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Case Report

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VARICOSE DISEASE OF THE LOWER EXTREMITIES WITH A COMPLICATION OF PULMONARY EMBOLISM—CASE REPORT WITH CLINICOPATHOLOGIC FEATURES AND REVIEW OF THE LITERATURE

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ABSTRACT

Slowdown and disruption (swirl) of blood flow create favorable conditions for the loss of platelets from the bloodstream and sticking to the endothelium at the site of its damage.[1] A significantly more frequent (5 times) occurrence of blood clots can be associated with a slowdown in blood flow. Althouth in the veins compared to those in the arteries, the frequent occurrence of blood clots in the veins of the legs, especially the legs, in areas of varicose veins, and in aneurysms of the heart and blood vessels. We report a case in which symptoms were localized to various body parts, beginning with post-traumatic pain over varicosities in the lower extremities, moving sequentially over the course of a month to the knee, hip, back, abdomen, and chest, eventually manifesting as syncope. Despite a low pretest clinical probability, a rapid identification of a massive bilateral pulmonary embolism that ultimately resulted in a troponin leak was made thanks to a very high index of suspicion.[5] The etiology is strongly suggestive of a thrombus that developed in the leg vessels as a result of trauma over varicose veins. This case illustrates the significance of taking trauma to varicosities into account as a risk factor for embolism when the clinical picture is alarming but other PE symptoms and signs are not immediately evident.

KEYWORDS: Varicose disease, Pulmonary embolism.

CASE REPORT

A 60 years old woman considering the patient delivered by 103 brigades to the AMCH p/p, where, after a joint examination with the on-duty resuscitator and the responsible surgeon, she was hospitalized in the Department of Anesthesiology, Resuscitation and Intensive Care on an emergency basis. Complaints on admission: dizziness, shortness of breath, feelings of lack of air, swelling on the lower limb on the left, general weakness.

Patient had a past medical history of according to the words for a month, note shortness of breath and swelling on the lower limb on the right. She did not seek medical help. Several times she received inpatient treatment from RH of Uzynagash for arrhythmia changes: atrial fibrillation (no statement on hand). Due to the deterioration of the state of self-referral, the CCP was applied to the REM of the CCC in Almaty, where MSCT was taken, it revealed: signs of pulmonary embolism of large branches (right branch), Pericarditis. On ECHOCT: Significant dilatation of the LA trunk (5.0 cm) and its branches. Significant dilatation of the right heart. Overload of the right parts of the heart. The walls of the aorta and valve flaps are sealed.

Anamnesis of life

She grew and developed according to her age. Heredity is not burdened. Has no bad habits. Tuberculosis, viral hepatitis, and skin-vein diseases are denied. She has been registered for 10 years with a diagnosis of NRS: atrial fibrillation, a permanent form. BP maximum increase to 140/92 mm Hg. There was no insect bite or contact with ticks in the last 14 days. She did not visit foreign countries. There was no close contact with a COVID-19 patient, or animals within 2 weeks. There were no transfusions of blood products and blood substitutes for the last 3 months. Risk factors: n/a thrombophlebitis.

Previous diseases: Thyroidectomy, bilateral covid pneumonia 2021, colds.

Allergic history: Allergic and pharmacotherapeutic anamnesis is not burdened.

Objective data: The general condition is extremely severe, due to thromboembolism of both branches of the pulmonary arteries, pulmonary infarction, and a high risk of SCD. Normosthenic physique. The skin is pale and warm. Peripheral lymph nodes are not enlarged. Pulsation of the radial arteries, and vessels of the feet of satisfactory filling and tension.

Respiratory System: Breath freely through the nose. The chest is of the correct form, both halves are involved in

the act of breathing. Percussion - a clear pulmonary sound. Auscultatory: weakened breathing in the lungs, dry rales throughout the lung on exhalation. NPV 24 times per minute. Cardiovascular system: Vessels of the neck without features. The area of the heart is not visually changed. Borders of relative cardiac dullness: right - along the right edge of the sternum, upper: at the level of the 3rd intercostal space, left: at 1.0 cm outward from the SCL. Auscultatory: the heart sounds are muffled, and the rhythm is correct. BPc 150/90.

Consultations of specialists: 08/27/2022 Nephrologist's consultation Conclusion: Nephrotic syndrome. CKD is kidney function determine
Recommended:

- Control took to the blood test, and urine test.
- avoid prescribing nephrotoxic drugs (nephrotoxic antibiotics-aminoglycosides, NPIBI, contrast studies
- Control of hydro balance, BCC, CVP
- Daily diuresis. (hourly)
- Daily cardiac monitoring
- Control of KIS, BhAK (creatinine, urea, cholesterol)
- Determine calcium
- Antibacterial therapy (metric 100.0 IV drips)
- 1 localized hemoglobin
- Aldaron 100 mg by Ik * 2 times in laziness at 09.00-12.00.

Clinical aspects

External examination: The corpse of a woman, elderly, normal physique, and nutrition. The skin and visible mucous membranes are pale cyanotic. Corpse spots are purple-bluish, and located on the posterolateral surfaces of the trunk and limbs. Rigor mortis is moderately expressed in all groups of the studied muscles. The lower extremities are edematous up to the knee joint, and multiple post-operative scars of both lower extremities and tortuous varicose veins are contoured.

Internal examination: The thickness of the subcutaneous fat layer in the region of the anterior chest is 2.0 cm, and the anterior abdominal wall is 2.5 cm. The relative position of the internal organs is anatomically correct. There is no free fluid in the pleural cavities. The visceral and parietal pleura are moist, with petechial hemorrhages. There is no free fluid in the abdominal cavity. The peritoneum is smooth, and moist, with petechial hemorrhages. Intestinal loops are moderately swollen, and freely located in the abdominal cavity.

Respiratory organs: The lumen of the larynx, trachea, and main bronchi are passable, parietal hemorrhagic contents. The mucous membrane is cyanotic, with petechial hemorrhages. Cartilaginous rings of their usual form, pliable, intact. The lungs completely fill the pleural cavities, palpation testovato-airy consistency. The lung tissue is burgundy-red. The lumen of the right and left pulmonary arteries is clogged with thromboembolism, in the form of tourniquets, rolled up into balls, the surface is gray, rough, diameter 0.6-0.8 cm, difficult to extract, on incisions of burgundy-red color. In addition, a mass of a similar type, of a smaller diameter, is determined in the lumen of the lobar and, to a lesser extent, segmental arteries, is easily removed, and is not associated with the wall. Approximately 80% of vessels of various calibers were visually clogged. The walls of the bronchi are thickened and protrude above the incision surface in the form of "writing pens", in some places in the lumen there are viscous gray masses. Foamy hemorrhagic fluid flows abundantly from the incision surface. Peribronchial, paratracheal, bifurcation lymph nodes measuring 1.0x0.5x0.4 cm, black in section due to the accumulation of carbon pigment.

Circulatory organs: There is no free fluid in the pericardial cavity, the epicardium is smooth and shiny. Heart size 10.5x9.0x5.0 cm, elastic consistency. The right parts of the heart are dilated, and filled with dark red convolutions and liquid blood. The left sections are empty. The perimeter of the valve holes is not changed. The valves are formed anatomically correctly, according to the closing type. The wall thickness of the left ventricle is 2.0 cm, the interventricular septum is 1.5 cm, and the right ventricle is 0.5 cm. The myocardium on the cut is fibrous, pale brown in color with fuzzy darker areas. In coronary vessels without obstructive changes, with a few flat plaques, the percentage of damage is 45%, narrowed to 30-45%. The aortic intima is ivory throughout, with atherosclerotic plaques, more in the abdominal region, the percentage of lesions is 40. The celiac trunk, superior and inferior mesenteric arteries, and iliac arteries with a few dense plaques, without obstructive lesions. In the veins of the right leg, the lumen is obturated with dense brown-red thrombotic masses intimately connected with the vessel wall.
Hematopoietic organs: spleen 9.0x4.5x3.5 cm in size, elastic consistency, smooth capsule. On the section, the tissue is of a bluish-cherry color, in the scraping, there is liquid blood.

Digestive organs: The esophagus is freely passable, with longitudinal smoothed folding. The stomach is of the usual form, there is a little gray mucus in the cavity. The mucous membrane is gray, folded with petechial hemorrhages. The duodenum is of the usual form, the mucous membrane is gray-pink, folded. The pancreas is 12.0 x 2.5 x 1.5 cm in size, ribbon-shaped, thinned in the tail, densely elastic, lobed in section, and pale pink in color. The gallbladder is pear-shaped, 7.5x3.0x2.5 cm in size, there is liquid green bile in the cavity, and the mucous membrane is velvety, greenish. The bile ducts are passable. The liver is 23.5x17x11x8.0 cm in size, densely elastic in consistency, its surface is smooth. On sections, the fabric is brown-red with a burgundy speck, full-blooded. The loops of the small and large intestines are moderately swollen. In the lumen of the intestine, the contents are corresponding to the departments. The mucous membrane is gray-pink and embossed. Mesenteric lymph nodes are not enlarged.

Organs of the genitourinary system: Perirenal tissue is normally developed. The kidneys are equal in size, bean-shaped, loosely located in the surrounding fiber, easily separated from it, and 10.5x5.0x3.0 cm in size. The fibrous capsule is removed easily, the surface is smooth with single cicatricial retractions. On the section, the border between the cortical and medullar layers can be traced, the cortical layer is pale bluish-red in color, and the medulla has a maroon corolla. In the lower pole of the right kidney, there is a smooth-walled cyst with transparent contents, 1.5 cm in diameter. The pyelocaliceal system is not expanded, and the mucous membrane is whitish-gray with petechial hemorrhages. The ureters are freely passable, the mucous membrane is whitish-gray. The bladder contains light, transparent urine in a small amount, folds of the usual type, and the mucous membrane is whitish-gray in color. The genitals are formed correctly, without features.

Organs of the endocrine system: the thyroid gland is bilobed, 3.5x2.0x2.0 cm in size, with each lobe, on a granular section. Leaf-shaped adrenal glands 3.5x3.0x0.4 cm, ocher-yellow bark, dark brown medulla

Microscopic examination

Lungs: Focal dystelectasis alternating with emphysematous areas. In the lumen of the alveoli, there is an accumulation of edematous fluid with an admixture of a large number of erythrocytes. Interalveolar septa are unevenly thickened due to edema, and focal confluent hemorrhages, there is a sharp plethora of septal vessels with erythrocytosis. Along the bronchi, peribronchial sclerosis, in the lumen are single desquamated epithelial cells, in some places mucous masses; the bronchial wall is infiltrated with lymphocytes and histiocytes, vascular hyperemia. Around the vessels there is a proliferation of connective tissue, and the wall of the vessels is thickened due to hypertrophy of the muscle layer. In the lumen, freely lying thrombotic masses are determined, represented by hemolyzed erythrocytes with an admixture of leukocytes, with fibrin bundles.

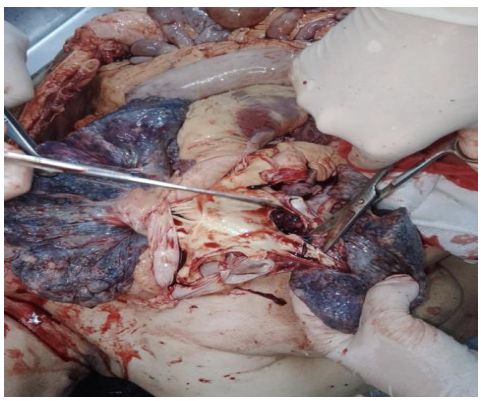
Heart: Granular dystrophy of cardiomyocytes. Moderate hypertrophy of fibers and nuclei. There is focal clumpy and discoid disintegration of cardiomyocytes, with karyopyknosis, fragmentation of chains of cardiomyocytes, muscle fibers with myofibrillar degeneration, and wave-like deformation. In the interstitium, edema, and proliferation of fibrous tissue. Uneven blood filling of the vessels of the microvasculature: paretic expansion and pronounced plethora with erythrocytosis, perivascular hemorrhages in some vessels, while others are empty. In the wall of arterioles, there is elastofibrosis and hyalinosis.

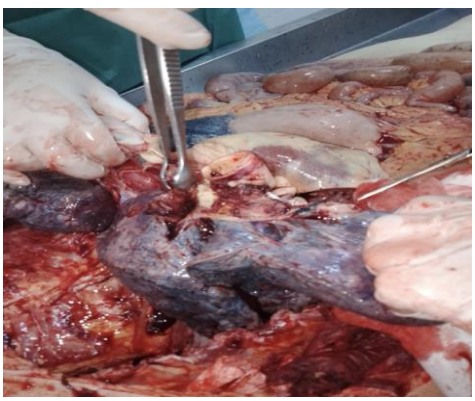
Leg veins: The wall of the vessel is unevenly thinned, and the intima of the vessel is not traced. Perifocally and slightly in the wall inflammatory infiltration is represented by lymphocytes and histiocytes Thrombus consists of hemolyzed erythrocytes and fibrin bundles. Surrounding tissues are edematous.

Liver: The majority of hepatocytes are in a state of granular degeneration, focal small droplet fatty degeneration. Sinusoids are expanded, plethoric. The central parts of the lobules are plethoric, with focal necrosis of hepatocytes. In the portal tracts, there is a moderate proliferation of connective tissue, and round cell infiltration without going beyond the boundary plate.

Kidneys: Single renal glomeruli are hyalinized. Capillary loops of glomeruli with manifestations of pronounced plethora. Cells of the juxtaglomerular apparatus in a state of dystrophy. There are deep dystrophic and necrotic changes in the epithelium of the tubules with an outcome in necrotic nephrosis. There are diapedesis hemorrhages in the stroma, and confluent in the medulla. In the wall of arterioles, sclerosis, elastofibrosis and hyalinosis. In the vessels of the microvasculature, there is a sharp plethora, stasis, and sludge of erythrocytes, single parietal erythrocyte-fibrin thrombi

Pancreas: Focal sclerosis, lipomatosis of the interlobular and intralobular stroma; dystrophy of secretory cells, vascular plethora.





DISCUSSION

Pulmonary embolism (PE) is an occlusion of the arterial bed of the lungs by a thrombus, which was initially formed in the veins of the systemic circulation or in the cavities of the right heart and migrated into the vessels of the lungs with blood flow. One of the most prevalent and dangerous complications of many diseases, postoperative and postpartum times, PE has a negative impact on the course and outcome of these conditions. In a multidisciplinary clinical facility, 15-20 out of every 1000 treated patients experience PE each year, with 3-5 of those patients dying.[2]

About 80–90% of the time, DVT is the root cause of PE. PE sources are located in the right cavities, the superior vena cava, and its tributaries much less frequently. hearts. DVT is a widespread condition that affects 100 people out of every 100,000 people annually.[3] It is interesting to note how the symptoms in this case moved clearly over a period of 25 days, beginning in the legs and sequentially moving up to the knee, hips, back, abdomen, and thorax before culminating in a CNS event that resulted in loss of consciousness. Given the appearance, a thrombus that may have developed as a result of trauma to the leg's deep or superficial veins over varicose veins is highly suspect.

Recommendation classes

Recommendation classes	Definition	Suggested wording
Class I	This type of treatment or diagnosis has been proven useful and effective.	Recommended / featured
Class II	There is conflicting evidence and/or opinions about the usefulness/effectiveness of this type of treatment or diagnosis.	
Class IIa	Evidence/opinion for benefit/effectiveness prevails.	Expedient apply
Class IIb	Existing evidence/opinion to a lesser extent support the benefit/effectiveness of this treatment	Can be used
Class III	There is evidence or agreement that this type of treatment or diagnosis is not useful/effective, and in some cases may be harmful.	Not recommended

To the best of our knowledge, there has never been a report of external trauma over varicose veins possibly causing a migrating thrombus that eventually causes bilateral pulmonary embolism that strains the heart and results in a diagnosis of myocardial infarction.[4] Conventionally, trauma to varicose veins would not be regarded as a risk factor for venous thrombosis. The case reported here shows how, even in cases where there are no obvious local symptoms of lower extremity venous thrombosis, it can still be life-saving to take trauma to varicosities into account as a risk factor for embolism when the clinical picture is alarming but there are no other obvious signs or symptoms of PE.

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