MODERN MEDICINE AND PRACTICE
https://inovatus.es/index.php/ejmmp

EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE
Vol. 5 No. 1 (Jan - 2025) EJMMP ISSN: 2795-921X

MODERN SOLUTIONS FOR DIAGNOSING SPINAL CORD INJURIES

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Abstract: Spinal cord injury and rupture are dangerous conditions that require immediate treatment. Spinal cord and spinal cord injuries have serious consequences for the body, its various organs and systems. The Yusupov Hospital has created all the conditions to restore the functions of patients with spinal cord injuries:

Keywords: Rehabilitation Spinal cord injury - symptoms, consequences, treatment

Spinal cord injury - symptoms, consequences, treatment

a) Comfortable living conditions;
b) High-quality dietary nutrition;
c) Professional care;

Careful attention by medical staff to the wishes of patients and their relatives;

Use of innovative methods and private physical rehabilitation programs.

Recovery from spinal cord injuries can take a long time, sometimes a lifetime. The duration of the recovery period depends on the degree of tissue damage, as well as the general condition of the body. A properly selected rehabilitation plan allows you to restore maximum neuromotor functions and return a person to a full life. At the Yusupov Hospital, a rehabilitation plan for spinal cord injuries is drawn up individually, which allows you to get the best results from treatment.

Reasons

Spinal cord injuries can be caused by congenital anomalies, various diseases and injuries of the spine. The latter include fractures, bruises, sprains, dislocations and contusions, accompanied by varying degrees of damage to the integrity of the tissues. Injuries can occur as a result of a car accident, a fall or a blow perpendicular to the back (gunshot wound, knife wound, blunt force trauma).

The most dangerous is a spinal cord injury. It is associated with long-term treatment and restoration of impaired functions. However, with such injuries, full recovery is very difficult, and in some cases you need to be prepared for the fact that it is impossible to restore the work of some organs and systems. In such a situation, psychologists help the patient adapt to new living conditions.

Symptoms

Symptoms of spinal cord injury usually appear immediately and do not raise doubts when making a diagnosis. When the spinal cord is injured, the following symptoms occur:

a) Disturbance of consciousness (disorientation, loss of consciousness, coma);

b) Pain in the area of injury;

c) Headache;

d) vomiting;

e) Double vision;

f) Respiratory failure;

g) Slurred speech;

h) Numbness of areas of the body below the affected area;

i) paralysis;

j) Not stealing feces and urine.

Spinal cord injuries in the cervical region are the most dangerous, as there is a risk of paralysis of the entire body. With this injury, brain function is impaired and breathing may stop.

Muscle spasm due to spinal cord injury

A symptom of spinal cord injury can be muscle spasticity. In this condition, abnormal muscle tone is observed, which is aggravated by tension and passive movement. Spasticity makes it impossible to control the muscles, move freely, or speak.

It is characterized by involuntary muscle contractions associated with impaired nerve conduction due to spinal cord injury. However, the presence of spasticity may indicate that the communication between the muscles and the brain is intact. Thus, when the spinal cord is ruptured, spasticity is a good sign that increases the chances of restoring normal limb function.

Consequences

Spinal cord injuries with spinal cord injuries have serious consequences for the body. Their severity depends on the degree of tissue damage, the timeliness and quality of treatment measures. Minor injuries damage peripheral nerve cells. Their work can be taken over by healthy neurons. In this case, the consequences will be minor.

If the deeper layers of the spinal cord are affected, the consequences can be catastrophic. The patient may die or become disabled. The brain completely loses contact with the body below the spinal cord injury, which leads to a complete loss of sensation in this area and immobilization.

After a severe spinal cord injury, a person experiences a state of shock that puts him in a coma. This is the body's protective reaction to the damage that has occurred. Spinal shock can last from several days to several weeks. At this time, all organs and systems (except the heart and lungs) do not function properly, so it is impossible to check reflexes and determine the full picture of the damage. In a coma, muscles atrophy,

so rehabilitation clinic specialists maintain their tone with massage, gymnastic exercises, and electrical impulses.

The most serious consequences of spinal cord injury include:

a) Paralysis of the whole body or individual parts;

b) Difficulty in digestion and bowel movements;

c) Deep vein thrombosis;

d) Bed sores;

e) Muscle spasticity;

f) Impaired lung function (breathing problems).

Long-term consequences of spinal cord injury can occur without adequate rehabilitation. Therefore, it is very important to complete the full course of treatment and take preventive measures to maintain the body's function.

Why is a spinal cord injury dangerous?

A spinal cord injury is a very serious condition that can lead to disability and be life-threatening. When the spinal cord ruptures in areas of the body below the rupture point, communication with the brain is disrupted and they lose their function.

A particularly serious complication of spinal cord injury is spinal shock. The duration of spinal shock is unpredictable. It can last for weeks or months. During this time, it is important to take steps to support the body and prevent muscle atrophy.

A spinal cord injury poses a direct threat to a person's life. Even if it is possible to survive the most difficult period, a person will have to undergo a long rehabilitation course to adapt to life with a disability.

Rehabilitation for spinal cord injury

Spinal cord rehabilitation after injury consists of many activities. Rehabilitation begins as early as possible. Rehabilitation activities include:

Performing physiotherapeutic procedures;

Physical therapy;

Massage.

Foot massage after spinal cord injury allows you to normalize blood and lymph flow in the lower extremities and restore nerve conduction. Rehabilitation should be constantly monitored by specialists. It is necessary to monitor the body's response to therapy and make timely adjustments.

Traumatic spinal cord disease

Medical scientists distinguish the following periods of traumatic spinal cord disease (TSCD):

Acute period. Lasts about 3 days. As a rule, at this time signs of spinal shock appear, such as loss of tendon and visceral reflexes, loss or impairment of movements, decreased muscle tone, loss of sensitivity;

Early period. Lasts about 3 weeks. During this period, a gradual restoration of reflex excitability begins. Gradually, it turns into hyperreflexia, muscle tone also increases, and clinical activity appears;

Intermediate period. Lasts about 2-3 months. The beginning of the period is counted from the moment of injury. The predominance of extensor or flexor muscle tone begins to form. Contractures in the joints, spasticity, and muscle weakness may also occur;

Delayed period. Lasts about a year. During this time, the patient's condition gradually worsens or improves unilaterally;

The residual period. Lasts more than a year from the moment of injury. During this period, the consequences of the injury and residual effects appear, as well as the formation of a new level of neurological function, which will be permanent.

Most experts agree that surgery for traumatic spinal disease should be performed as soon as possible. Surgical interventions performed more than three days after the injury are generally ineffective, as irreversible changes may develop during this period and their implementation will be difficult for a number of reasons.

Any surgical intervention aimed at spinal cord decompression is accompanied by a review of the spinal cord using optical magnification. This examination determines the presence of intracerebral hematomas and intrathecal hemorrhages. They are removed immediately, otherwise they can lead to the formation of cysts and scars. Very quickly, adhesions are formed, which are located between the spinal cord substance, membranes and nerve roots. This greatly complicates the operation, as it requires powerful optical magnification and the use of micro-instruments.

Surgical intervention is not possible in the presence of traumatic shock, combined injuries of internal organs, acute respiratory failure and early septic complications of the disease. The main goal of treatment with complete spinal cord damage is to improve segmental functions. This treatment method has recently achieved great success.

TBSM rehabilitation

Recently, many new rehabilitation methods have appeared. The most promising and interesting is functional electrical stimulation. Its main task is to ensure the functioning of paralyzed muscles, using special stimulators for this. For example, sacral electrical stimulators are implanted to normalize bladder function, prevent urinary incontinence and stimulate urination. External and internal stimulators are used for the hands, etc.

In the case of traumatic spinal cord injury, recovery is very slow, as individual joints are “disconnected” from the neural circuit. “Turning them on” is the most difficult task that can be accomplished. According to studies, sometimes limbs that have been paralyzed for decades can be made to work if the patient is forced to work with them.

Biofeedback methods are widely used in the hospital. It improves the motor functions of the victim after an injury and can fully restore the ability to move in patients with incomplete spinal cord injuries, even if they were not able to walk after the injury. Training complexes are developed individually by specialists of the rehabilitation clinic.

The hospital doctors individually draw up a professional rehabilitation course for each patient. You can go to the hospital both for the main treatment of spinal injuries and in the postoperative period. The best doctors work here - surgeons, traumatologists, rehabilitologists, physiotherapists, who will determine the optimal rehabilitation plan that will allow you to achieve maximum results. You can call the Yusupov hospital and make an appointment with doctors, get detailed information about the work of the rehabilitation clinic and ask any questions you may have.

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