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PHYSICAL THERAPY OF PATIENTS AFTER STROKE WITH MUSCLE SPASTICITY

ФІЗИЧНА ТЕРАПІЯ ПАЦІЄНТІВ ПІСЛЯ ІНСУЛЬТУ З М'ЯЗОВОЮ СПАСТИЧНІСТЮ

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Introduction. Acute cerebrovascular accident is the most dangerous form of cerebrovascular disease and most often diseases of the central nervous system.

Statistics and data from the WHO website: Globally, 70% of strokes and 87% of stroke-related deaths, as well as reduced life expectancy caused by disability, occur in low- and middle-income countries. In recent decades,

the number of cases of stroke has decreased by 42% in high-income countries. On average, stroke is 15 years earlier and causes more deaths. It increasingly affects people at the peak of their productive lives and needs to be actively addressed.

Consequences of a stroke: impaired movement, sensitivity, obstruction of the ability to move independently and carry out daily activities. High risk of falls, resulting in a fracture of the femoral neck. Visual, speech disorders ;swallowing, emotional and cognitive disorders;dysfunctions of the pelvic organs.

This problem is constantly being investigated by domestic specialized scientists. Their reasoning about spastic paresis is the main cause of disability in patients after a stroke [3, p. 511; 4, p. 33; 8, p. 245].

As a result of an increase in the reflex response to stretching, it is characterized by an increase in muscle tone with the activation of tendon reflexes [5, pp. 55-58; 7, p. 292].

According to scientists, spasticity occurs due to damage to the brain or spinal cord as an arbitrary hyperactivity of skeletal muscles [2, p. 22; 6, pp. 1677-1684].

Table 1

Modified Ashworth Scale for Spastic Hypertonia

Points	Description
0	There is no increase in abnormal muscle tone.
1	A slight increase in muscle tone, which manifests itself in the rapid contraction and relaxation of the muscle or in the appearance of minimal resistance to the end of the range of motion when the segment is flexed or extended.
1+	A slight increase in muscle tone, which manifests itself in the rapid contraction and relaxation of the muscle, and the subsequent appearance of minimal resistance for less than half the range of motion.
2	More pronounced (moderate) increase in muscle tone during almost the entire range of motion, but the affected segment is easily subject to passive movement.
3	A significant increase in muscle tone, passive movement of the affected segment is difficult.
4	The affected segment has rigidity during flexion and extension.

After a stroke, the occurrence of spasticity significantly complicates the treatment and rehabilitation process. This problem is not covered enough in scientific publications, therefore, it remains open and relevant for the continuation of our study.

The purpose of the study. To establish the effectiveness of the proposed method of physical therapy for patients after a stroke with muscle spasticity.

Purpose. Decrease in muscle tone in the late period after a stroke and the ability to use large and fine motor skills in everyday activities.

Materials and methods. To assess spasticity in patients after a stroke, scientists use the Modified Ashworth Scale for Spastic Hypertonia (Table 1) [1, p. 7].

In patients after a stroke, during the 1st month, the formation of spastic hypertonicity – Wernicke-Mann is observed. It manifests itself: adduction and internal rotation of the shoulder; flexion in the elbow joint; pronation of the forearm; deployment of the foot inward. In the absence of active movements, spasticity can lead to pain in the shoulder, deformities, contributes to the development of contractures, impairs the function and activity of patients.

Results of the study. During 2020–2021, from October to March, in the palliative department, Kyiv Clinical City Hospital № 6, physical therapy methods for patients after a stroke with spasticity in the late period were performed with the voluntary consent of patients and caregivers. 13 patients were restored, of them, 7 men and 6 women. The average age of patients was 58.12 ± 0.79 years. On the first day of admission to the department, the patient was examined and a stable functional state was determined, without contraindications to physical therapy. The patient's goal was determined and an individual rehabilitation program was planned.

To reduce muscle tone, scientifically based methods were used:

- Position in bed every 1.5 hours, bringing the limbs into the correct position with the help of orthoses, rollers, pillows. Prevention of the occurrence of pathological postures and bedsores;

- breathing exercises;

- gradual verticalization of the patient;

- selection of means for movement;

- restoration of the function of walking, coordination and balance;

- work with fine and large motor skills of the hand;

- restoration of self-service skills.

- passive mechanotherapy was used for 20 minutes a day.

In addition, patients underwent post-isometric relaxation on the affected upper and lower extremities. When working with antagonists, manual muscle correction was used, they began to work with the arm in the following sequence: pectoralis major, biceps brachii, flexors of the hand and fingers. Sequence of work with the leg: quadriceps femoris, triceps calf, gluteal, femoral, gastrocnemius and foot muscles.

Based on the results, the effectiveness of an individual rehabilitation program and physical therapy methods for patients after a stroke with spasticity in the late period was evaluated. A significant improvement in motor function was noted in 7 (14%) patients, a moderate improvement in 4 (8%), in 2 (4%) there are no changes.

Conclusions. Summarizing the results of studies, the proposed complex method for restoring motor function to patients with spasticity helps to reduce muscle stiffness, pain manifestations, improve activity and quality of life of patients after a stroke.

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