

REFLEX EXCITABILITY OF THE SPINAL CORD SEGMENTAL APPARATUS IN PATIENTS WITH FIBROMYALGIA

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Abstract: Fibromyalgia (FM) has taken a firm place among the most pressing and challenging problems of medicine in recent years. There is no doubt about the practical importance of its study, as FM is the most common form of chronic myalgic syndromes. Meanwhile, there are many unresolved issues in the problem of FM; it is called a myth, questioning its reality as an independent disease.

Keywords: Fibromyalgia, myofascial pain syndrome

Purpose of the study: Investigation of reflex excitability of the spinal cord segmental apparatus in patients with fibromyalgia

Material and Methods: clinical and electrophysiological examination was carried out in 54 patients (9 males and 45 females) aged 21 to 50 years. The diagnosis of FM was made on the basis of generally accepted criteria and guidelines. In addition to general neurological and vertebro-neurological examination, all patients underwent manual testing of the musculo-articular and fascial-ligament structures of the locomotor system.

RESULTS: Neuroorthopaedic analysis of the FM patients we examined showed that a significant number of musculocomposite structures of the axial skeleton and extremities can be a source of pain. The following pain zones and frequencies were identified: craniovertebral junction 100%, neck 82%, shoulder-lumbar 87%, inter-scapular area 93%, anterior chest wall 69%, lumbar spine 95%, gluteal area and hip joint area 87%, anterolateral surface of the thigh 65%, posterior surface of the lower leg 72%. Localisation was diffuse, symmetrical or dominated by specific algic areas. Next, we performed a clinical analysis of the muscles involved in the clinical picture of MFBS. Analysis of the results of this section of the study allowed us to identify the most typical variants and frequency of painful muscle syndromes: Suprascapular syndrome - (24%), interscapular pain syndrome (21.4%), sclerotome kefalgia (11.1%), anterior thoracic wall syndrome - observed in (8.3%), anterior lumbar muscle syndrome (7.4%), muscle syndrome, scapulae (2.8%), interlumbar-shoulder plexopathy was observed in only 1 patient (0.9%), sternum muscle syndrome (14.8%), iliopsoas muscle syndrome (6.5%), broad fascia femoris muscle syndrome (2.8%). The mean values of the muscle syndrome index were 8.6

points in FM patients and 12 points in FM patients with actual MFBS. The average values of the vibration recoil phenomenon were 6.2 points in FM patients and 8 points in FM patients with concomitant MFBS.

Pathological motor stereotype was revealed in 31.5% of FM patients we observed: upper crossed syndrome (17 patients - 15.7%); lower crossed syndrome (10 patients - 9.3%); storey (layered) syndrome (7 patients - 6.5%). The results of this fragment of the study showed that FM is characterized by increased excitability of elements of the motoneuron pool. This is indicated, in particular, by a decrease in the threshold of reflex response, as well as by a decrease in the range of reflex amplitude increase from the threshold to the maximum value. The results of the study of the amplitude-temporal parameters of MR of FM patients showed that for FM with MFBS the most characteristic is an increase in the reflex excitability of neurons involved in the realization of the late component of the blink reflex. It is known that the reflex arc of MR includes afferents of the first branch of the trigeminal nerve, efferents of the facial nerve, nuclei of these cranial nerves, and neurons of the reticular formation of the brain stem. Obviously, the observed changes of MR parameters in FM patients testify to the disturbance of reflex excitability of brainstem proprio-bulbar neurons and weakness of inhibitory effects from suprasegmental structures on the motoneuron pool of the brain segmental apparatus.

Conclusions

1. Patients with fibromyalgia reveal, along with sensitive points, latent and active myofascial trigger points which participate in forming of the clinical picture of myofascial pain.
2. Modulation of reflex excitability of the spinal cord is observed in 92.% of patients with fibromyalgia. Its most characteristic variant is hyperreflexia (2%) of spinal motoneurons.
3. Fibromyalgia patients (7%) are characterized by increased reflex excitability of proprio-bulbar neurons involved in implementing the R2 component of the blink reflex.
4. Combined technique of H-reflex and blink reflex registration allows effective estimation of reflex excitability of spinal and supraspinal parts of nervous system in patients with fibromyalgia.

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