
IV. EVOLUTION AND PROGNOSIS.

They depend on the cause that caused the injury to the respective nerve, the electrical examination being able to provide us with prognostic elements on the recovery.

After only a few days, the sensitivity at the periphery of the denervated area begins to recover, based on its takeover by the nerves in the neighboring territory. However, any further improvement is only possible on the basis of regeneration of the damaged nerve.

The regeneration speed is variable, depending on the nerve. The speed also depends on the lesion type, being higher in the axon lesion than in the total section.

The acquisition of voluntary movement is better from this point of view in the hand than in the leg, and faster in the child than in the old.

V. TREATMENT.

1. Prophylactic treatment.

One must take into account the prevention of local or general causes that can induce the suffering of the nerve trunks:

Local: prevention of vicious attitudes, especially in the professional act, prevention of iatrogenic accidents through injections, tourniquet applications, fixation on the operating table, etc. in wrong positions, the correct knowledge of the anatomical structures, in performing the surgical act, gentle maneuvers in reducing dislocations.

General: the correct treatment of metabolic and infectious diseases (preventive by vaccination and curative), the correct supervision of treatments with toxic potential on the nerve fiber, rational nutrition, avoiding the abuse of alcohol or other toxic substances.

2. Hygienic-dietetic treatment.

In the recovery of peripheral nerve paralysis, bed rest is very important. This must still be an active one, with the patient trying to make voluntary

contractions of the muscles of the lower limbs, in order to avoid muscle atrophy.

The dietary treatment consists of a hyposodium diet when the patient is administered NSAIDs. The goal is to avoid hydro-saline retention that can lead to an increase in blood pressure.

3. Drug treatment (curative)

It can be etiopathogenic and symptomatic.

Etiopathogenic treatment : in peripheral nerve palsies of compressive cause, the treatment must remove the compressive factor through surgical intervention, reduction of a dislocation, radiotherapy or cytostatic medication.

In peripheral nerve palsies of general cause, treatment of the underlying condition is necessary: rebalancing diabetes, antibiotic therapy and serotherapy in infectious diseases, corticotherapy in collagenoses.

Associated with the above prescriptions, the nerve regeneration process will be stimulated by the administration of group B vitamins regardless of the location of the injury or the nature of the cause.

Symptomatic treatment is aimed at combating:

- *Pain*, through common analgesic substances such as acetylsalicylic acid, non-steroidal anti-inflammatory drugs - Phenylbutazone, Indometacin, Brufen, neuroleptics with analgesic effect - Chlorpromazine, Levomepromazine, antiepileptics with analgesic effect - Carbamazepine and local anesthetic substances (procaine, xyline - used especially in the form of local infiltrations);
- *Hypotonia* - with strychnine 1-4 mg/day injected subcutaneously;
- *Amyotrophies* - by using anabolics (Naposimn Decanofort, Nerobolin), Vitamin E, Glycocol, Uteplex, Fosfobion.

Recuperative treatment - of particular importance in the treatment of peripheral nerve disorders is physiobalneotherapy including hydrothermotherapy, electrotherapy, physical therapy (passive and active) and balneotherapy and massage.

PART a – II – a: BFT TREATMENT.

1. PRINCIPLES AND OBJECTIVES OF BFT TREATMENT

Peripheral nerves react to cold by a decrease in excitability and conductivity. Heat and especially short-term heat increase sensitivity and long-term heat decreases sensitivity.

The objectives pursued by BFT treatment are the following:

- *fighting pain,*
- *Restoring muscle balance,*
- *muscle toning,*
- *Restoring joint mobility,*
- *Restoring the leg statics.*

The thermal factor (heat) is of particular importance due to the effects it has on the body, such as:

- *Increased skin hyperemia through the phenomenon of vasodilatation;*
- *Decontracting and muscle relaxant effect;*
- *The decrease in the viscosity of the articular fluid, thus making it easier to perform movements through an increase in mobility;*
- *Antispasmodic effect;*
- *Increased blood flow to the muscles.*

Peripheral nerve damage determines, as we have seen, depending on the pathomorphism of the lesion, 3 clinical functional syndromes:

A. Motor syndrome - follow:

1. Avoiding the appearance of deformations and vicious attitudes;

- Paraffin applications,
- short waves, ultrasound,
- Passive exercises.

2. Avoiding arthropia of paralyzed muscles - here will be done:

- passive mobilizations,
- Medium frequency currents , interference currents,
- The massage.

3. Increasing the function of the remaining healthy muscle fibers and regaining the kinesthetic image:

- Passive, passive-active, active and active mobilizations with resistance
- Occupational therapy.

b). Deep plane muscles:

- *Popliteus muscles* ;
- *Posterior tibial muscle* ;
- *The long flexor muscle of the fingers* ;
- *The flexor hallucis longus muscle* ;

3. Lateral muscles of the calf

- *Peroneus longus muscle*;
- *Peroneus brevis muscle* .

KNEE JOINT.

It is the joint between the femoral condyles, the patella and the tibial condyles. The medial condyle of the femur descends lower than the lateral one, so that the femur forms an angle of 174° with the tibia . the incongruity between the articular faces is completed by two *menisci* in the shape of the letter " C".

- *Median meniscus* - is the strongest and most mobile.
- *Lateral meniscus*.

The knee joint is a *trochoginglym*. The movements are *flexion-extension* and, to a very limited extent, *rotation and lateral inclination*.

REGION OF THE FOOT.

The skeleton of the actual leg is made up of three segments:

- *Tarsus* - consists of 7 bones, arranged in 2 rows;
- *Metatarsus* - consists of 5 bones
- *Phalanges* - there are 14 of them, 3 for each finger, except for the big toe, which has only 2 phalanges.

The leg muscles are divided into 2 groups: they are innervated by nerves: medial and lateral plantar, terminal branch of the tibial nerve. Through their action, they participate in the extension of the fingers,

1. Muscles dorsals of the leg:

- *The short extensor muscle of the fingers* (the pedios muscle);

2. The plantar muscles of the leg: they are divided into 3 groups:

a). The medial plantar muscles (*halluceus muscles*) - correspond to the thenar eminence:

- *The abductor muscle of the hallux*;
- *The short flexor muscle of the hallux*;
- *The adductor muscle of the hallux*;

- *Plantar flexion* - is the opposite movement by which the dorsal surface of the foot moves away from the calf.
- *Adduction* - is the movement by which the tip of the hallux approaches the medio-sagittal plane of the body.
- *Abduction*- is a movement by which the tip of the hallux moves away from the mid-sagittal plane of the body.
- *Circumduction*- is the movement by which the tip of the hallux describes a circle and results from the alternative execution of the previous movements.
- *Supination* - is the movement by which the edge of the foot is raised from the ground, so that the plantar face looks towards the medio-sagittal plane of the body.
- *Pronation*- is the movement by which the lateral edge of the foot rises from the ground, so that the plant looks outward.

❖ MEDICAL GYMNASTICS.

Walking exercises can be performed on the outer edges of the legs with the heels out and the toes in dorsal flexion.

The most important exercises in medical gymnastics are isometric exercises. Other exercises indicated in peripheral nerve paralysis are the exercises performed at:

- Rolling carpet;
- Ergometric bicycle;
- Trellis;
- Going up and down the stairs.

5. OCCUPATIONAL THERAPY. (Ergotherapy)

It is a very good method for restoring the kinesthetic image, without boring the patient by repeating the same exercises for a long time.

Occupational therapy has 4 important goals:

- Improving joint mobility, muscle strength, coordination of movements, thus restoring the dynamic stereotypes of everyday life;
- To accustom the patient to help himself, to become independent again in the usual activities (eating, dressing, washing, walking,