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GENETIC FACTORS OF ALCOHOLIC PSYCHOSIS DEVELOPMENT

Resume: It is known that the hereditary predisposition to alcoholism at the phenotypic level can be studied with the help of genetic markers, possibly reflecting their connection with the disease [2, 3]. Many authors say that there is a biological predisposition to alcoholism, fixed at the genetic level [1, 4, 5, 6], However, the nature and mechanisms of inheritance in alcoholic psychoses are still unclear.
The aim of this work is to search for markers of increased risk of alcohol psychosis by conducting molecular genetic analysis of DNA markers of the main enzymes of ethanol metabolism.
Key words: alcoholic psychosis, heredity, ethanol.

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NEUROMONITORING IN CLINICAL PRACTICE: WITH CEREBRAL-SOMATIC PARA INFRARED OXIMETER SYSTEM

Resume: *Neuromonitoring is broadly considered including dynamic neurological examination, discrete and continuous application of electrophysiological, biochemical, ultrasonic, X-ray, isotope and other methods. The dynamic neurological examination continues to remain as one of the easiest and the most important ways of adequate assessment of intensive treatment despite modern technological capabilities. Moreover, the instrumental procedure data shall be always considered just within the comparison with clinical practice. The increase of the depression of consciousness degree, the depth of movement and tonic disorders, multiplication of the incidence of SBN (Skull Brain Nerves) "loss" symptoms reflect the ineffectiveness of treatment.*
Cerebral – corporal para infrared oxymetrical system *is suitable for estimating the patient's (infants-children-adults) condition with possible disorder of cerebral and/or corporal oxygenation even with keeping normal degrees of Arterial blood pressure and SpO2. rSO2 index is indicative of the balance between oxygen delivery and intake within the regions of interest. This method is used as intraoperative neuromonitoring in cases of high risk of hypoxic brain damage during surgical interventions on the vessels of the neck, surgical treatment of chronic pulmonary embolism, aneurysm and aortic dissection, as well as to assess the severity of cerebral ischemia in patients with chronic cerebral ischemia, pathology of the arteries of the head and neck, chronic pulmonary embolism. The method is based on the principle of optical spectroscopy using infrared light with a range from 650 to 1100 nm. The sensor of the device is located in the frontotemporal part at the border of the scalp. The saturation of the brain with oxygen is determined at rest in the supine position while breathing atmospheric air at all stages of surgical treatment in a continuous monitoring mode.*
Key words: *neuromonitoring, clinical practice, brain*

Relevance. Despite modern technological capabilities, dynamic neurological assessment continues to be one of the simplest and most important ways to assess the adequacy of intensive care. Moreover, the data of instrumental methods should always be considered only in comparison with the clinical picture. An increase in the degree of depression of consciousness, the depth of motor and tonic disorders, an increase in the number of symptoms of "loss" of the cranial nerves (TBI) reflects the ineffectiveness of therapy. The opposite is also true. With the effectiveness of therapeutic measures, the level of wakefulness increases, tonic and motor disorders are leveled, and the functions of the cranial nerves are restored.

Neuromonitoring is considered in a broad concept, including dynamic assessment of neurological status, discrete or continuous use of electrophysiological, biochemical, ultrasound, X-ray, isotope and other methods.

Components of modern neuromonitoring:

• Assessment of neurological clinical status: brain stem, coma depth, dislocation symptoms, etc.

• Neuro-imaging techniques: computed tomography (CT) and magnetic resonance imaging (MRI)

• Methods for assessing brain blood flow: the assessment of brain blood flow (MC) can be direct and indirect. In addition, the total blood flow and local blood flow can be evaluated.

• Methods for monitoring intracranial hypertension: ICP measurement. It is generally accepted that the critical level of ICP increase is 25-30 mmHg.

• Methods for assessing brain oxygenation: cerebral oximetry (COM) is a non-invasive INVOS™ monitor method

• Neurophysiological methods: Electroencephalography; (EEG); Electroneurography (ENG);

• Functional MRI (NMR)

• Methods for assessing brain metabolism: markers of secondary damage (lactate, pyruvate, glycerol, glutamate, etc.)

Purpose: to identify the advantages of using neuromonitoring in clinical practice.

Task:

1.To analyze the results of the performed neuromonitoring in patients with various brain injuries

2. To assess the possibilities of using neuromonitoring in other fields of medicine

Subject of research: patients admitted to the intensive care unit with various brain injuries

Study Design: Retrospective

Research methods: Neuromonitoring of cerebral oxymetry of 47 patients with various brain injury admitted to intensive care unit of Emergency hospital in Almaty city (neuro-stroke, traumatology, neurosurgery departments) was conducted.

Research results: The results attained by us suggest the high informativeness of the cerebral oximetry method during the study of the processes occurring in the brain during general anesthesia and intensive therapy. The capabilities of this method for diagnostics of the brain hypoxia seem to be extremely important. By evaluating the capabilities of spectroscopy method in near infrared spectrum it is to be hoped that it will have wide application in pediatric anesthesiology. Its applicability for the expediency of its use for intraoperative monitoring of the oxygen status of the brain in cardiovascular surgery, in neurosurgery and in all other cases is obvious, when the risk of hypoxic brain damage or impaired cerebral perfusion is extremely high.

The use of the INVOS monitor made it possible to make a timely correction in the intensive care of severe patients with strokes. Neuromonitoring in dynamics automatically analyzed the CNS oxygenation, the state of the cerebral cortex with a simultaneous assessment of the degree of tissue regional oxygenation according to the data of Hb oxygen saturation of the vessels of internal organs. This did not reduce the rSO2 below the threshold by 25%. Correction of inotropic support according to the COM data in combination with other neuromonitoring data. The indication for the appointment of sympathomimetics was both the elimination of primary hypotension to stabilize cerebral perfusion pressure, and an increase in the values of" normal " blood pressure to improve brain perfusion. The study showed that the use of COM makes the use of sympathomimetics in patients with intracranial hemorrhages a safe method of emergency recovery and maintenance of cerebral blood flow, not accompanied by an increase in ICP. Therefore, the COM as part of the neuromonitoring system can be used as a means of evaluating the effectiveness of the administration of drugs that increase blood pressure and cerebral perfusion for the correction of brain ischemia. Despite the considerable versatility of the technique, there are some limitations in its application in real clinical practice. The presence of decompressive trepanation, postoperative sutures, as well as subcutaneous and intracranial hematomas in the projection area of the sensor made it difficult to install the sensor itself and interpret the data. It should be noted the large size of the sensors themselves, their one-time use at a significant price. During the research, the periodic damage of the sensors during monitoring for more than 2 days due to the release of blood, liquor and sweat, as well as the need for constant tightness in the connection of the sensor and the skin, presented certain difficulties. When the pathology is localized in the posterior cranial fossa and brain stem, the use of the COM method is also not advisable. Without any doubt, cerebral oximetry has found a place as one of the methods of monitoring brain functions. In the case of a correct interpretation of the causes of the rise of COM and ICP, the use of aggressive intensive care methods such as hyperventilation and infusion of sympathomimetics led to a noticeable improvement in the condition of patients. The performed studies allowed us to significantly increase the level of resuscitation support for patients with neurosurgical pathology. All patients who underwent neuromonitoring were successfully transferred to the neuroinsult department for further therapy and rehabilitation. Thus, the use of cerebral oximetry in the complex of neuromonitoring allowed us to clarify the indications for artificial lung ventilation and allowed us to stop ventilating more correctly, which led to a decrease in the duration of brain hypoxia.

Invos is included into the standards of conducting neuromonitoring in the USA, Western Europe and Russia. Also the cerebral- corporal oxymeter can be used as additional monitor for indication of Hb oxygen saturation in the skeletal muscles of patients with the risk of ischemic states caused by the blood circulation reduction and absence. Taken measurements are direct, constant, noninvasive which is indicative of CNS (central nervous system) aeration degrees and different examined zones of patient's body. Area of application: vascular surgery – during the surgical repair (stent deployment) of the disturbed blood supply at the left and right carotid artery thrombosis (A. Carotis), and also while surgical interference in any large regional arteria; cardiosurgery – to assess the level of hypoxic intraoperative damages of cerebral cortex, and especially – during the use of HLM (heart – lung machine); in general emergency room during resuscitation from depressed case of any ethiology; during stroke care of neurological patients; in neonatology during the observation over treatment dynamics of various hypoxic damages of infants' cerebral cortex and also prematures; in any areas of surgery and neurosurgery requiring the parallel assessment of blood supply state of cerebral cortex and regional blood supply.

Conclusion. Modern neuromonitoring possesses great opportunities to provide the control over the brain state and its safety, provides conducting anaesthetic support in higher level during the sur-

gical interference and intensive treatment with possible brain injury as in adults so in children.

1. Cerebral oxymetry as part of other methods is used as diagnostic tools of secondary brain injury.

2. Use of the cerebral oxymetry as a part of neuromonitoring allows finding the identity of oxygen delivery to brain and intake, to specify severity of brain injury and consequently – outcomes of intracranial hematoma.

3. Use of the cerebral oxymetry allows diagnosing brain hypoxia which expands proposed clinical use of artificial lung ventilation, optimizes its parameters and duration.

4. Neuromonitoring conduction with the use of cerebral oxymetry allows providing safe application of sympathomimetic with intent to keep adequate cerebral perfusion.

5. Cerebral oxymetry allows to control oxygen delivery to patients' brain with intracranial hematoma during the various medical procedures providing the airway patency which allows reducing brain hypoxia episodes.

6. Using limitations of the cerebral oxymetry is related to the type of the pathologic process as the method reflects regional brain aeration. Use of CO (cerebral oxymetry) is inappropriate during localization of abnormality in posterior cranial fossa and in brain stem. The cerebral oxymetry usage is less informative during arterial aneurysm rupture.

7. Early intraoperative diagnosis of changes in standing of the brain and the fastest possible start correction allows you to prevent the development of neurological any complications during operations.

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НЕЙРОМОНИТОРИНГ В КЛИНИЧЕСКОЙ ПРАКТИКЕ: ЦЕРЕБРАЛЬНО-СОМАТИЧЕСКОЙ ПАРАИНФРАКРАСНОЙ ОКСИМЕТРИЧЕСКОЙ СИСТЕМОЙ

Резюме: Нейромониторинг рассматривается в широком понятии, включая динамическую оценку неврологического статуса, дискретное или непрерывное использование электрофизиологических, биохимических, ультразвуковых, рентгеновских, изотопных и других методов. Несмотря на современные технологические возможности, динамическая неврологическая оценка продолжает оставаться одним из наиболее простых и важных способов оценки адекватности интенсивной терапии. Более того, данные инструментальных методов всегда должны рассматриваться только в сопоставлении с клинической картиной. Нарастание степени угнетения сознания, глубины двигательных и тонических расстройств, увеличение числа симптомов «выпадения» ЧМН отражает неэффективность терапии.
Ключевые слова: нейромониторинг, клиническая практика, головной мозг

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КЛИНИКАЛЫҚ ТӘЖІРИБЕДЕГІ НЕЙРОМОНИТОРИНГ: ЦЕРЕБРАЛДЫ-СОМАТИКАЛЫҚ ПАРАИНФРАҚЫЗЫЛ ОКСИМЕТРИЯ ЖҮЙЕСІ

Түйін: Нейромониторинг неврологиялық статусты, дискретті және электрофизиологиядағы үздіксіз қолдануды, биохимиялық, ультрадыбыстық, рентгендік, изотоптық және басқа да әдістерді қоса алғанда кең ауқымда қарастырады. Қазіргі заманауи технологияның мүмкіндіктеріне қарамастан, динамикалық неврологиялық бағалау қарқынды терапияның жеткіліктілігін бағалаудың қарапайым әрі маңызды әдісі болып табылады. Сонымен қоса, аспаптық әдістер қорытындысы клиникалық белгілермен қатар салыстырыла қарастырылады. Сананың күңгірттену дәрежесінің өсуі, қозғалыс және тоникалық бұзылыс терендігі, БМН-нің «құлдырау» белгілері санының артуы терапияның тиімсіздігін көрсетеді.
Түйінді сөздер: нейромониторинг, клиникалық тәжірибе, бас миы