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## ETIOLOGY AND TREATMENT OF ARS SYNDROME, FREQUENCY OF SPREAD OF THE DISEASE

**Annotation:**ARS syndrome is a condition that affects the tendons and ligaments that attach to the symphysis and pubic bone. Initially, it has an inflammatory, then - degenerative-dystrophic character. It is caused by monotonous loads and repetitive microtraumas. It is found in athletes. It is manifested by pain in the lower abdomen and groin area, which increases when the hip is withdrawn. It is diagnosed on the basis of complaints, medical history, results of an objective examination, radiography, ultrasound and MRI data. Treatment includes exercise restrictions, medications, physical therapy, and surgery.

**Key words:**surgery, ARS syndrome , medical history.

ARS syndrome is a fairly common disease among athletes. The abbreviation ARS stands for Adductor-Rectus-Symphysis and contains Latin names for the affected structures: adductor muscles of the thigh, rectus abdominis, and pubic joint. The syndrome has been known since 1958, the first description belongs to the Bulgarian doctor M. Bankov. Pathology is included in the group of myofascial pelvic pain syndromes. It is most often diagnosed in football players. It can occur in people who are actively engaged in any sports with an intense load on their legs. Significantly restricts the possibilities of patients, and may lead to forced withdrawal from big-time sports.

The main reason for the development of ARS syndrome is the discrepancy between the amount of physical activity and the body's ability to heal itself, especially against the background of instability of hard and soft – tissue structures of the pelvic region, lower extremity. Pathology is provoked by monotonous asymmetric loads on the hip, lower abdomen and groin area (for example, when the lower limb is forced to move at the moment of hitting the ball). The situation is aggravated by an ill-conceived training regime and a premature return to sports activities after an injury.

### Pathogenesis

When tendons and ligaments are overloaded, microfractures occur in the areas of greatest tissue tension. In response to damage, local areas of edema and areas of inflammation are formed. The tendon's resistance to stress decreases, and the circulatory conditions in the affected area worsen. The above leads to the appearance of an increasing number of microfractures, the formation of microtubules and areas of fat degeneration.

The inflammatory process is joined by a degenerative-dystrophic one. Enteropathy develops. Tendinitis and tendovaginitis of the tendons of the abdominal and hip muscles are formed in combination with a similar process in the area of the ligaments and tendons of the symphysis. The result is a decrease in the functional capabilities of the patient with ARS syndrome, the occurrence of pain.

### Symptoms

ARS syndrome is detected in young people who are actively involved in sports, usually in professional athletes. Patients complain of pain in the groin area radiating along the affected muscles. The intensity of the pain syndrome can vary from minor or moderate to severe, significantly limiting the patient's activity. There is a connection between pain and certain physical activities. Palpation reveals local

soreness in the tendon projection. When performing functional tests (adduction of the hip with resistance, abduction of the hip, tension of the abdominal muscles), the pain syndrome increases.

#### Complications

With long-term ARS syndrome, due to severe degeneration of the tendon tissue, the probability of major injuries (tears and tears) increases. In some cases, the long-term persistence of symptoms of the disease leads to forced restriction of physical activity, non-participation in competitions, and even abandonment of a sports career. Complications can also be caused by drug therapy of the pathology – with frequent blockades using glucocorticosteroid drugs, it is possible to aggravate degenerative processes in the affected area.

#### Diagnostics

A preliminary diagnosis is often made by a sports doctor. To make a final diagnosis, an orthopedic specialist's examination and hardware tests are required. ARS syndrome can be suspected by a characteristic medical history (intense monotonous asymmetric loads), complaints of groin pain that increases with movement, and positive results of functional tests. The following instrumental methods are assigned for confirmation::

- X-ray examination. With a prolonged course of ARS syndrome, X-rays of the pelvis reveal the presence of degenerative-dystrophic changes in the joint area of the pubic bones. Similar lesions of the sacroiliac joints are possible.
- Ultrasound of the pubic joint. During sonography, the condition of cartilage and bone structures, upper thigh muscles, and areas of attachment of their tendons (entheses) is assessed. The results of the procedure determine the expansion of the symphysis, degeneration of tendon and muscle fibers, especially pronounced in the area adjacent to the bone.
- MRI of the pelvic bones. Scanning allows you to visualize inflammation and degeneration in the entheses and adjacent parts of the tendons, as well as in the symphysis and sacroiliac joints.

#### Treatment of ARS syndrome

##### Conservative therapy

Treatment can be carried out on an outpatient basis or in the Department of Traumatology and Orthopedics. An important condition for successful therapy is the exclusion of intense physical exertion. Patients with ARS syndrome are advised to temporarily stop training. In the early stages, medical therapy and physiotherapy are used. NSAIDs of general action are prescribed, corticosteroids are injected into the affected area. The following physiotherapy methods are used:

- laser therapy;
- magnetic therapy;
- Bernard currents;
- electrophoresis with painkillers;
- massage, physical therapy.

Kinesiotherapy is indicated for the zone of the pubic joint and adjacent muscles. The most effective conservative treatment method is shock wave therapy.

##### Surgical treatment of ARS syndrome

In case of ineffectiveness of conservative methods, frequent relapses, surgical intervention is recommended. During the operation for ARS syndrome, partial dissection of the hip and abdominal muscles involved in the pathological process is performed with their simultaneous plastic reconstruction. The patient is allowed to get up on the second day. In the postoperative period, analgesics and antibacterial agents are prescribed.

##### Rehabilitation services

After 3 weeks, with satisfactory ultrasound data indicating sufficient recovery of the operated structures, rehabilitation begins, which includes physical therapy, electromyostimulation, and

hydrokinesotherapy. A month after the surgical treatment of ARS syndrome, running without obstacles and accelerations is allowed. After a month and a half, the patient is allowed to train, and a gradual increase in the load is recommended.

#### Prognosis and prevention

The prognosis of patients with ARS syndrome can be considered as conditionally favorable. The effectiveness of conservative therapy is low, with a steady improvement occurring in 20-25%. The best results are observed after shock-wave therapy. After surgical treatment, the pain syndrome disappears, patients return to sports as usual, but relapses are possible in the long-term period. Preventive measures include a well-thought-out training regime, a gradual increase in sports loads, and ensuring a sufficient recovery period after injuries.

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