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Review of techniques for monitoring patient vital signs used by intensive care nurses. Part three

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Summary

The work consists of three parts, which discusses such matters relating to the functioning of the cardiovascular, respiratory and central nervous system. A nurse is a person who is directly involved in the conduct, measures and draws attention to possible complications, since it is she is the person who spends the most time at the bedside.

Development of medical science involves the construction of specialized medical equipment ever more perfect, more expensive, more complicated to build and operate, requiring more and more qualifications treatment team.

Keywords: monitoring of vital signs, nursing, intensive care

Admission.

The purpose of conducting monitoring of vital functions is the early recognition of potential physiological imbalances and take urgent treatment. Supervision should be properly targeted and systematic, and the results must be reliable and accurate, because they are the basis for therapeutic intervention. The success of monitoring depends largely on the nursing staff. The nurse's role is enormous and requires a large resource of expertise and skills of its practical application, since it is the nursing staff spends the most time with the patient and the first notes any changes in the patient's condition.

Monitoring of the central nervous system

The measurement of intracranial pressure.

Intracranial pressure of 5-10 mmHg correctly determines the pressure of cerebrospinal fluid in the area supratentorially and is defined as the pressure of the cerebrospinal fluid into the lateral ventricle of the brain.

The volume of the intracranial space - brain, blood and cerebrospinal fluid with each other in a strict balance, and any change in the volume of one of them must be compensated by changing the others. This balance is maintained primarily by the volume of cerebrospinal fluid, so that its pressure becomes the exponent changes in the volume of other structures of the skull.

Along with the increase in intracranial pressure comes to the movement of brain structures in the tent of the cerebellum and the foramen magnum, and consequently to the impaction of the brain. The increase in the intracranial pressure
conclude on the basis of clinical symptoms and computed tomography image, which shows an increase in density in the region of the cerebral hemispheres, the fluid reservoirs tightening, constriction of the ventricular system or a movement beyond the center line.

Indications for intracranial pressure monitoring is:

- incorrect image of the brain computed tomography showing the oppression

fluid reservoirs,

- the need for health and beauty treatments at high risk for increase intracranial pressure in patients with head trauma, brain edema, hemorrhage into the brain ventricles or hyperplastic.

Measuring the intracranial pressure within the chamber is made of the brain gray matter of the brain in the subarachnoid space, and epidural [2].

Pressure cerebrospinal fluid.

The test involves taking cerebrospinal fluid through the puncture needle is inserted into the spinal canal (subarachnoid space). Obtained cerebrospinal fluid is assessed in terms of physical, chemical and biological properties. Changes in the composition of the cerebrospinal fluid allow to identify some of the diseases of the central nervous system and roots spinal. Study CSF is an essential examination in diagnosis of inflammatory central nervous system, or the complementary suspected subarachnoid bleeding, diseases of the central nervous system extending from the disintegration of myelin or dissemination cancerous cells [3,7,10].

Indications for testing:

- Cerebral meningitis (bacterial, viral, etc.).
- Subarachnoid hemorrhage.
- Myelitis and spinal nerves.
- Demyelinating diseases of the central nervous system (e. multiple sclerosis).

The test is performed by the doctor

Pre-study:

- Eye fundus examination.
- The rating system clotting.

How to prepare for the test:

Each patient must personally sign an agreement to conduct a study by reviewing earlier studies from the mode and possible consequences [1,2,8]. Under the occipital before pricking the skin to be shaved occipital region.

The test is performed under local anesthesia.

Description of the study:

Most cerebrospinal fluid is taken from the lumbar puncture. The patient lies on her side with a highly curved back, curled lower limbs and neck bent forward. The same arrangement or in a sitting position with the neck bent forward collected cerebrospinal fluid by - less frequent - Under the occipital puncture. The area of skin around the planned injection site is disinfected with alcohol and iodine. The area designated for needle insertion site can numb the injection of anesthetic (lidocaine). If in the course of performing lumbar puncture patient will feel a sharp, radiating to the lower limb pain - should report this to the organizer of the survey. Slight withdrawal of the puncture needle or the change in angle the injection needle causes pain relief. After the puncture needle is inserted into the fluid space of the investigator check patency of the spinal canal and evaluate intracranial pressure. Intracranial pressure is measured using a pressure gauge connected with a needle puncture [6,11,15]. The patency of the channel is estimated by means of a pressure gauge. During the jugular vein of oppression or liver area - the pressure should increase rapidly. After interruption trouble pressure drops rapidly. After completion of the measurement is taken a dozen or so milliliters of cerebrospinal fluid. After removal of the puncture needle of the insertion site assumes a sterile dressing. The result is transmitted in the form of a list of numerical values of the parameters studied, sometimes with a brief description [7,10,13].

Test time:

The test takes about 2 - 3 minutes.

Information to be reported The testing:

before the test

- Possible allergic to iodine.
- The tendency to bleeding (hemorrhagic diathesis).

During the test

- Any sudden ailments (eg. A sharp pain radiating to the lower limb).
- Other sudden symptoms (headaches, dizziness).

How to behave after the test ?:

For about 1 hour after the lumbar puncture, the patient should lie down on the abdomen, and may then lie down in a supine position. Do not raise your head! Bed regime is valid

for 24 hours. In the first and second day after the test must meet the increased amount of liquid (about 2 - 3 liters of water, tea or juice) [13,15,18].

Possible complications after lumbar puncture:

Some patients who do not follow the "sexual regime" and did not drink sufficient amounts of fluids may experience symptoms of post-puncture.

This syndrome typically occurs within 3 - 4 days after the puncture. The patient experiences severe headaches and neck, dizziness and nausea [17,19] . These symptoms clearly worsen with standing or sitting. To remove these symptoms should "regime of bed" and drink plenty of fluids. After a few days of post-epidural-puncture headache disappears without a trace. If desired, the test can be repeated many times. It is performed in patients of all ages, as well as pregnant women.

Colors cerebrospinal fluid:

Normal cerebrospinal fluid is transparent and the pressure is 80200 mm H2O (when the patient is in the supine position). In pathological conditions may change its color:

- yellow color is called. Xanthochromia, it is mostly due to the presence of bilirubin, which testifies to haemothorage into the subarachnoid space (the period of no more than about 2 weeks) prior to, or significant hyperbilirubinemia;
- milky-yellow - this is usually purulent fluid;
- Red - indicates the presence of blood;
- various degrees of turbidity is caused by the presence of large numbers of cells, bacteria or increased levels of proteins [10,13,15,17].

Summary.

The work reveals the essence of monitoring patients in life-threatening conditions. A nurse is a person who is directly involved in the conduct, measures and draws attention to possible complications, since it is she is the person who spends the most time at the bedside.

Development of medical science involves the construction of specialized medical equipment ever more perfect, more expensive, more complicated to build and operate, requiring more and more qualifications treatment team. Years of research,

tests and theoretical studies have brought tremendous progress in the monitoring of vital functions. There are more modern and more accurate methods for monitoring a patient that allow early detection of possible complications, as well as provide confirmation of the effectiveness of treatment.

Monitoring, which is run properly, focusing on each patient individually, often allows the patient to prevent complications, improve their health, which in turn accelerates their return to health, while saving them the suffering caused by prolonged hospitalizations.

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