Acta Scientific NUTRITIONAL HEALTH (ISSN:2582-1423)

Volume 6 Issue 7 July 2022

Review Article

Shoulder-Fulp Pain Syndrome in Patients, Work Physical Culture and Sport: Modern Aspects of Rehabilitation

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Received: May 12, 2022

Published: June 17, 2022

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Abstract

Purpose: Improving the effectiveness of rehabilitation of athletes and those engaged in physical education with shoulder pain syndrome.

Material and Methods: Rehabilitation activities were carried out in 980 patients with shoulder-type pain syndrome. Rotator cuff pathology was diagnosed in 88% of patients, in 5% cases - the biceps long head tendinitis, in 4% - the clavicular acromial joint pathology, in 2% of cases - the subacromial bursitis. Clinical methods (including DASH - Disability of the Arm, Shoulder and Hand Outcome Measure) as well as instrumental methods (sonography and MRI diagnostics) were used.

Results: Excellent and good results were obtained in 98% of patients with shoulder pain syndrome. 2% of patients were referred for surgical treatment. The disappearance of shoulder pain syndrome was observed in 82% of patients; 16% of patients had pain syndrome significantly reduced.

Conclusion: The use of differentiated rehabilitation programs using modern physical therapy techniques allows to get excellent and good results in all patients with shoulder-patched pain syndrome, engaged in physical culture and sports

Keywords: Shoulder-Icing Pain Syndrome; Rotator Cuff of the Shoulder; Rehabilitation; Modern Methods of Physical Therapy; Persons Engaged in Physical Education and Sports.

Introduction

Pain in the shoulder joint associated with the pathology of periarticular tissues is one of the most common complaints from the musculoskeletal system in the adult population. The prevalence of this pathology is 4-7%, increasing with age (from 3-4% at the age of 40-44 years to 15-20% at the age of 60-70 years). -6 at the age of 40-45 years and 8-10 at the age of 50-65 years with a slight predominance in women. a maximum of 25 cases per 1,000 population for those aged 42-46. Among older people aged 70 and over, one in five complains of shoulder pain. Shoulder pain is one of the most common complaints of people performing repetitive actions related to raising their arms at shoulder level or above, in particular in physical culture and sports: swimming, throwing the ball, playing tennis, lifting weights, playing volleyball, badminton, etc. [1,3-5].

Today, shoulder-bladed pain syndrome is considered to be a polyethyological type of symptom complex. Its clinical manifestations may be caused by the defeat of the ligament-muscle apparatus surrounding the shoulder joint, the shoulder joint itself, as

well as pathological changes at the level of the cervical spine (cervical osteochondrosis and spondyloarthrosis). Among all forms of regional muscle pain, cervical-shoulder localization is the most common in the population (30.3%). namely: diseases of the rotator cuff (VMP), inflammation of subacromic and fake bags, capsulitis (irritative or adhesive) primary and secondary, diseases of the long head of the biceps, disease or trauma of the acromioclavicular joint, compression-ischemic neuropathy of the supra-scapular or axillary's nerves. The rotator cuff of the shoulder is in this list the most common. According to various authors, it accounts for up to 80% of periarticular shoulder pathology.

The variety of diseases lurking under the "mask" of shoulder pain syndrome, the small informativeness of X-ray methods of the study, the lack of a differentiated approach in the appointment of rehabilitation measures, when the doctor is "easier" and "easier" prescribe standard pain and anti-inflammatory therapy, determine the high incidence of poor recovery outcomes in this category of patients, especially among those engaged in physical education and sports.

The purpose of the study

Improving the effectiveness of rehabilitation of athletes and those engaged in physical education with shoulder pain syndrome.

Material and Methods

More than 20 years of rehabilitation experience of patients with shoulder-type pain syndrome (980 patients aged 18 to 52 years, 710 men and 270 women) were analyzed. The cause of acute or chronic shoulder pain in patients was acute trauma (7% of cases) or chronic microtraumatization (93% of cases) of shoulder tissues during physical culture and sports (basketball, volleyball, tennis, swimming, etc.).

Clinical and instrumental methods of research were used to assess the condition of patients. Clinical methods included analysis of the dynamics of pain syndrome on the YOUR (visual-similar scale), amplitude of active and passive movements in the shoulder joint, symptoms of colliding and changes in the shoulder-blade rhythm. To assess the dynamics of activity in everyday life used a questionnaire DASH - Disability of the Arm, Shoulder and Hand Outcome Measure - questionnaire of outcomes and inability of the hand and hand, revealing the degree of difficulty of performing various physical actions due to the limitation of shoulder or hand function. In some cases (if suspected of a complete muscle rupture or damage to the joint lip) X-rays, MRI or ultrasound examination of the shoulder joint was performed.

Detailed clinical-functional study allowed to clarify the localization, form and severity of periarticular pathology of the shoulder joint (Table 1).

Clinical form of PLP syndrome		Number of patients	% Of the total
Pathology of the Rotator cuff	Impingement syndrome	676	69%
	Impingement syndrome complicated by capsulitis	176	18%
	"pseudo-paralic" syndrome	11	1,1%
Tenosinovitis long bicep head		49	5%
Arthrosis of the key-acromial joint		39	4%
Subacromial bursitis		19	2%
Damage to Bankart		9	0,9%

Table 1: Clinical variants of PLP syndrome in patients.

88% of patients were diagnosed with a pathology of the rotator cuff of the shoulder (tendinitis, tendinosis, partial and complete ruptures), 5% - the long head of the two-headed shoulder muscle, 4% - the key-acromial joint, in 2% - inflammation of the subacromial bag, in 1% - damage to the joint lip (Bankart).

The "falling arm" or "pseudo-paralic" syndrome is the most characteristic sign of a full rupture of the rotator cuff. These patients (11 people), as well as patients with damage Bankart (9 patients) were sent to the surgical hospital for routine surgical treatment.

Most patients with shoulder pain syndrome experienced a decrease in activity in daily life (ADL) according to DASH.

Results

The algorithm of clinical assessment of the condition of the patient with shoulder-pattern pain syndrome, which includes: as-

sessment of pain by YOUR, evaluation of the strength of periarticular muscles (by 6-point system), analysis of the degree of muscle hypotrophy, measurement of active and passive movements shoulder range, testing for the presence of symptoms of collision (Neer, Iokum, back impingement test), in the presence of symptoms of collision - conducting topographical tests (Job, Gerber, "all I can", tests for resistance of the outer and internal shoulder rotation), evaluation of the shoulder rhythm, analysis of changes in activity in everyday life (according to the DASH).

Taking into account the characteristics of shoulder pathology, differentiated rehabilitation programs have been developed, taking into account the characteristics of the clinical-functional condition of patients and their physical (including sports) activity. Rehabilitation activities aimed at pain relief, the restoration of the amplitude of movements in the joint and shoulder rhythm, as well as strengthening of near-articular muscles, included the use of various methods of physical therapy and physiotherapy, the use of non-steroidal anti-inflammatory drugs (NSAIDs), and in some cases - acupuncture and psychotherapy. The main place in the rehabilitation programs was physical therapy, which included: active and passive LFC, gymnastics using sling-systems, joint mobilization and soft manual therapy techniques (Cathelborn, Maitland, Mulligan, postmetric muscle relaxation), proprioceptive neuromuscular facilitation (PNF), exercise machines (including robotic mechanotherapy and BOS technologies), physical therapy, hydrotherapy.

The main task of physical therapy in impingement syndrome was to strengthen the muscles of the rotator cuff, restoring their function as dynamic stabilizers of the head of the humerus. Strengthening of the muscles of the rotator cuff was achieved with the use of active, active-passive movements, isometric gymnastics, exercises with resistance, with dosed weighting, etc. At first, the movements were performed only with overcoming the weight of the limb itself; in the future, an additional weight of 0.5 to 2 kg was used for weight. In this category of patients, soft manual and mobilization joint techniques were widely used, stabilizing techniques of PNF therapy (including when using sling systems), exercises with ball, fitball in a closed kinematic chain in different starting positions, (sitting at a table, standing on the stomach), physical therapy, exercises with elastic tape (which began with symmetrical movements in the sagittal and frontal planes, and then moved to the asymmetrical movements in the horizontal plane). In order to improve muscle tone, to restore muscle strength of the rotator cuff, classes on the Galileo vibrating platform (frequency 20-30 Hertz, The duration of the session - 3-15 minutes). In severe pain syndrome, the exercises began to perform from the original position "lying on the back." In the rotator cuff pathology we widely used the electrostimulation of supraspinatus, infraspinatus and deltoid muscles. forming a single biomechanical pair. In some cases, especially in the presence of contraindications to electrotherapy, reflexology was used on an analgesic or harmonizing technique. Patients with psycho-emotional disorders have got the psychological or psychotherapeutic correction. The average duration of the rehabilitation course in patients with VMP pathology was 4-6 weeks.

The main task of treating patients with subacromial bursitis was to stop pain syndrome. To this end, non-steroidal anti-inflammatory drugs (short course), electrotherapy, ultrasound, acupuncture were prescribed. In severe pain, microdose corticosteroids (from 1/4 to 1/2 of the standard dose for this drug) were injected into the bursa area once. Physical therapy included passive movements in the affected shoulder joint, free fly movements in sagittal and frontal planes (within 20-30 degrees of the original position "standing", with a tilted forward body), active exercises for the beam and elbow joints, respiratory gymnastics, and from 2-5 days - block fur therapy and LFC in the pool. As the pain decreased, active exercises were added for the shoulder joint with increasing amplitude. The average duration of the course of restorative treatment in this form of PLP - 3-4 weeks.

Rehabilitation activities for tendinitis of the long head of the two-headed shoulder muscle included electrotherapy, ultrasound, the appointment of NSAIDs (short course), as well as physical therapy, Aimed at strengthening the double-headed muscle and rotator shoulder.

The use of differentiated rehabilitation programs has allowed to get an excellent and good results in 98% of patients with shoulder-type pain syndrome. The disappearance of shoulder pain syndrome was observed in 82% of patients; in 16% of patients shoulder pain syndrome significantly reduced. By the time the rehabilitation course was completed, the total (according to the DASH) had 72% of patients below 25 points, and 28% - in the range of 25 to 50 points, the average values of the total rate of APJ corresponded to 21.4 points (by 45.9 points lower than at the beginning of treatment, $p < 0.05$).

Conclusion

The use of differentiated rehabilitation programs using modern physical therapy techniques allows to get excellent and good results in all patients with shoulder-type pain syndrome, engaged in physical culture and sports.

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