tes mellitus / L. Y. Orekhova // Periodontics. – 2012. – № 3 (64). – S. 7-11.

14. Tytyk S. J. Dental health in chronic inflammatory bowel diseases./ S. Y. Tutuk, A. K., Iordanishvili – SPb.: Nordmedizd, in 2016. – 144 p.

15. Filippova E. V. diseases of the mucous membranes of the oral cavity in elderly and senile age / E. V. Filippova, A. K., Iordanishvili, D. A. Liebig // Periodontics. – 2013. – № 1 (66). – P. 60-63.

16. Farman A.G. The basics of maxillofacial cone beam computed tomography / A.G. Farman, W.C. Scarfe // Seminars in Orthodontics. – 2009. – Vol. 15, № 1. – P. 2–13.

17. Yan F. Glicosaminoglycans in gingival crevicular fluid of patients with periodontal class II furcation involvement before and after guided tissue regeneration. A pilot study / F. Yan, R.Marshall, P.M. Bartold // J. Periodontol. – 2000. – Vol. 71. – P. l-7.

Information about authors:

Vladimirtsev Vsevolod Afanasievitch, PhD, senior researcher, Head of Department of inflammatory and degenerative diseases of the brain, Research Institute of health NEFU,

677010 Yakutsk, Sergelyakhskoe highway 4, bldg.2

E-mail: sevelot@mail.ru ; phone: +7-914-231-25-99;

Davydova Tatyana Kimovna, PhD, senior researcher, Research Institute of health NEFU; Nikolaeva Tatiana Yakovlevna, MD, Head of the chair of nervous diseases and psychiatry, MI NEFU,

677005, Yakutsk, P. Alexeev St. 83A,

E-mail: tyanic@mail.ru phone: +7-914-266-11-14

Okoneshnikova Lyudmila Timofeevna, Head of the neurological Department of the Republican hospital №2, Center of Emergency Medical Care (RCECM).

677005, Yakutsk, P. Alexeev St. 83A,

E-mail: OkoneshnikovaLT@rambler.ru; phone:+7-914-285-81-81

Gorokhova Nadezhda Yurievna - a neurologist;

Luginov Nikolai Vasilievitch, MD, Head of the Department of radiology, Republican hospital №2-Center of Emergency Medical Care (RCECM).

677005, Yakutsk, P. Alexeev St. 83A,

E-mail: lugin@rambler.ru; phone: +7-914-223-48-57;

Klarov Leonid Alexandrovich, Department Head of MRI of Department of radiology, Republican hospital №2 (RCECM).

677005, Yakutsk, P. Alexeev St. 83A,

E-mail: eizonix@gmail.com; phone: +7-914-300-71-81;

Popov Dygyn Aleksandrovich - doctor of the MRI department Republican hospital №2 (RCECM).

Popov Mikhail Mikhailovich, doctor-radiologist of the MRI Department of radiology, Republican hospital №2 – RCECM.

677005, Yakutsk, P. Alexeev St. 83A,

E-mail: lugin@rambler.ru; phone: +7-914-223-48-57;

Osakovsky Vladimir Leonidovich, PhD, Senior researcher, Head of genetic laboratory research Institute of health NEFU

677010 Yakutsk, Sergelyakhskoe highway 4, bldg.2

iz_labgene@mail.ru; phone: +7-924-870-31-67

Sivtseva Tatiyana Michailovna, PhD, Senior researcher of the Department of genetic laboratory research Institute of health NEFU

677010 Yakutsk, Sergelyakhskoe highway 4, bldg.2

E-mail: Sivtceva@licn.ru phone: +7-914-223-74-32

Platonov Fedor Alexeevich, MD, Director of the Institute of health, NEFU

677010 Yakutsk, Sergelyakhskoe highway 4, bldg.2

E-mail: platonovfa@rambler.ru phone: +7-964-419-58-35.

A.A. Yakovlev, M.M. Vinokurov, N.M. Gogolev, A.I. Vasiliev, N.M. Krasnova, V.I. Konstantinov

CLINICAL EXAMPLE OF A SUCCESSFUL LOCAL THROMBOLYTIC THERAPY AT MASSIVE PULMONARY EMBOLISM

ABSTRACT

This article describes a clinical example of successfully carried out an endovascular local thrombolysis at a massive pulmonary embolism. The carried-out local thrombolysis therapy has surpassed all expected effects of treatment.

Keywords: pulmonary artery, pulmonary embolism, local thrombolytic therapy.

Despite advances in treatment of pulmonary embolism, mortality due to this disease remains very high: 7-8% - of hemodynamically stable patients, 25-33% - of patients with systemic hypotension, 67% or higher - of patients with circulatory collapse, who had pulmonary-cardiac resuscitation [1, 2, 3, 7]. At present, the prevalence of PE is estimated at 0.5 cases per 1000 persons per year. Pulmonary embolism (PE) is one of the most important problems of modern clinical medicine and is the third fatality acute cardiovascular disease [3, 6].

At treatment of PE a priority is elimination of obstruction of a pulmonary artery and restoration of its patency. Hitherto for this purpose used a thrombectomy from a pulmonary artery and thrombolytic therapy [4]. Surgical treatment can save the patient's life with massive obstruction of a pulmonary artery, but really available only to a very small number of specialized vascular clinics [1,4,7]. Currently, the most affordable and the most commonly used method of recanalization of the pulmonary artery in pulmonary embolism, in spite of the obvious flaws, is a method of

selective thrombolysis [2,3,4,7,8]. Due to the simplicity of selective thrombolysis is often used in almost all vascular centers [1,5,7,9].

In our clinic to date, methods for selective and local thrombolysis in PE have not been applied. With the advent of our clinic, X-ray surgical operating room, minimally invasive endovascular techniques surgery became possible for everyday practice. Therefore, now the challenge before us is improving the efficiency and safety of thrombolytic therapy for PE with the using of minimally invasive endovascular surgical intervention methods, thereby to reduce morbidity and mortality in cases held PE.

Here are examples of the successful treatment of PE happened less than day, day and a week ago, in the first surgical department of the RH №2 EMCC, where we have used local thrombolytic therapy using endovascular minimally invasive surgery techniques.

The patient `D` of 43 years old with PE happened one day ago. The patient feels ill from 14 march, when in the evening after working day has appeared burning and compression inside the sternum, he was suffering the pain, at night pain gone. On 15 march, he had dyspnea and burning inside the sternum, thought that has caught a chill, he made mustard plasters in the evening. At night, has amplified dyspnea and weakness, in the morning at 6:58 have called emergency medical service. After assistance the patient is anesthetized by morphine, brought to the Republican vascular center office of urgent cardiology. He denies that previously had a myocardial infarction and there were pains in the heart area. He has hypertension in the last 10 years with a maximum pressure of up to 190 mm Hg. Not always taking the medication Lorista, dose does not know. He is adapted to 130/80 pressure. Measures the blood pressure seldom, doesn't visit doctors. Chronic disease: stomach ulcer, diabetes, hepatitis - denies. Denies operations. Harmful habits - denies. Allergic reactions - denies. General state extremely heavy. Consciousness is clear, he is adequate, sociable, guided in time and space. He is a little excited. Integuments are swarthy, acrocyanosis, cyanosis of lips. Peripheral lymph nodes aren't increased. Breath by an open mouth, the frequency of respiratory movements is 26 per min. In lungs auscultation breath rigid, is weakened in the lower departments, single dry rattles on the right. Tones of heart deaf, rhythmical. Heart rate is 133 per min. Blood pressure is 130/80 mm Hg. The stomach is slightly swollen, it is increased for couples of hypodermic cellulose, soft, painless. The vermicular movement is listened. The liver isn't palpated. There are no peripheral hypostases. The urination is free, painless. A stool from words is regular, framed.

ECG: sinus tachycardia with heart rate 128 per min. Changes of a myocardium to a forward wall in the form of QS with T, ST on the isoline. Cicatrical changes of a myocardium on a forward wall aren't excluded.

16.03.2016. The Computer tomography of bodies of a chest cavity with intravenous bolus contrasting:

Conclusion: CT-view of a massive PE.

16.03.2016. Coagulology.

INR=0.99; PTI=102.1%; APTT=22;

16.03.2016. Ultrasonography of heart and vessels - Doppler echocardiography

Conclusion: the left ventricle global systolic function, it is slightly lowered, cardiac ejection fraction is 52%. The left ventricle diastolic function is broken by type 1. Consolidation of an aorta, shutters of the aortal valve, mitral valve. Small asymmetric hypertrophy of the left ventricle. The most hypertrophied site of a myocardium of the left ventricle - an interventricular partition. Insignificant expansion of the right ventricle. Rough accurate zones of the broken local contractility of a myocardium of the left ventricle aren't revealed. Pulmonary hypertension is moderate, systolic pressure in pulmonary artery is 30 mm Hg.

16.03.2016. Ultrasonography with color Doppler mapping of veins of the lower limbs.

Conclusion: echographic signs of non-occlusive thrombosis of one of pair posterior tibial vein of the left lower limb. Posterior tibial vein expanded on the right and the left.

Clinically diagnosed: iliofemoral thrombosis of the left lower limb. Non-occlusive thrombosis of posterior tibial vein at the left.

Complication: PE of the left trunk. Acute cardiac respiratory failure.

The patient, accompanied by the anesthesiologist, is urgently transported to the X-ray operating room.

In the X-ray operating room were carried out works on:

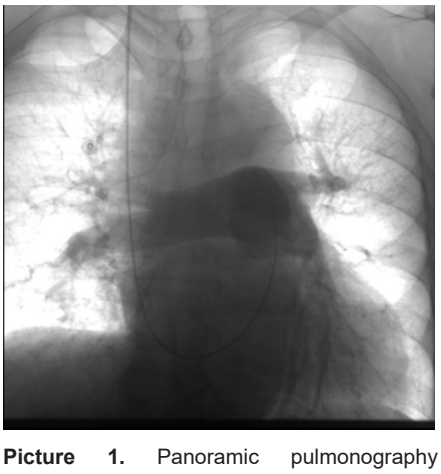
- installation of a "pigtail" catheter for precise thrombolysis therapy through a jugular vein on the right,
- the cavagraphy of the IVC,
- installation of the cava-filter in IVC at lower position than bifurcation of renal veins,
- angiopulmonography.

After installation of a catheter in bifurcation of a pulmonary artery the patient is transferred to DARIC for carrying out an precise thrombolysis. For performing thrombolysis therapy chosen drug – 50 mg solute of Aktelize. As first dose, the 10 mg solute of Aktelize bolus jet was injected into a catheter within 2 minutes. 40 mg of the remaining solute of Aktelize inject with infusion pump within 2 hours under control of a coagulogram. After performing local thrombolysis therapy to the patient the heparin therapy is continued.

As can be seen from the table, significant changes in coagulogram results in a dynamic observation has not happened. This is consistent with data from the literature, in periodic publications of angiology [1,5,9].

After 12 hours of thrombolytic therapy, carried out control angiopulmonography.

The patient continued heparin therapy at a dose of 20,000 units per day, with subsequent transition to tablet form



Picture 1. Panoramic pulmonography snapshot before thrombolysis. On angiography revealed thrombosis of lower left pulmonary artery branches. In the parenchymatous phase a «mute» zone in the middle third of picture.

Коагулограмма пациента Д., 43 года, с ТЭЛА

Parameter	16.03.16	16.03.16	16.03.16	16.03.16
INR	0,99	1,1	1,04	1,04
PTI	102,1	81,7	90,7	90,7
APTT	22	28,4	22,4	22,4

Picture 2. After local thrombolysis therapy. On dynamics of angiopulmonography of 16.03.2016, thrombus in left lower pulmonary artery branch was not detected. In the parenchymal phase, all areas contrasted evenly on both sides.

of anticoagulants under dose control by coagulogram results. Predischarge conclusion of control CT scan of the chest cavity with contrast agent on comparison with 16.03.2016: positive dynamics, absence of contrast defects in the left pulmonary artery. Installed cava filter is removed on the 14th day after the control cavagraphy.

The lower limbs veins ultrasonography: there is no evidence on thrombosis of lower limb veins. The patient was discharged in satisfactory condition on the 14th day after local thrombolysis therapy with full recovery from cardio-respiratory failure, pulmonary recanalization of the thrombosed arteries and veins of the lower limbs.

With similar progress were carried out sighting thrombolysis therapy for two patients with massive PE happened less than day and a week ago. We used Actelize in a dosage of 50 mg instead of the recommended 100 mg on PE. At a reduced Aktelize dose of 50 mg achieved normalization of pressure in the pulmonary arteries.

Thus, our local thrombolysis therapy using endovascular surgical techniques showed that normalization of pulmonary artery pressure and recanalization of thrombus on local thrombolysis occurs in 10-15 minutes after the start therapy. In any case of local thrombolytic therapy, there was no occurrence of bleeding.

CONCLUSIONS

1. Using of X-ray-surgical endovascular treatment methods, allows carry out effective local thrombolysis therapy on PE.
2. On local thrombolysis therapy, recanalization of the pulmonary arteries branches it occurs by direct action of a thrombolytic drug in the thrombus, without significant effects on systemic homeostasis. Moreover, thrombolysis have a moderate influence on peripheral circulation without causing bleeding.

References

1. Alexander J.K. Pulmonary embolism. Guide to medicine. Diagnosis and treatment: In 2 vol. / Edited by R. Berkou, E. Fletcher: Trans. from English. - M .: Mir, 1997. - 1 - 4605.
2. Gagarina N.V., Sinitsyn V.E., Veselova T.N., Ternovoy S.K., Modern methods of diagnosing pulmonary embolism // Cardiology. - 2003. - № 5. - S. 7781.
3. Clinical medicine: Color atlas and textbook / Forbes C.D., Jackson W.F.; Trans. from English. / Edited by Kokorin V.A., Razumova E.T. – M .: Logosfera, 2009. - 544 p.
4. Krutko V.S., Poteyko P.I., Khodosh E.M., Pulmonology: external symptoms. - Kharkov: NTMT, 2011. - 186 p.
5. Savelyev V.S. The role of the surgeon in the prevention and treatment of venous thrombosis and pulmonary embolism. 50 lectures on surgery. - M .: Media Medica, 2003. - S. 9299.
6. Handbook of pulmonology / Edited by Putov N.V., Fedoseyev G.B., Khomenko A.G. – L .: Medicine, 1987. - P. 111-112.
7. Bernard A., Cohen M.D., Christoph U., Lehmann M.D. // DermAtlas, Johns Hopkins University; 2000-2009.
8. Heit J.A., Silverstein M.D., Mohr D.N. et al. The epidemiology of venous thromboembolism in the community // Thromb. Haemost. - 2001 - 86 - 45263.
9. Task Force Report. Guidelines on diagnosis and management of acute pulmonary embolism // Europ. Heart J. - 2000. - 21. - 130136.

Authors

Yakovlev Anton Antonovich, PhD, doctor - a vascular surgeon in Republican Hospital №2, Emergency Medical Care Center. Phone 8-914-233-11-57. Address: RF, Yakutia, g. Yakutsk, ul. Halturina, d. 34/2, kv. 55. E-mail: jakvlev.antn@rambler.ru

Vinokurov Mikhail Mikhailovich, professor, MD, head of the department of surgery, urology, oncology and otorhinolaryngology the Medical Institute in North-Eastern Federal University. E-mail: mmvmi@rambler.ru

Gogolev Nikolai Mikhailovich, PhD, director of the Medical Institute in North-Eastern Federal University

Vasiliev Albert Ivanovich, PhD, director of the Consultative-Diagnostic Center in Republican Hospital №1

Krasnova Natalia Mikhailovna, PhD, doctor, clinical pharmacologist in Republican Hospital №2, Emergency Medical Care Center.

Konstantinov Viktor Ivanovich, doctor, x-ray surgeon in Republican Hospital №2, Emergency Medical Care Center.