

[5] Traumatic Damages of the Peripheral Nervous System

In a patient, there was revealed a fragmental fracture of the left shoulder on the border of the middle and lower one-third. The volume of motions in the hand is not disturbed. After the operation of osteosynthesis, the left hand dangled, the patient cannot unbend the hand, fingers, abduct the thumb.

Make the diagnosis, apply auxiliary methods of investigation, the medical tactics [1].

1. *Traumatic injury of n. ulnaris, registration of the somatosensory generated potentials (SSGP) & generated sympathetic cutaneous potentials (GSCP), surgical treatment (reoperation)*
2. *Traumatic injury of n. radialis, electroneuromyography (ENMG) & intramuscular electromyography (EMG), surgical treatment (reoperation)*
3. *Traumatic injury of n. medianus, electroneuromyography (ENMG) & intramuscular electromyography (EMG), surgical treatment (reoperation)*
4. *Traumatic injury of n. radialis, electroneuromyography (ENMG) & intramuscular electromyography (EMG), conservative treatment*

A patient was delivered to the district hospital with a cut wound of the inner surface of the middle 1/3 of the right forearm. They assume damage of the ulnar artery, median and ulnar nerves. What symptoms will be observed in the patient [5]?

1. *Deformation of a hand on type of "a sharp-clawed paw"*
2. *"Drop hand"*
3. *Impossibility of the pronation of a hand*
4. *Impossibility of bending of I-V fingers*
5. *Absence of extensor-elbow reflex*
6. *Hyperreflexia of extensor-elbow reflex*
7. *Anesthesia of I-III fingers of a palm*
8. *Anesthesia of ulnar surfaces of a forearm, a hand and IV-V fingers*

A patient was delivered to the district hospital with a cut wound of the inner surface of the middle 1/3 of the right forearm. They assume damage of the ulnar artery, median and ulnar nerves. Name the volume of the primary surgical aid, define the further medical tactics [3].

1. *Examination and estimation of the nature and degree of damage, including concomitant damages, estimation of the general state of the patient*
2. *Arrest of bleeding & immobilization of the damaged extremity (extremities)*
3. *Does not apply a bandage with immobilization of the damaged extremity (extremities)*
4. *Hospitalization of the patient to a specialized microsurgical or neurosurgical department*
5. *Hospitalization of the patient to a ER department*

A patient was delivered to the surgical department of the central district hospital with a cut wound of the inner surface of the median 1/3 of the right forearm. There is observed an intensive bleeding from the wound, at the neurological checkup it has been established: the hand looks like a "claw hand", the flexion of IV and V fingers are absent, opposition of V finger, bringing together and separating of fingers, anesthesia of the palmar surface of III-V fingers. They assume damage of the ulnar artery and ulnar nerve.

Define the volume of the primary surgical aid at the given stage and further medical tactics [3].

1. *Examination and estimation of the nature and degree of damage, including concomitant damages, estimation of the general state of the patient*
2. *Arrest of bleeding & immobilization of the damaged extremity (extremities)*
3. *Does not apply a bandage with immobilization of the damaged extremity (extremities)*
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5. *Hospitalization of the patient to a ER department*

At work a detail from the workbench damaged a left thigh of a worker. After trauma the patient cannot extend the leg at the knee, there appeared stupor along the frontal surface of the thigh and inner surface of the left lower leg.

What nerve has suffered? What is the tactics of the checkup and treatment of the patient [1].

1. *Sciatic nerve, arrest of bleeding & immobilization of the damaged extremity (extremities), hospitalization of the patient to a specialized microsurgical or neurosurgical department*
2. *N. femoralis, arrest of bleeding & immobilization of the damaged extremity (extremities), hospitalization of the patient to a specialized microsurgical or neurosurgical department*
3. *N. tibialis, arrest of bleeding & immobilization of the damaged extremity (extremities), hospitalization of the patient to a specialized microsurgical or neurosurgical department*
4. *N. peroneus communis, hospitalization of the patient to a specialized microsurgical or neurosurgical department*

In a child of 9 years there was a cut wound along the external surface of the upper one-third of the right lower leg after which the foot "dangled". Define the nature of damage and medical tactics [1].

1. *Traumatic injury of n. tibialis, arrest of bleeding & immobilization of the damaged extremity, hospitalization of the patient to a specialized microsurgical or neurosurgical department*
2. *Traumatic injury of n. tibialis, arrest of bleeding & immobilization of the damaged extremity, hospitalization of the patient to a specialized pediatric department*
3. *Traumatic injury of n. peroneus communis, arrest of bleeding & immobilization of the damaged extremity, hospitalization of the patient to a specialized pediatric department*
4. *Traumatic injury of n. peroneus communis, arrest of bleeding & immobilization of the damaged extremity, hospitalization of the patient to a specialized microsurgical or neurosurgical department*

A 20-year-old patient came to the doctor with the complaints of absence of movements in the left humeral and ulnar joints, in preservation of movements in fingers and hand, reduction of sensitivity of the external surface of the shoulder, forearm, and hand. A month ago he had the fracture of the transversal processes C₅-C₆. What is your preliminary diagnosis [1]?

1. *Posttraumatic upper humeral left-hand plexitis*
2. *Posttraumatic neuritis of the left median nerve*
3. *Posttraumatic neuritis of the left radial nerve*
4. *Posttraumatic neuritis of the left ulnar nerve*
5. *Posttraumatic neuritis of the left median and radial nerves*

A patient came with the complaints of flexion restriction of the hand, absence of flexion of the ending phalanges of the 4th and 5th fingers, impossibility to oppose the 5th and 1st fingers. Physical examination: a sharp-clawed hand, hypesthesia in the 4-5th fingers and hand on the palmar and back surfaces, cicatrix of the upper third of the medial surface of the left forearm. What is the preliminary diagnosis [1]?

1. *Posttraumatic lower humeral left-hand plexitis*
2. *Posttraumatic neuritis of the left median nerve*
3. *Posttraumatic neuritis of the left radial nerve*
4. *Posttraumatic neuritis of the left ulnar nerve*
5. *Posttraumatic neuritis of the left median and radial nerves*

A patient came with the complaints of flexion restriction of the 1st and 2nd fingers, impossibility to bend the hand in a fist. Physical examination: the hand is slightly swollen, impossibility of pronation of the forearm, hypesthesia on the palmar surface of the 1st, 2nd, 3rd fingers, vasculomotor, trophic changes, a rough cicatrix in the lower third of the right shoulder. What is the preliminary diagnosis [1]?

1. *Posttraumatic lower humeral left-hand plexitis*
2. *Posttraumatic neuritis of the left median nerve*
3. *Posttraumatic neuritis of the left radial nerve*
4. *Posttraumatic neuritis of the left ulnar nerve*
5. *Posttraumatic neuritis of the left median and radial nerves*

A patient came with the complaints of a back flexion restriction of the left hand, reduction of sensitivity on the back of the hand. Physical examination: the fingers hang down, the back flexion of the hand is absent, hypesthesia on the back of the hand of 1st, 2nd, 3rd fingers, rough cicatrix on the posteromedial surface of the middle third of the left shoulder. Your diagnosis [1]?

1. *Posttraumatic upper humeral left-hand plexitis*
2. *Posttraumatic neuritis of the left median nerve*
3. *Posttraumatic neuritis of the left radial nerve*
4. *Posttraumatic neuritis of the left ulnar nerve*
5. *Posttraumatic neuritis of the left median and ulnar nerves*

While falling a patient has broken the humeral bone. Physical examination: motor disorders as impossibility of the hand adduction are revealed, and in bending there is no tension of the sinew of the ulnar flexor of the hand. There is no bending in the distal part of the phalanges of the 4-5th fingers. The patient isn't able to make scratching movements by the 4-5th fingers and also to adduct and abduct the 4 5th fingers and to oppose the 5th finger to the thumb. What kind of nerve is injured [1]?

1. *Ulnar*
2. *Median*
3. *Radial*
4. *Axillary*
5. *Muscular-cutaneous*

A patient has consulted a doctor because of cut wound of the middle third of the shoulder. Physical examination: the 1st and 2nd fingers are straightened (a hand of the prophet). Bending of the middle phalanges of fingers is impaired, there is no bending in the distal phalanges of 1st and 2nd fingers. In an attempt to make a fist the 1st and 2nd fingers remain unbent. What nerve is injured [1]?

1. *Median*
2. *Ulnar*
3. *Radial*
4. *Axillary*
5. *Tibial*

A patient has been brought to hospital after a transport accident. The right hand is in pronation, hangs down, fingers in the proximal phalanges are bent. There is no extension of the hand and proximal phalanges of fingers, abduction of the thumb and a supination of the forearm. What nerve was affected [1]?

1. *Radial*
2. *Axillary*
3. *Median*
4. *Ulnar*
5. *Spinal S₅*

A patient P. has consulted a doctor after a transport accident with complaints that the hand hangs down along the body as a chain, does not bend in the ulnar joint and does not rise. Movements in the hand and fingers are completely preserved. There are disorders of sensitivity as a strip of anesthesia on the external surface of the shoulder, forearm and hand. What is your preliminary diagnosis [1]?

1. *Paralysis of Dushen-Erb*
2. *Paralysis of Dezherin-Klumpke*
3. *Total damage of the humeral plexus*
4. *Traumatic neuritis of the radial nerve*
5. *Traumatic neuritis of the median nerve*

A patient has fallen from the second floor. Physical examination: the following symptoms are revealed: a paralysis of muscles of the hand and finger flexors. Sensitivity is impaired as a strip on the internal surface of the shoulder, forearm and hand. The Horner's syndrome (ptosis, miosis, enophthalmos) is observed. What is a preliminary diagnosis [1]?

1. *The lower paralysis of Dezherin-Klumpke*
2. *Paralysis of Dushen-Erb*
3. *Traumatic neuritis of the radial nerve*
4. *Traumatic neuritis of the ulnar nerve*
5. *Traumatic neuritis of the median nerve*

An operator of a computer and a typist are often predisposed to damage [1]:

1. *Subclavicular nerve*
2. *Median nerve*
3. *Ulnar nerve*
4. *Radial nerve*
5. *Long thoracic nerve*

The gunshot wound of the hand with the damage of the median nerve in the distal part can cause [1]:

1. *Easily provoked pain in a hand*
2. *Weakness at extension of the hand*
3. *Atrophy of the first dorsal interosseous muscle*
4. *Loss of sensitivity of V finger*
5. *The hand pronation*

A blunt trauma of an elbow can lead to [1]:

1. *“Drop hand”*
2. *Weakness of a short adductor muscle of the thumb*
3. *«A sharp-clawed paw»*
4. *Supination of a hand*
5. *The limited pronation of a forearm*

A young man with the humeral bone trauma in a car accident, after recovery, in an attempt to bend an elbow, has felt weakness and paresthesia on palmar radial surface of the hand. Apparently, it's a damage of [1]:

1. *Suprascapular nerve*
2. *Long thoracic nerve*
3. *Musculocutaneous nerve*
4. *Radial nerve*
5. *Median nerve*

The 37-years-old alcoholic has woken up with sensation of discomfort in the right hand. Neurologic examination has revealed weakness of extension of the hand. Which nerve is possibly damaged [1]?

1. *Radial nerve*
2. *Median nerve*
3. *Brachioradial nerve*
4. *Musculocutaneous nerve*
5. *The ulnar nerve*

Specify the symptoms of superior brachial plexitis (upper paralysis of Dushen-Erb) [3]:

1. *Paresis of muscles proximal part of arm*
2. *Paresis of a hand muscles*
3. *Palpation morbidity in a zone supraclavicular fossa*
4. *Loss of a bending elbow reflex*
5. *Disturbances of sensitivity on conduction type*
6. *Disturbances of sensitivity of polyneuritic type*

Specify the symptoms of inferior brachial plexitis (low paralysis of Dezhnerin-Klumpke) [3]:

1. *Pain in a hand and to a nerve pathway*
2. *Atrophy of muscles of a forearm and interosseous muscle of a hand*
3. *Increase of reflexes on a hand*
4. *Paresis of muscles proximal pars of an arm*
5. *Paresis of muscles distal pars of arm*
6. *Disturbances of sensitivity on conduction type*

Specify the symptoms of the femoral nerve neuritis [4]:

1. *Symptoms of Lasseg*
2. *Absence of a plantar reflex*
3. *Absence of a knee reflex*
4. *Paresis of the quadriceps muscle of thigh, and sartorius*
5. *Paralysis of a gastrocnemius muscle*
6. *Symptoms of Vasserman and Matskevich*

Specify the symptoms of a radial nerve neuropathy [4]:

1. *Absence of a flexor-elbow reflex*
2. *Paresis of extensor's muscles of a forearm and fingers*
3. *Absence of a flexor-elbow reflex*
4. *"Drop hand"*
5. *"A sharp-clawed hand"*
6. *Hypalgesia in a innervation zone*
7. *The dissociated type of disturbances of sensitivity in a innervation zone*

Specify the symptoms of a median nerve neuropathy [3]:

1. *Impossibility of the pronation of a hand*
2. *"Drop hand"*
3. *Impossibility of bending of I-III fingers*
4. *Absence of extensor-elbow reflex*
5. *Anesthesia of I-III fingers of a palm*
6. *Hyperreflexion of a bending elbow reflex*

Specify the symptoms of a sciatic nerve neuropathy [2]:

1. *Absence of a knee reflex*
2. *Absence of an Achilles reflex*
3. *Anesthesia of a hip on a forward surface*
4. *Foot paralysis*
5. *Disturbances of sensitivity of polyneuritic type*

Specify the symptoms of the tibial nerve neuropathy [2]:

1. *Absence a knee reflex*
2. *Absence an Achilles reflex*
3. *Impossibility plantar flexion of foot and toes*
4. *Gait of type "steppage"*
5. *Pathological plantar reflexes*

Specify the symptoms of a fibular nerve neuropathy [3]:

1. *Gait of type "steppage"*
2. *Absence of a knee reflex*
3. *Absence of an Achilles reflex*
4. *Impossibility of dorsal flexion of the foot*
5. *Impossibility of plantar flexion of the foot*
6. *Anesthesia of the external surface of a shin and foot*

Specify the symptoms of an ulnar nerve neuropathy [3]:

1. *"Drop hand"*
2. *Absence of extensor-elbow reflex*
3. *Impossibility of bending IV and V fingers of a hand*
4. *Hyperreflexia of extensor-elbow reflex*
5. *Deformation of a hand on type of "a sharp-clawed paw"*
6. *Anesthesia of ulnar surfaces of a forearm, a hand and IV-V fingers*

Specify the main principles of neuritis treatment [3]:

1. *Antispasmodic means*
2. *Dehydrate means*
3. *Methods of reflex action on the neuromuscular device*
4. *Means which reduce a muscular tone*
5. *Means which improve neuromuscular conductivity*