

LERICHE'S SYNDROME

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ABSTRACT

Leriche's syndrome is an occlusion of the bifurcation of the aorta and the initial sections of the common iliac arteries, which causes chronic ischemia of the pelvic organs and lower extremities. The disease is manifested by high intermittent claudication, ischemic lesions of the tissues of the legs. Men can have impotence. Diagnosis of the syndrome involves ultrasound of the aorta and vessels extending from it, aortography, assessment of the lipid profile and coagulogram. Conservative treatment is prescribed in the early stages of the disease. Surgical methods include reconstructive aortic plasty, aortofemoral bypass, lumbar sympathectomy.

Keywords: *Atherosclerosis, vascular wall, aortoarteritis, abdominal aorta, duplex scanning, xanthoma, xanthelasma.*

INTRODUCTION

The syndrome bears the name of the French physiologist and surgeon Rene Leriche, who described the pathology in 1923. R. Leriche called this condition terminal aortitis and identified 5 main clinical manifestations. Precise data on the prevalence of abdominal aortic occlusion are unknown, since in some patients it is asymptomatic. In Europe, the disease affects an average of 1% of the population. The manifestation of the syndrome is typical at the age of 40-60 years. The ratio between men and women

among the sick, according to the observations of different authors, ranges from 10:1 to 30:1.

Etiology. Damage to the terminal aorta can be caused by both acquired and congenital etiological factors. The development of the syndrome is facilitated by pathologies that reduce the lumen of the vessel from the inside or compress the aorta from the outside. In modern cardioangiology, 4 main groups of causes that cause Leriche's syndrome have been established, which include: 1) Atherosclerosis. The formation of an atheromatous plaque in the area of the aortic bifurcation is detected in 88-94% of patients with manifestations of Leriche's syndrome. Atherosclerotic occlusion is characterized by slow but steady progression. 2) Nonspecific aortoarteritis. Autoimmune inflammation of the aorta accounts for about 5% of the causes of Leriche's syndrome. Aortoarteritis causes symptoms of occlusion mainly in young people - from 20 to 40 years. 3) Thrombosis and thromboembolism. Post-thromboembolic occlusion of the aortic bifurcation may result from thrombi that have formed in the left heart in the aorta. In 1% of patients, traumatic thrombosis occurs due to pelvic fractures. 4) Rare causes. Sometimes the development of Leriche's syndrome is associated with compression of the aorta from the outside by tumors or fibrous processes in the retroperitoneal space. Less than 1% is occupied by congenital causes - vascular hypoplasia or aplasia, as well as fibromuscular dysplasia.

Pathogenesis. Leriche's disease is characterized by damage to various layers of the vascular wall, which is determined by the etiology of the process. Atherosclerosis is characterized by changes in the aortic intima, the formation of lipid plaques that block the lumen of the vessel. With aortoarteritis, the middle and outer layer of the aortic wall is predominantly thickened, often perifocal inflammation of the autoimmune type begins. The pathophysiological basis of the disease is a progressive decrease in blood flow in the vessels of the lower extremities and pelvic organs. Because of the steal syndrome, leading to insufficient blood flow to the inferior mesenteric artery, ischemia of the internal organs of the abdominal cavity is observed. Hemodynamically significant disorders are determined with occlusion by 60-70%. The

degree of process compensation depends on the rate of formation of vascular collaterals.

Classification. Russian surgeon A.V. Pokrovsky distinguishes 3 types of occlusion of the abdominal aorta: low (distal to the inferior mesenteric artery), medium (between the inferior mesenteric and renal arteries) and high (at the level of the renal arteries). More than 60% of people with the Leriche syndrome clinic have concomitant damage to the coronary or brachiocephalic arteries.

For the choice of treatment tactics, there is a classification of aortoiliac lesions according to TASC II, according to which 4 types of syndrome are distinguished: 1) Type A. The patient has narrowed common iliac arteries (CIA) on one or both sides. The aorta is not involved in the pathological process. This category also includes short (less than 3 cm) occlusions of the external iliac arteries. 2) Type B. It is a lesion of the infrarenal aorta with a length of no more than 3 cm, bilateral stenoses of the LAA and LAA with a length of 3 cm to 10 cm. 3) Type C. This variant of Leriche's syndrome is characterized by stenoses of the LAD and LAA, which extend to 10 cm or more. In type C, the occlusion extends to the common femoral arteries. 4) Type D. The most severe variant of the lesion, when the abdominal aorta and iliac arteries on both sides are involved in the process.

Clinical manifestation. The first signs of Leriche's syndrome are chilliness and paresthesia of the lower extremities. The skin of the feet and legs becomes very pale, cold to the touch. During walking, unpleasant pulling sensations are usually noted in the buttocks and along the back of the thigh. If the process is caused by atherosclerosis, there are signs characteristic of this disease - xanthoma and xanthelasma, fatigue, chest pain. The classic sign of Leriche's syndrome is intermittent claudication. During a quiet walk, there is a sharp pain in the gluteal and femoral muscles, forcing the person to stop. After a short rest, the pain disappears. In the first degree of ischemia, patients are worried about the rapid fatigue of the muscles of the legs, in the second - pain occurs when walking, in the third does not disappear even at rest, in the fourth, ulcerative-necrotic skin disorders are detected. In 20-50% of men, Leriche's syndrome is

manifested by impotence. The defeat of the pelvic organs is also characterized by gas incontinence, difficulty urinating. When walking fast or climbing stairs, there are pains in the abdomen, which are caused by a pathological redistribution of blood volume. With a long course of the syndrome, the skin of the feet acquires a bluish tint, swelling of the legs appears.

Complications. If left untreated, Leriche's syndrome proceeds extremely unfavorably - 5-7 years after the manifestation of the disease, the probability of death reaches 50%. Progressive ischemia is accompanied by trophic disorders of the lower extremities. Ischemic edema increases, ulcers form on the skin of the legs and feet. In the future, dry or wet gangrene of the distal legs is possible, leading to disability. Less commonly, cardiac complications occur, which are caused by the progression of atherosclerosis or thromboembolic processes. With Leriche's syndrome, the risk of myocardial infarction and stroke increases several times. The lesion extends to the arteries of the kidneys - there is a death of most nephrons with the formation of terminal renal failure.

Diagnostics. A preliminary diagnosis of occlusion is possible during the initial examination by a general practitioner or vascular surgeon. Physical examination reveals the absence of pulsation of the large arteries of the lower extremities. On auscultation, a systolic murmur is heard over the abdominal aorta. A characteristic decrease in the ankle-brachial index is less than 0.7. To confirm Leriche's syndrome, studies are carried out: 1) ultrasound of the vessels. Duplex scanning makes it possible to assess with high accuracy the degree of narrowing of the aorta near its bifurcation, to determine the features of the pathological process. Using ultrasound, the blood flow velocity in the femoral arteries is examined. 2) Aortography. X-ray contrast examination is performed in patients who have indications for surgical treatment. Aortography is used to determine the exact location and extent of a vascular lesion, to assess the degree of collateral blood flow. An alternative to radiography is CT of the aorta with contrast. 3) Laboratory methods. With occlusion of the aortic bifurcation, the analyzes are classified as auxiliary diagnostic studies. To confirm the

atherosclerotic origin of the occlusive syndrome, the level of cholesterol and lipoproteins is examined. Be sure to perform a coagulogram. If necessary, take blood for acute phase indicators.

Treatment.

I. Conservative therapy. Drug treatment is limited to the initial degree of occlusive diseases, when trophic damage to the lower extremities has not yet developed. The intake of drugs is combined with spa treatment, exercise therapy and dosed walking (terrenkur). With dyslipidemia, an appropriate diet is recommended. With the Leriche complex, there are 2 main areas of therapeutic measures: 1) Deaggregation therapy. Patients are shown lifelong intake of antiplatelet agents (acetylsalicylic acid or thienopyridines) in low maintenance doses. Treatment is aimed at normalizing the work of the blood coagulation system, preventing thrombosis. 2) Lipid-lowering therapy. Drugs that lower cholesterol and LDL are prescribed for atherosclerotic etiology of Leriche's disease. Statins and fibrates are mainly used in minimal therapeutic dosages.

II. Surgery therapy. Operative methods are indicated for ischemia of the lower extremities II-IV degree. In case of type A and B lesions according to the TASC classification, vascular surgeons use the endovascular method of surgery. For patients with type C and D syndrome, it is advisable to perform open surgical interventions on the affected vessels. Several surgical techniques are used to eliminate Leriche's syndrome: 1) Reconstructive techniques. The best way to restore blood flow in the lower body is considered to be resection of the altered aorta with its subsequent prosthesis. The operation has good long-term results, rarely causes thromboembolic complications. 2) Aortofemoral bypass. With preserved blood flow in the iliac arteries, shunting of blood into the femoral arteries is indicated. The technique improves the blood supply to the lower extremities due to the flow of arterial blood directly from the aorta. 3) Lumbar sympathectomy. The operation is performed to eliminate the spasm of the distal vessels of the extremities in the presence of contraindications to more

radical methods of treatment. Sometimes sympathectomy is done along with revascularization to increase the effectiveness of therapy.

Forecast and prevention. Performing reconstructive operations improves the quality of life in all patients and restores working capacity in 90% of patients. To improve the long-term results of treatment, dispensary observation with regular duplex scanning of blood vessels is recommended. Prevention of Leriche's syndrome is aimed at timely detection and treatment of the main causes of the disease - atherosclerosis, aortoarteritis.

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