinical examination of the patient with all mentioned specialists was performed. Wegener's syndrome, microscopic polyangiitis, systemic lupus erythematosus, antiphospholipid syndrome, miliary tuberculosis of the lungs were discarded. Considering pulmonary haemorrhage, progressive shortness of breath, negative lung dynamics in the CT and clinical and laboratory indices indicating kidney damage with the development of RI, anemia and systemic inflammation, bilateral hemorrhagic alveolitis and glomerulonephritis should be considered as manifestations of GS.

On the basis of patient complaints, anamnestic, clinical and laboratory-instrumental data, on September 7th, 2017 the diagnosis was established: Goodpascher's syndrome (alveolitis, pulmonary haemorrhage, 06.09.17). CKD IV stage: glomerulonephritis, urinary syndrome. CKI of the III degree. Arterial hypertension of stage II, 3 degree, the risk is very high. Secondary hypochrome and post-hemorrhagic severe anemia. Acute phlegmonous appendicitis, local serous peritonitis (surgery 5.09.17 - appendectomy).

In GBT: signs of anemia progression (Er. - 1.92 - $1.76^{x}10^{12}$/L, Hb - 57-50 g/L), leukocytosis (18.4 - $16.1^{x}10^{9}$/L). Taking into account general weakness and progressive anemia bronchoscopy was canceled. Patient and his relatives categorically refused from the transfusion of blood. Hemostatic therapy and AP correction continued. Despite the ongoing therapy, at 15.10, the patient's condition severly deteriorated with an increase in signs of pulmonary heart failure, and at 15.20 the patient stopped breathing. Reanimation measures were carried out in accordance with the protocols, but unsuccessfully - in 16.03 there was established biological death of patient.

Final clinical diagnosis: CKD IV stage: glomerulonephritis, urinary syndrome, CKI, III degree. Arterial hypertension of stage II, 3 degrees, high risk. Goodpascher's syndrome (alveolitis, pulmonary hemorrhage of 06.09.17). Secondary hypochrome and post-hemorrhagic severe anemia. Acute phlegmonous appendicitis, local serous peritonitis. Operation 5.09.17 - appendectomy. Thromboembolia of pulmonary artery (TEPA). Acute cardio-pulmonary insufficiency. Condition after reanimation.

Pathoatomical diagnosis:

1. Goodpascher's syndrome: mesangial-proliferative glomerulonephritis, hemorrhagic pneumonitis. Phlegmonous appendicitis with local serous peritonitis. Operation 05.09.17: appendectomy, drainage of the abdominal cavity.

2. Hydrotax 500 ml - left, 300 ml - right. Malnutrition and parenchymal degeneration of the internal organs. Local edema of the lungs. Cerebral edema.

Section protocol №292

Internal study. In the pleural cavity there was no connections, to the left - up to 500 ml, to the right - up to 300 ml of yellowish clear liquid. Parietal and visceral pleura of grayish color. The peritoneum is smooth, grayish. The intestine is not inflated.

Organs of respiratory system. Larynx, trachea and bronchi contain mucus and foamy fluid in a small amount, mucous membrane is pale gray colour. The walls of the bronchi are not thickened.

The tissue of the lungs is moderately compact throughout the whole volume, on the cut of dark red color, from the surface of the cut flows small amount of bloody foamy fluid (Fig. 3, 4).

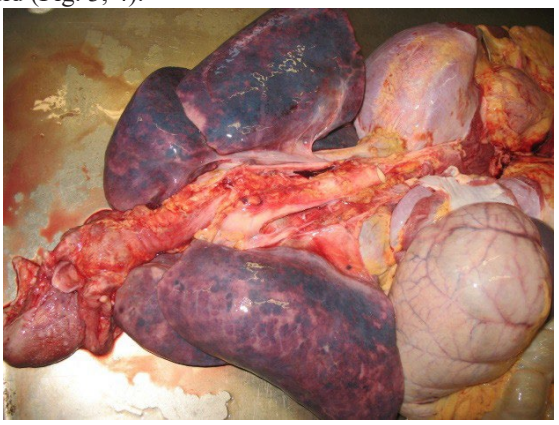

Fig. 3. Shape of lungs of the deceased L. Macro preparation

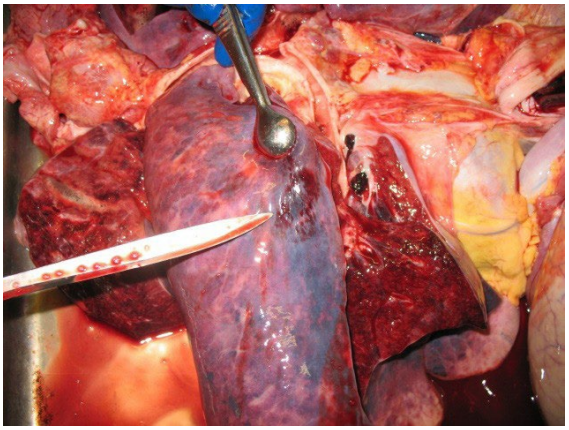

Fig. 4. Pathomorphological picture of lungs of the deceased L. Hemorrhagic changes of lung tissues in the cut Macro preparation

In the pulmonary arteries there is liquid blood and rusty blood clots. Urogenital system. Kidney fatty capsules are moderately expressed, fibrous capsules can be removed with effort. The surface of the kidneys is smooth, pale brown, with multiple red dots. The tissue of the kidneys is dense, pale brown, the layers are poorly differentiated. The cortical layer is pale brown, with multiple red dots, pyramids pinkish-brown. Bowls and cups are not dilated, filled with yellowish clear fluid, mucous membrane is pale gray, smooth (Fig. 5, 6).

The study of blood circulation and hematopoiesis, digestive organs, endocrine system, central nervous system and musculoskeletal system showed no signs of apparent pathology.

Histological examination №40486-88: Phlegmonous appendicitis with peri-para- appendicitis.

Histological examination №3815-36 to the protocol №292.

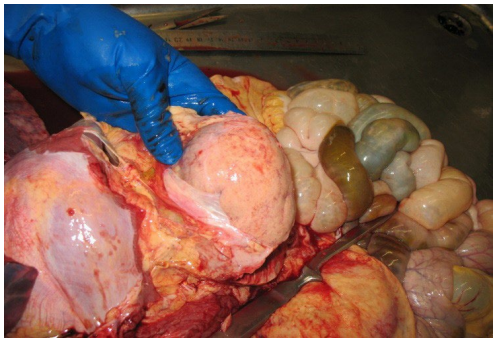

Fig. 5. Autopsy of kidneys of the deceased L. Macro preparation

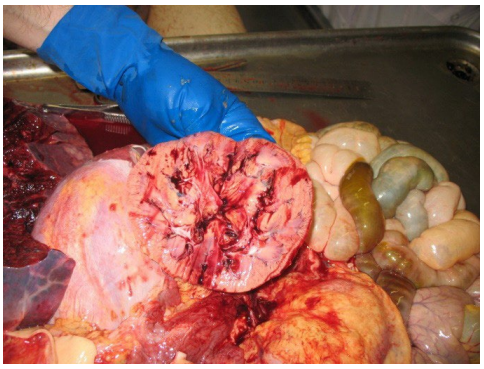

Fig. 6. Pathomorphological picture of the kidneys of the deceased L. Changes in the cortical layer of renal tissues in the cut. Macro preparation

Lungs. Almost all alveoli are filled with blood. There are areas of accumulation of hemosiderophages, small sites of edema in the alveoli. Interalveolar membranes are somewhat thickened, with the proliferation of capillaries, sometimes perivascular clusters of neutrophilic leukocytes. Small vessels have thickened and dilated walls, have signs of proliferation of the endothelium, some have necrosis (Fig. 7).

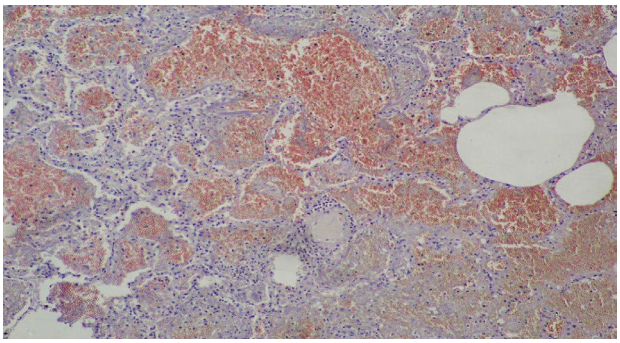

Fig. 7. Morphological picture of the lungs of the deceased L. Most alveoli are filled with hemorrhagic contents. Mircroscopic picture. Coloring with hematoxylin and eosin. Obj. 10^{x}., Ocul. 10^{x}

Kidneys. Glomeruli have enlarged size, with the signs of proliferation of mesangial cells, thickening of the capsule. Some of the glomeruli underwent fibroplastic transformation and have sites of hyalinosis. Some are sclerotized and have pronounced dystrophic changes in the epithelium of the tubules. Nucleus can not be traced in many epitheliocytes. There are sites of interstitial focal lymphocyte infiltration (lymphocytes, neutrophils) and uneven blood vessel filling (Fig. 8).

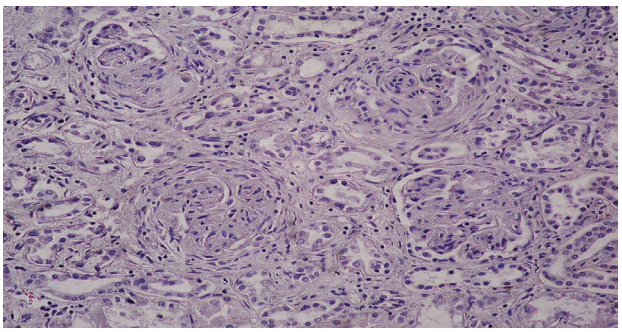

Fig. 8. Morphological picture of kidney of patient L. Capillars of glomeruli with pronounced sclerotic changes. In the tubules there is desquamation and dystrophic changes in the epithelial cells. Mircroscopic picture. Coloring with hematoxylin and eosin. Obj. 25^{x}., Ocul. 10^{x}

Conclusions. The peculiarity of this case is the late appearance of symptoms of lung injury (on the fifth month after the manifestation of glomerulonephritis), which manifested by coughing with episodic appearance of blood streams in sputum, fever, regarded as a manifestation of pneumonia, but further analysis of clinical and laboratory parameters and young age has allowed us to suspect Goodpasture's syndrome. Actually, this diagnosis became evident at the time of the development of pulmonary bleeding, namely - on the penultimate day of the patient's life and was confirmed by autopsy.

In our opinion, the combination of frequent overcooling, bad habits in the patient's way of life (tobacco smoking, alcohol abuse, energytics, amphetamine), frivolous attitude to treatment, the introduction of X-ray contrast medication during CT, then anesthesia and surgical intervention led to rapid progression of pathological process and accelerated the lethal outcome.

We hope that the given clinical example will encourage doctors who, in their clinical practice, are confronted with diseases that are accompanied by a pulmonary syndrome, to not exclude Goodpasture's syndrome as reason of clinical picture. A differentiation requires a thorough analysis of clinical manifestations, anamnesis, laboratory-instrumental research methods.

The presence of Goodpasture's syndrome can be assumed, first of all, clinically, by presence of combination of kidney and pulmonary pathology, with the rapid progression of pulmonary and renal failure, anemia, and also by presence of signs of systemic inflammation, dyslipidemia, hyperpotassiumemia, even in the absence of hemoptysis. Detection during bilateral X-ray examination of CCO of bilateral infiltrating changes, focal shadows, cloudy infiltrates or condensed, strengthened and deformed pulmonary imaging must be considered as vital sign of GS. In such cases, we recommend the immediate conduction of blood tests for the presence of antibodies to the basal membrane of the renal glomeruli and alveoli and nephrobiosis. If there is

hemoptysis or pulmonary haemorrhage, alveolar infiltration on the lung X-ray picture and iron deficiency anemia, then the diagnosis of Goodpasture's syndrome is quite probable. Timely verification of the diagnosis and rapid appointment of active immunosuppressive therapy with glucocorticosteroids, cytostatics, in combination with sessions of plasmonphyrosis or hemodialysis can contribute to the relief of the acute episode of the disease and, thus, extend the patient's life.

Since in the clinical practice of doctors the incidence of rare illnesses and syndromes becomes more frequent, we think that it is usefull to remind doctors about the possibility of fast developing course and tragic outcome of Goodpasture's syndrome.

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SUMMARY

GOODPASCHER'S SYNDROME - THE CHALLENGES IN A TIMELY DIAGNOSIS AND TREATMENT IN MEDICAL PRACTICE (CLINICAL CASE)

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The article presents a clinical case with intravital diagnosis of Goodpascher's syndrome in a 22 years old patient.

In this work we analyze clinical, laboratory-instrumental, pathologoanatomic and pathomorphological aspects of the disease, which was accompanied by glomerulonephritis with rapidly progressive renal insufficiency, anemia, arterial hypertension and symptoms of lung injury.

Article emphasizes on the necessity of timely diagnosis of Goodpascher's syndrome and following administration of immunosuppressive therapy.

Keywords: Goodpasture's syndrome, pulmonary-kidney syndrome, glomerulonephritis, anemia.

РЕЗЮМЕ

СИНДРОМ ГУДПАСЧЕРА - ПРОБЛЕМА СВОЕВРЕМЕННОЙ ДИАГНОСТИКИ И ЛЕЧЕНИЯ В ПРАКТИКЕ ВРАЧЕЙ (КЛИНИЧЕСКИЙ СЛУЧАЙ)

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В статье приведен клинический случай синдрома Гудпасчера с прижизненной диагностикой у 22-летнего пациента.

Проанализированы клинические, лабораторно-инструментальные, патологоанатомические и патоморфологические аспекты заболевания, которые сопровожда-