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KINETHERAPY RECOVERY OF HEMIPLEGIC PATIENTS ELDERLY

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Abstract: *One of the essential attributes of the epoch we live in is the absolute and percentage growth of the elderly in the composition of the population. The numerical growth of the elderly population is the result of effective control of diseases with high mortality, which minimized premature mortality, which meant that an increasing number of people exceed the threshold of old age. By early application of correct kinetic programs to hemiplegic patients, it contributes to their recovery from the point of view of the correct body posture, being much faster and in large proportions*.

Key words: *kinetoterapy exercises, elderly, population.*

1. Introduction

One of the essential attributes of the age we live in is the absolute and percentage increase of the elderly in the composition of the population.

This important demographic phenomenon, which has manifested itself in recent decades in all advanced countries, is due to changes in the evolution of the main indicators of the natural movement of the population - birth and mortality - and which is characterized on the one hand by a constant trend of decreasing fertility and birth rate, and on the other hand by decreasing mortality at all ages, especially in children and young adults[3].

2. Ways of Producing Hemiplegia

A hemiplegia results from an injury of the central motor neuron and is characterized by the loss of voluntary motility of half of the body. The phenomenon that occurs is the destruction of brain cells.

The improvement of the patient's condition is conditioned by the taking over of the functions of these cells by other cells or by the return of the damaged cells by removing the tumor that exerts pressure on them. [1].

Large hemiplegias that are irreversible over time lead to muscle (cortical) atrophies due to immobility and arthritis. They are found in strokes in hemiplegic

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disorders of body scheme.

Sometimes disorders of consciousness are associated with an ataxognosis or asomatognosy (body agnosia), the former being more pronounced or anosognosia - when the patient does not realize that he is hemiplegic. The initial anosognosis in strokes is followed by disorders of the body scheme with: hemiasomatognosia "phantom limbs", a period in which the patient is aware of his paralysis. In the final phase of "hemihyperschemia" patients are aware of these disorders of the body scheme that can sometimes disappear completely. The most common hemiplegias are of vascular origin, either related to a diffuse hemorrhage or hematoma, or to a well systematized ischemia, mainly affecting the anterior or middle vertebro-basilar cerebral arteries.

The causes of hemiplegia in adults are numerous:

-Strokes, which can be:

• Hemiplegia due to cerebral hemorrhage;

• Hemorrhages due to ischemic stroke.

- hemiplegia due to compression brain.

The causes of these injuries can be numerous: road accidents, falls, assaults, sports accidents, domestic accidents, injuries caused by fire marks, etc.

In addition to loss of movement and sensitivity disorders, hemiplegia may also be accompanied by: aphasia, mental disorders, balance disorders.

The most common cause of hemiplegia, especially in the elderly, is stroke. Due to their severity, frequency and consequences, strokes are the most important chapter in brain pathology.

2.1. Diagnosis

The diagnosis of hemiplegia is made following a neurological clinical examination, to which are added the anamnesis, clinical signs, clinical and imaging tests.

a) Clinical examination

- *Inspection*

-In the spastic phase the following positions are observed:

- *upper limb:*

• arm in adduction and internal rotation;

• forearm in semiflexion and pronation;

• hand in semiflexion, fingers flexed, thumb s in adduction;

- *lower limb:*

• hip and knee extension;

• supine and varus leg;

• flexed fingers, except for the toe, which is in extension;

- *face* :

• wiping the folds and grooves from the lower half of the hemiface on the side of the paralyzed limbs;

• peripheral facial paralysis, which is opposite to paralyzed limbs;

• central type facial paralysis.

In order to highlight the paralysis on the face, the facial asymmetry is observed when showing the teeth or whistling with the lips. Due to spasticity, mowing occurs. It is so named because it can no longer lift its leg, the patient will raise his pelvis a little to perform the circumcision of the foot while walking [4].

b) Palpation

In the flaccid phase there is hypotonia, the consistency of the muscles being soft. In the spastic phase appears pyramidal hypertension, which is highlighted primarily by the firm, strong consistency of the muscles, the muscle tendons being in tension.

Spasticity has an elastic character, ie if a segment is mobilized and put in tension, it will tend to resume its initial position maintained by contracture. Pyramid-type hypertension gives way "in the blade of a knife", which means that when passive mobilization, after an initial resistance is initially encountered, it will suddenly give way.

c) Percussion

It is found:

-Empensification of osteotendinous reflexes on the healthy side:

- stylo-radial reflex;
- bicipital reflex;
- triceps reflex:
- patellar reflex;
- Achilles reflex.

-Abolition of skin reflexes in brain and spinal cord injuries, but the frequent appearance of the Babinski sign. To test it, the outer edge of the plant is slightly excited, from the heel to the top. The flexion of the fingers II-V takes place except for the toe which performs an extension movement.

d) Functional examination

The attitude of the hemiplegic differs depending on the phase in which he is. In the flaccid phase the limbs on the paralyzed side are inert. Usually paralysis is obvious, but sometimes it must be determined by specific tests:

- upper limbs stretched horizontally, eyes closed, the patient is asked to keep them in this position, the parietal upper limb falls slowly (stretched arms test);
- from a prone position, the legs raised to 90º, the paretic leg will fall slowly, the patient not being able to maintain the position (Barrè test);
- from supine position, hips and knees at 90º, the paretic leg will fall slowly (Mingazzini test);
- from dorsal decubitus, the lower limbs are flexed and extended with the soles on the sheet, the paretic lower limb will be left behind (Vasilescu test).

3. Kinetic Treatment

a) hydrokinetotherapy

It is done by exchanging heat between the body or its segments and water. These bathrooms can be classified into: cold baths, neutral baths, warm baths.

Water therapy is performed according to the following factors:

- Mechanics - in water the body weight decreases which facilitates the execution of movements, when the movement is produced from the bottom up the resistance decreases and the movement is facilitated.
- Thermal - hot baths used in the recovery of hemiplegic have as effects peripheral vasodilation, general sedation and increased pain threshold.
- Chemicals - is represented by the composition of mineral waters or coastal waters.

b) thermotherapy

Thermotherapy with the application of ice is beneficial for combating spasticity and has the effect of vasoconstriction followed by vasodilation and decreased pain sensitivity.

Thermotherapy with the application of heat is the most commonly used and has the effect of vasodilation with increased local blood flow, increased local temperature, sedation of pain, increased sweating secretion and resistance to infections. Types of heat that can be applied are: mud, paraffin.

c) physiotherapy

For the recovery of hemiplegics, physiotherapy has the following specific means:

- posture
- physical exercise
- occupational therapy.

3.1. Upper limb recovery exercises

Hemiplegia is characterized by the loss of fine selective movements and the realization of coarse, unfinished movements that generally do not reach their goal. They are predominantly global in the upper limb without often excluding the lower limb.

In the mobilization of the upper limb in the case of hemiplegias, the scapulohumeral muscles are usually the ones that intervene in its movement, because this muscle is helpful for the main muscles of the arm. It is therefore necessary that the movements be learned correctly, and muscle substitution and repetition are not allowed to be done until the installation of dynamic stereotypes.

Motor activity is a set of acts and actions that are performed consciously and systematically, with the specific purpose of obtaining a certain result [5].

The design of the correction program is the most important aspect in the therapeutic field, with a deep scientific content based on a series of sciences, especially physical education and sports. [2].

Passive exercises. Exercises from the supine position

Ex.1.

Stretch the patient's arm close to the body with your fist down. Perform the hyperextension of each finger separately with the little finger, figure 1.

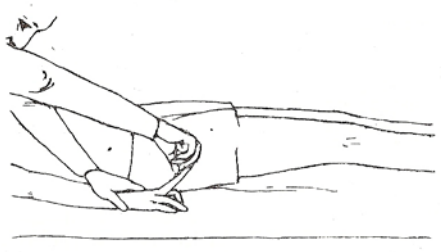

Fig.1. *The exercise 1*

Ex. 2.

Insert your fingers with the patient's fingers and with an extension and alignment motion pull your hand, figure 2.

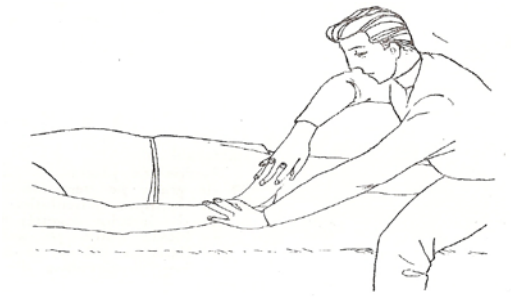

Fig. 2. *The exercise 2*

Ex. 3.

Forearm flexion on the arm, forearm extension, figure 3.

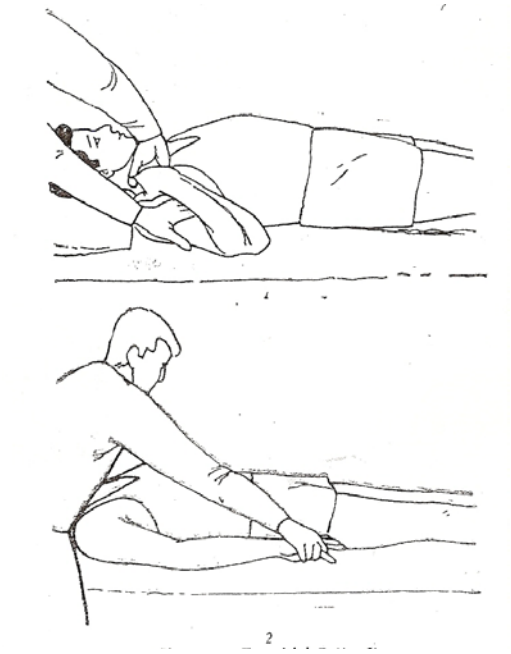

Fig. 3. *The exercise 3*

Ex. 4.

Forearm circumference, back arm circumference, figure 4.

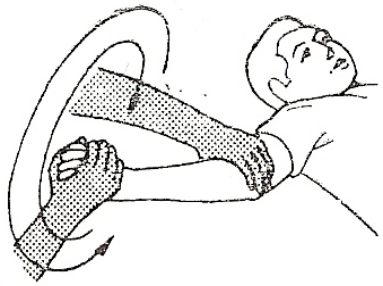

Fig. 4. *The exercise 4*

Ex. 5.

Starting position - hands clasp the stick at the ends. With your arms outstretched, carry the cane over your head. With outstretched arms, lower the cane, figure 5.

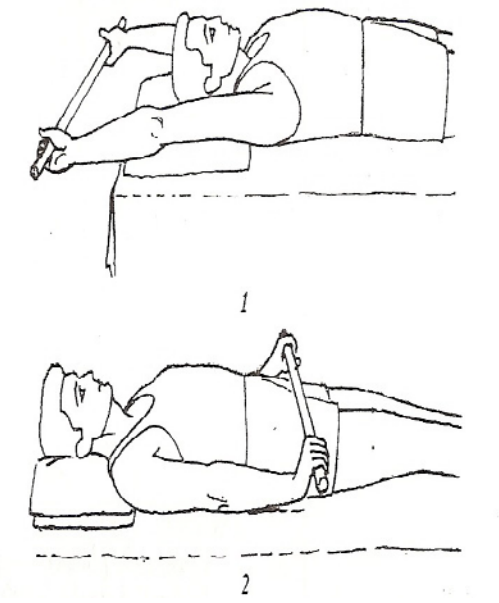

Fig. 5. *The exercise 5*

Following the treatment, the following values are obtained according to figure 6.

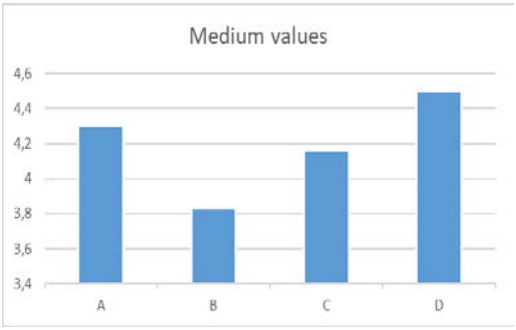

Fig. 6. *Mean upper limb examination values*

4. Discussion

The frequency of hemiplegia is higher in men than in women, thus, 67% of the group of patients were men and 33% women.

The recovery process was more complete in the case of men, who gained greater independence in the movement of the upper limb joint.

Ischemic strokes were more common than hemorrhagic strokes.

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