CERVICOHUMEROSCAPULAR PAIN SYNDROME: ANALYSIS OF DIAGNOSTIC AND THERAPEUTIC MEASURES (REVIEW ARTICLE)

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Abstract*. Pain in the cervical spine is one of the important problems of modern medicine and has a high socio-medical significance. Numerous screening surveys have shown that 25 to 75% of people of working age experience neck pain during the year, and cervicalgia associated with disability occurs in 2.5-17.5% of cases, and repeated episodes of pain occur in 5% of people over the next 5 years of life. The greatest severity and frequency of neck pain is observed in people aged 35-55 years [2,14]. The review article presents the literature data from the results of a study on the diagnosis and treatment of cervicohumeroscapular pain syndrome. Research methods and modern treatment measures are described that reduce pain and improve the quality of patients with this pathology.*
Keywords*: ostechondrosis, radiculopathy, diagnosis, treatment.*

Introduction. Degenerative-dystrophic lesions of the spine are one of the most common human diseases. They begin to develop already in adolescence and reach their “heyday” in the most active working period of a person from 35 to 60 years. Cervical pain syndrome is in 3rd place in terms of prevalence among the clinical manifestations of spinal osteochondrosis after lumbodynia with a frequency of up to 40%. These diseases cause suffering to patients and society, and the economic losses associated with them are incalculable [3,16]. According to the classification of diseases of the peripheral nervous system, there are a number of main clinical syndromes of osteochondrosis of the cervical spine: nerve root, reflex (muscular-tonic, neurodystrophic, vegetative-vascular, pain), associated with the spinal cord and brain. In the development of neurological symptoms of osteochondrosis of the cervical spine, direct pathological changes in the spinal segment (primary pathogenetic factors) are important, as well as stimulation of structures innervated by the spinal nerve, and the involvement of segmental vegetative formations in the pathological process, leading to disorders: reflex myotonic, neurotrophic and vascular problems (secondary pathogenic factors) [9,12,16].

The development of spondyloarthrosis and arthrosis outside the vertebral joints is associated with microtrauma of the roots at the cervical level, and osteophytes also play a role. The corresponding bone growth narrows the intervertebral foramina, so at the cervical level the roots are often compressed not because of the epidural intervertebral hernia, but because of the intervertebral foramina themselves. Intervertebral hernia at the cervical level can occur as a result of macrotrauma due to overextension, microtrauma associated with the characteristics of professional activity, as well as after unsuccessful manual therapy at the cervical level. As a result of instability of the spinal segment, damage to the roots is possible. When a nerve root and its sheath are injured, swelling and reactive aseptic inflammatory reactions occur from the compressed root. Most often, the VII cervical vertebrae are affected (75%), the VI cervical vertebrae are affected less often - up to 15% of cases, the remaining 10% are caused by damage to

the roots of the V and VIII cervical vertebrae. Lesions of the third and fourth cervical roots are very rare [16,17,18]. The main symptoms of nerve root damage are observed in the area of its innervation: pain and paresthesia, sensory disturbances, muscle weakness and hyperreflexia. As a rule, pain intensifies with movement of the cervical spine, especially if the head is tilted towards the affected root [8,16].

Reflex muscular-tonic symptoms of osteochondrosis of the cervical spine are due to the fact that long-term pathological impulses emanate from the receptors of the affected tissues of the spinal motor segment and enter the spinal cord, where they switch to its anterior and lateral angles, and then to the striated muscles, causing their reflex tension. Reflex symptoms of osteochondrosis of the cervical spine manifest themselves in the following clinical forms:

Anterior scalene muscle syndrome occurs when the C5-C7 roots are stimulated. The pain is localized on the sides of the neck and spreads to the arms along the ulnar surface of the forearm and hand. Sometimes, especially in the morning, paresthesia occurs on the fingers and forearms. Weakness of the hands and atrophy of the tenor and hypotenor muscles may develop. The anterior scalene muscle is compressed and painful on palpation.

Periarthritis - myotonic and neurotrophic changes affect the tissues surrounding the shoulder joint. The clinical picture is characterized by very intense pain in the shoulder joint, which can spread to the neck, shoulder and scapula. The pain syndrome is combined with limitation of passive and active movements in the shoulder joint. Muscle spasms and painful tightness are observed in almost all muscles that move the shoulder joint.

Shoulder-hand syndrome is characterized by the manifestation of periarthritis of the shoulder in combination with edema and other autonomic-dystrophic changes in the area of the hand and wrist joints with intact elbows.

Pectoralis minor syndrome is caused by compression of the neurovascular bundle between the muscle and the head of the humerus. Especially often the bundle is compressed when the arm is severely removed under anesthesia, during fixation during a fracture of the humerus, etc. Pain and paresthesia are felt in the front of the chest, on the shoulder blades and often in the arms. Movement disorders in the hands and sensory disturbances in 4-5 fingers are possible. The muscles are dense and painful to the touch [12,16].

Vertebral artery syndrome or posterior cervical sympathetic syndrome is caused mainly by the effect of pathological bone and cartilage structures on the vertebral artery and its sympathetic plexus. With a simultaneous decrease in the lumen of blood vessels, vascular compression syndrome occurs. The reflex component of vertebral artery syndrome is stimulation of sympathetic efferents (sympathetic efferent fibers - smooth muscles of the vascular wall), as well as afferent stimulation (sympathetic fibers of the vertebral nerve). Symptoms of vasomotor syndrome are divided into 2 stages: dystonic, or functional, and organic, with organic arterial stenosis. If the stenosis is not compensated by collateral blood flow, circulatory disorders occur in the spinal canal area.

Cervicocranialgia - One of the most common reflex syndromes is cervicogenic headache (CHH), which refers to secondary headaches. There is a pronounced polymorphism of the clinical picture; it is possible to “mask” other types of headaches, such as migraine. The pain is localized in the neck and occipital region, usually on one side, radiates to the fronto-orbital region, temples, ears, intensifies or is caused by movement or prolonged stay in one position. The pain can be dull, aching, sometimes stabbing, tearing or throbbing. The intensity can be low or moderate. There is

a tendency to increase. Associated symptoms are also rarely observed: phonophobia or photophobia, injections into the conjunctiva, nausea, vomiting [4,5]. It is characterized by limited range of motion in the cervical spine, pain in the neck muscles, changes in muscle tone, or a reaction to passive or active stretching. Typically, pain in the cervical spine is combined with the presence of functional blocks at the upper cervical level. A common cause of cervical headache is the syndrome of the inferior oblique muscle - a spasmed muscle can compress the neurovascular bundle passing under it (segments of the vertebral artery, arterial sympathetic plexus, occipital nerve), the development of paresthesia of the scalp is typical, and sometimes pain occurs when scratching. Stimulation of the cervical structure causes pain, and anesthesia reduces it [1,4].

Isaikin A.I. (2015) In his work “Diagnostics and Treatment of Cervical Pain”, he notes that with age, the risk of cervical pain increases, women suffer more often, and the pain recurs in 26-30% of cases.

Firsov A.A. And the co-authors in their article (2012) “Vertebrogenic cervical radiculopathy: clinical aspects of diagnosis and treatment” describe clinical cases of patients with spinal cord compression at the C5-C6 levels who underwent surgery. The authors conclude that surgery is indicated for symptoms of spinal cord compression (spondylogenic cervical myelopathy) and severe pain (clear signs of radiculopathy, confirmation of root compression using MRI or CT myelography, failure of all conservative treatment within 8 weeks). Surgical treatment provides a more rapid regression of pain compared with conservative therapy, but when comparing long-term treatment results (for example, after 1 year), no significant difference was found [13, 15, 17]. Lutsik A.A. et al. (2014) in the study “Errors in the diagnosis and treatment of spondylogenic cervical root compression syndrome and pseudoscar pain in the arm” diagnose root compression syndrome in osteochondrosis of the cervical spine and spondyloarthrosis; provocative discography and periarticular blockade of clinically significant spinal motion segments reproduce the symptom complex, which is well known to patients and should be able to immediately eliminate or reduce it using chemical denervation. The results of the puncture operation confirmed the dependence of pseudoarterial pain in the arm mainly from osteochondrosis in 33.8% of cases, spondyloarthrosis - in 6.7%, as well as from osteochondrosis and spondyloarthrosis - in 59.5% of cases. %; The developed algorithms for the diagnosis and differentiated treatment of pain syndromes of the upper extremities, depending on the individual pathomorphological substrate and combination of syndromes, improve the results of treatment of patients with short-term myalgia and allow achieving stable regression of pseudorubose pain in 94% of patients [10,11]. Kalbus A.I. (2014) “Cervical radiculopathy: possibilities for diagnosis and treatment”, despite numerous publications on the diagnosis and treatment of spinal diseases, based on evidence in this area. This article presents modern literature data and our own observations on diagnosis and treatment of the second most common pathology (after the lumbosacral level) is degenerative cervical radiculopathy [6,7].

Thus, despite its high prevalence, cervical radiculopathy remains relatively poorly understood from a medical data point of view. In general, patients with this pathology have a good prognosis. Therefore, conservative treatment is the first treatment option. Surgical treatment should be considered in cases of prolonged (more than 3 months) severe pain, with severe compression of the spinal cord at the cervical level.

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