

Post-isometric muscle relaxation in complex rehabilitation

spastic forms of cerebral palsy

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Recent years have been marked by the increased interest of chiropractors in the problem of rehabilitation treatment of infantile cerebral palsy (CP), which does not lose its medical and social significance. There have appeared a lot of works showing the beneficial effect of manual therapy (MT) on the state of motor functions in patients with cerebral palsy [1; 2; 3]. MT is a pathogenetically grounded and justified method for this pathology. Since the clinical and neurological manifestations of cerebral palsy are not associated with disturbances in the relationships between the elements of the spinal column, it is obvious that the techniques of intense "jolt" impact, i.e. "manipulation" itself does not make sense [2; 4; 5].

At the same time, in the arsenal of manual therapists, one can single out techniques, the mechanism of action of which is to stimulate a large receptor field - receptors embedded in muscles and tendon-ligamentous apparatus. The "inhibitory" reflex arising in response to irritation contributes to a decrease in muscle tone and spasticity [4; 5; 7].

These muscle relaxation techniques include PIRM - post-isometric muscle relaxation. This technique turned out to be the most acceptable in children over 7-8 years old, which is especially important in the late residual stage of the disease [1; 3; 5].

For a real assessment of the possibility of using PIRM in spastic forms of cerebral palsy and the optimal combination of this method with other physical factors, 74 children were examined and treated: 41 with spastic diplegia and 33 with hemiparetic form. Depending on the chosen treatment method, all patients were divided into two groups, which did not differ from each other according to the initial data. In the 1st group, along with traditional methods of treatment, children underwent PIRM of the shortened muscles with a simultaneous effect on painful muscle compaction in this muscle by the method of acupressure. PIRM of the muscles of the articulatory apparatus was used in children with spastic-paretic dysarthria. The number and duration of MT sessions were determined by the nature of the identified pathobiomechanical changes, the age and functional state of the patient. For children of the 2nd group, PIRM was combined with peloid therapy. For this purpose, we used applications of local healing clay! Tereklit! according to the segmental-reflex technique, with spastic-paretic dysarthria - to the area of spastic muscles involved in the speech act [6; eight]. The temperature regime, exposure, the number of clay treatment procedures were determined by the age, severity of the disease and the initial functional state of the patients [7; eight].

Before and after treatment, all patients underwent classical neurological and vertebro-neurological examination and a number of neurophysiological research methods. The neurological symptoms characteristic of spastic forms of cerebral palsy in 100% of cases were supplemented by changes in the musculoskeletal system (PBMI) revealed during vertebro-neurological examination in the form of regional postural imbalance of muscles, functional blocks, myofascial pain syndromes, and posture disorders. In 39 (52.7%) patients, speech function disorders of the type of spastic-paretic dysarthria were observed.

Disturbances of peripheral hemodynamics in patients with both studied forms of cerebral palsy were manifested by multidirectional changes in the intensity of pulse blood filling, dilatation of large and medium-sized arteries, hypertension of arterioles, and decreased vascular tone of the venous system.

For an objective assessment of the balance function and statokinetic stability, the patients underwent computer stabilography. Before treatment, 61 (82.4%) of the examined children showed a significant increase in the length, the area of the statokinesigram and a shift in the general center of gravity of the GCT.

All patients tolerated the course treatment with PIRM and application clay therapy well. In the 1st group of patients, there was a positive dynamics of clinical manifestations in the form of a decrease in muscle tone in 65 people (87.8%), an increase in muscle strength in all children, a decrease in the severity of contractures in 44 (59.4%), the volume of active movements in joints of the extremities - in 48 (64.8%), improved posture - in 58 (78.4%), gait - in 33 (44.6%); 10 (25.6%) children have improved speech.

In the overwhelming majority of patients, after the MT course, positive dynamics of pathobiomechanical changes was noted, which was manifested by complete or partial correction of FB in all parts of the spine, a decrease in the severity of such manifestations of RPDM as "oblique", "twisted" pelvis, and elimination of myofascial trigger points.

Rheovasographic studies carried out in the 1st group of patients indicated an improvement in peripheral blood circulation: the indicators of pulse blood filling and tone of the main arteries increased. The data of stabilography performed after the MT course indicate a significant decrease in the length and area of the statokinesigram, the radius of deviation and displacement of the GCT, which indicates a favorable effect of MT on the balance functions and the state of the coordinating systems. The effectiveness of PIRM in spastic forms of cerebral palsy was 82.4%.

A comparative analysis of the dynamics of the clinical and functional state of patients in two groups revealed the advantages of complex treatment of cerebral palsy. The application of clay therapy carried out in combination with PIRM significantly increased the frequency and severity of positive changes in the main clinical symptoms: a decrease in muscle tone was noted in 66 (89.1%) patients, a weakening of the intensity of contractures in 62 (83.7%) patients, an increase in the volume of active movements in joints - in 55 (74.3%), improved leg support - in

59 (79.5%), gait - in 47 (63.5%); in 32 (43.2%) patients, speech functions improved.

The state of the peripheral circulation in the 2nd group of patients was distinguished by a more stable character of positive hemodynamic reactions and, accordingly, a more pronounced increase in the level of metabolic processes. The functions of stability and balance, according to the data of computer stabilography, tended to preserve and consolidate the positive shifts achieved under the influence of the MT course. The effectiveness of the complex treatment was 91.6%.

The results obtained make it possible to recommend post-isometric muscle relaxation in patients with the above-mentioned forms of cerebral palsy as a safe, pathogenetically substantiated method of manual therapy, which can be effectively combined with other physical factors, in particular, with peloid therapy.

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