

# Peculiarities of Patients with Spinal Cord Stroke in Elderly Patients

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**Abstract** Application of new methods of treatment of elderly patients with spinal cord infarction and further improvement of treatment results based on the study of clinical and pathogenetic features of recurrent stroke through rehabilitation measures.

**Keywords** Spinal cord stroke, Spinal cord dysfunction, Critical, Changes, Rehabilitation measures, Treadmill therapy

## 1. Introduction

Stroke is an acute cerebral circulatory disorder (ACCD) causing damage and death of nerve cells. The name itself comes from the Latin word 'insultus', translated as 'blow, attack'. Previously, the pathology was called apoplexy (apoplectic stroke), as the Greeks called paralysis - one of its main symptoms and consequences [1,6].

The disease is more common than acute myocardial infarction. More than 15 million cases are registered annually in the world. They are associated with 10% of all fatalities (almost 6 million per year), which makes stroke the 'No. 2 cause of death' on the planet after coronary heart disease (CHD). But in the majority of episodes, the consequence of STEMI is not death, but limitation of life activity, which is the leading cause of disability among older people [2,7].

About 60% of patients who have suffered a stroke have persistent neurological disorders that interfere with their full lifestyle. Among the typical abnormalities noted are impaired movement and mobility, difficulty swallowing, high risk of speech and visual disorders, falls, fractures. Emotional (depression) and cognitive (up to the stage of dementia) disorders are often observed [3,8].

Acute circulatory disturbance is possible not only in the brain. Occlusion (disturbance of blood circulation) of the vessels of the spinal cord leads to spinal stroke. Compared to brain strokes, such cases are quite rare (1-1.5% of the total number of strokes), but they occur, as a rule, in people aged 30-50 years [5]. Blood to the spinal cord is supplied by three main arteries. If there are problems with blood flow in these arteries and their branches, this is the cause of a spinal stroke [4].

**Purpose of the study:** to investigate the patient features of patients with spin insult in elderly people.

## 2. Materials and Methods

For older people, the problem of spinal stroke is especially relevant. Men and women over the age of 60 have a twice-increasing risk of developing spinal strokes every 10 years. In addition, 75-89% of strokes develop after the age of 65, 50% after the age of 70, and 25% in patients over the age of 85. In 30 patients treated in the neurology department of Samarkand State Medical University Clinical Hospital No. 1, the features of spinal stroke were studied. Also, patients were selected to receive a course of rehabilitation measures, and later participated in the rehabilitation treatment of 16 patients on the basis of the Rehabilitation Department of the Clinical Hospital No. 1 of Samarkand State Medical University.

Special attention is paid by specialists to the problem of their social and physical rehabilitation through physical education in order to restore the health of people with disabilities, to attract them to socially useful work. It is extremely rare to fully restore the working capacity of people with disabilities and their return to professional activities. In this regard, the problem of physical rehabilitation of people with disabilities is especially acute. Physical education always remains one of the most effective means of Health and character development. Exercise helps to learn the skills and abilities necessary in life, helps to restore motor activity and helps to form positive character traits. Adaptive physical rehabilitation as a type of adaptive physical culture satisfies the disabled person's need to recover their healing and temporarily lost functions. The goal of adaptive physical rehabilitation is to form adequate mental reactions of a disabled person to the disease, to use natural rehabilitation tools that stimulate the rapid recovery of the body. 1. The problem of physical rehabilitation of individuals with spinal cord injuries using adaptive physical culture. Spinal cord injury due to spinal cord injury (picture) has serious consequences in the form of disorders of the motor, sensory, trophic and pelvic organs. Social, labor and

physical rehabilitation of patients in conditions of increased trauma is a complex and urgent task. Every year in Uzbekistan, the number of people with disabilities of this profile increases by 1.3 thousand people. [1]. Physical rehabilitation of disabled people with spinal dysfunction solves the most important task - the restoration of vital motor skills and abilities, the formation of functional compensation mechanisms [3,6]. Physical rehabilitation is an integral part of medical and socio-labor rehabilitation using the means and methods of physical education, massage and physical factors. Flexible physical education includes the formation of vital and professionally necessary motor skills and abilities in people with disabilities, the development and improvement of physical, mental, functional and volitional qualities and abilities, the means, techniques and methods of physical education that allow them to achieve independence every day. and psychological independence. The main tools of physical rehabilitation are elements of exercise and sports, the use of which is always a pedagogical, educational process. All means and opportunities for physical education should be aimed at increasing the physical activity of people with disabilities, which is a crucial condition for the integration of people with disabilities into society (comprehensive rehabilitation and social adaptation). 2. General rules for the implementation of the process of physical rehabilitation of disabled people with spinal dysfunction. Physical rehabilitation of disabled people with spinal dysfunction should be considered as a medical-pedagogical system, the effectiveness of which depends on the completeness of the manifestation of the factors that shape the system. Physical rehabilitation, which includes therapeutic physical education depending on the stage, correctional training, labor, daily life and individual physical exercises in the resting conditions of people with disabilities, ensures the normalization of the patient's motor activity and mental state. the necessary conditions at the initial stages, then the formation, development and improvement of functional compensation mechanisms of a local nature. In the process of physical rehabilitation of disabled people with spinal dysfunction, a positive result can be achieved by successively solving the following tasks:

Table 1

Age	Man	Woman	General patients
Age 65-69	6(35,3%)	4 (30,8 %)	10 (33,3%)
70-74 years old	8 (47%)	7 (53,8 %)	15 (50%)
75-79 years old	3 (17,7)	2 (15,4 %)	5 (16.6%)
Total	17 (100%)	13 (100%)	30 (100%)

Creating stable initial conditions for the formation of stable qualifications of domestic self-service and movement, their application and improvement. 2. The formation of stable motivation and interest in systematic, organized and independent physical exercises, linking these activities with professional and daily activities. 3. Formation of a system of knowledge on the theory and methodology of physical

education of persons with disabilities, the formation of skills for performing independent physical exercises in professional, everyday activities and Recreation. 4. Determination of the levels of movement abilities of people with disabilities, their systematic training in the conditions of sports training and participation in competitions. The most important tool for solving problems of each specific form of physical rehabilitation is physical exercise, the effectiveness of which depends on its organic combination with sanitary and hygienic factors and natural forces of nature. In achieving a positive effect of physical rehabilitation, based on the basic principles of the principle of differential-integral optima [3], it is necessary to divide physical exercise into the following categories:

1. Wellness exercises-wellness exercises-general strengthening physical exercises. achieving the preventive and health-improving effect of physical rehabilitation of the sick and disabled.
2. Special physical exercises that are characterized by a selective effect on one or another part of the musculoskeletal apparatus.
3. According to the nature of muscle contraction: – dynamic (isotonic) exercise; – static (isometric) exercise.
4. Exercises using natural factors: – solar radiation; - aeration and air baths as a method of hardening, sunbathing as a hardening method; - general showers, abrasions and hygienic showers, swimming in clean waters and in the sea. 3. Theoretical and practical foundations of the effectiveness of the formation of movement movements. The effectiveness of the educational process depends on the full fulfillment of the following pedagogical requirements in the conditions of physical rehabilitation:
  - active mental and motor activity of people with disabilities as the most important condition for the qualitative assimilation of educational material.
  - The effect of restoring the vital action skills and abilities of people with disabilities can only be achieved through the formation of action abilities.
  - In the process of forming new movement movements in people with disabilities, it is necessary to contribute to the development of the main qualities of movement - strength, speed, endurance, flexibility, dexterity.
  - The process of forming mechanisms of movement and functional compensation of people with disabilities is effective if they have undergone preliminary training.
  - The effectiveness of training movement movements is determined not only by the achieved level of physical education, but also by the level of preparation for the Movement occupied by people with disabilities. The most important stage in the formation of movement movements is the stage of preliminary study of movement, the task of which is to teach the disabled person with a traumatic disorder of

the functions of the spinal cord the basics of the technique of motor movement being studied. in order to ensure their stable operation in the future.

To solve this problem, it is necessary to implement the following pedagogical conditions:

- eliminate unnecessary tension in the performance of actions;
- prevent the appearance of unnecessary actions or, if they appeared in the educational process, eliminate them;
- form the necessary conditions for the general rhythm of motor movement as a leading biomechanical feature, the development of which ensures.

To improve the effectiveness of the educational process at this stage, it is necessary to develop the ability of people with disabilities to self-control and self-analysis of the results of their activities through the development of visual and auditory orientation, analysis of the quality of Education. movements with muscle sensations. At the stage of studying movement, it is necessary to ensure the correction of motor errors, the main reasons for which are: - insecurity, indecision, fear of the coordination structure of motor movement; - negative impact of previously tried actions; - misunderstanding of the educational task by people with disabilities; - incompatibility of training places, sports equipment and equipment with pedagogical requirements. Knowing the causes of engine errors allows the instructor-Methodist to take measures to prevent their occurrence. Error prevention means full compliance with pedagogical principles and educational requirements [4,5]. To do this:-it is necessary to understand the error; repeated explanations and indication of an exercise will help to identify errors, consultation with an instructor - Methodist;-errors should be corrected in series, starting with the most important, depending on their degree of significance, since the appearance of all minor errors often depends on them; - the instruction to correct the error should correspond to Exercise is a physiological and adequate way to restore lost motor functions and is used as a key factor in the complex of measures for the rehabilitation of patients with spinal cord injury.

**Table 2.** Expression level of neurological signs in patients with spinal stroke ( $R>0.05$ )

Degree of expression of Neurological Disorders	Patients in the main group (n=30)		Patients in the control group (n=12)	
	Abs.	%	Abs.	%
Minimum level changes (1-4 points)	16	53,3%	6	50%
Mid-level changes (5-15 points)	9	30%	4	33,3%
Expressed level changes (15-20 points)	2	6,7%	0	0%
Critical level changes (21-42 points)	30	100%	12	100%

The direction of rehabilitation measures for spinal cord injury is reflected in the table 2. Many researchers of rehabilitation problems in spinal traumatic disorders believe that the most important methods are replacement compensation methods, based on increasing the patient's ability to move due to spinal segments that partially retain their structure and were not previously involved. in these movements, as well as in combination with healthy muscle groups, the involvement in the motor movements of the weakened muscles of the transition zone above the level of injury. These mechanisms are the theoretical basis for the use of physical education and, as a result, are a set of measures to restore lost functions. spinal cord injury [7].

### 3. Results

**The results show that,** rehabilitation tactics are based on the general principles of long-term, continuous and systemic exposure to a complex of restorative means, the leading place among which is the education of the needs necessary for physical exercise (kinesitherapy) and systemic physical education. Methodological techniques have been developed that allow you to force the patient to perform the action and believe in the possibility of rehabilitation. These methods include: - performing ideomotor exercises; - isometric muscle tension; - exercise in water; - selection of starting exercises; - passive and active-passive exercises; - the use of various devices that reduce weight. Only 10-15% of patients with spinal cord injuries are able to take care of themselves, 25-35% partially take care of themselves, and in the rest the ability to self-care is completely lost. In the acute stage of the early stage of spinal traumatic disease, only patients with a low level of injury and lower paraparesis are able to partially provide basic self-care; in the rest this ability is lost. One of the effective recovery tools is occupational therapy. However, this tool can retain such a role in the rehabilitation Arsenal only with a rational approach to its use. The use of labor in treatment is a pathogenetic effect that restores impaired motor functions. In its essence, occupational therapy is therapeutic Gymnastics, including labor movements. Labor activity aimed at the result combines the achieved actions, develops them in every possible way, uses movements as a physiological stimulator, helps to increase the amplitude of movements, develop automatism, reduce muscle stiffness, increase muscle strength and plasticity. In the process of performing certain works, contact with various materials that differ from each other in shape, size and elasticity stimulates the restoration of sensitivity. Different labor processes involve muscles that work with different levels of activity. Therefore, when prescribing occupational therapy, it is necessary to separately select labor operations, focusing on a functional defect, taking into account the clinical characteristics of the work and the motor capabilities of the patient, taking into account the biomechanical characteristics of a particular technology.

The effectiveness of kinesiotherapy increases if it is used in combination with physical methods of treatment and targeted drugs. The restoration of lost functions under the influence of exercise can be achieved only in patients who have had spinal compression eliminated, the anatomical integrity of the spinal canal has been restored, and the spine has stabilized. In other cases, it is possible to adapt only to the defect, in the table shows, as an example, the differential application of kinesiotherapy for relaxed and spastic paralysis. The combination of vertical drop and treadmill (treadmill) training in a suspension system developed by Canadian orthopedic doctors was revolutionary. This was partially called treadmill therapy with vertical discharge. For training, the paralyzed patient is placed in a suspension system located above the treadmill; vertical discharge is provided by a block or pneumatic system. Two methodologists are located on the right and left side of the patient, passively "stepping" the patient's legs; the duration of the procedure is 40 minutes. In training, the passive "step" is replaced by a series of passive-active, active with assistance, and then active walking. The training effect of Treadmill therapy is associated with the systematic activation of spinal musculoskeletal generators by afferent input by receptors (muscles, skin, joints) of the legs that perform rhythmic movements [7]. A comparative analysis of the use of new technologies by existing methods shows positive dynamics in the complex therapy of patients. The main criterion for the effectiveness of rehabilitation can be only functional recovery, complete or partial. Only active tactics can ensure the success of the rehabilitation of patients with spinal cord injuries. The main criterion for the effectiveness of rehabilitation can be only functional recovery, complete or partial. Only active tactics can ensure the success of the rehabilitation of patients with spinal cord injuries. Due to the development of Medicine, the mortality rate from spinal injuries decreased from 90% during the first three months of the disease in the early and mid-20th century. currently up to 28.9%. About 50% of spinal cord injury patients survive, living for more than 25 years, but most of them are deeply disabled. This necessitates the improvement of the methods of rehabilitation of such patients, which is of great practical importance. The activation of work with people with disabilities in the field of physical education and sports helps to humanize society, change its attitude to this group of the population, and therefore has great social significance. It should be recognized that the problems of physical rehabilitation and social integration of people with disabilities through physical education and sports are being solved slowly. The main reasons for the poor development of physical education and sports among persons with disabilities are specialized physical education, wellness and the almost complete absence of sports facilities, lack of equipment and inventory, lack of physical education and sports clubs, underdevelopment of the youth sports network. schools and departments for people with disabilities in all types of further education institutions focused on physical education and sports. There is a lack of Professional personnel. The need

for physical wellness among people with disabilities is insufficiently expressed, which is due to the lack of special promotion that encourages people with disabilities to engage in physical education and sports. In the field of physical rehabilitation of people with disabilities, there is still a lack of adequate assessment that physical education and sports are much more important for people with disabilities than people who are comfortable in this regard. Active physical education and sports training, participation in sports competitions is a very necessary form of communication, restores mental balance, relieves the feeling of loneliness, restores the feeling of self-confidence and self-esteem, gives the opportunity to return to an active life.

## 4. Conclusions

Improving the system of measures for the modern treatment and rehabilitation of elderly patients with spinal stroke disease is the restoration or compensation of impaired functions, correction of deformities associated with them, solving the problems of the maximum adaptation of these patients to society (social, professional), achieving the maximum level. Including economic and professional, improving the quality of life.

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