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Why law about brain death does not work in Georgia?

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Here is an order of Georgian President in 2001, about “Criteria of brain death”. Unfortunately this law was not implemented until nowadays and it has some factors. One of them is a low acknowledgement of Georgian population towards this order, the second one can be a selfless fight to survive a life in Georgian from ancient times. The third reason can be an idea of Georgian Orthodox Religion which has no official announcement towards this approach. One of the reasons can be a non-progress of Georgia in activities of transplantation of tissues and organs and this problem is one of the sharpest.

Key Words: Brain death, Terminal condition, Reanimation measurement

The example of protocol:

Georgian President’s 2001 year, 15 March №100 order regarding “The Criteria of human brain death”.

“The Criteria of human brain death”:

Death of an individual means irreversible stoppage of cardiac and respiratory system and function of all brain structure (including brain stem). Main causes of brain death are: severe brain trauma, hemorrhage developed after the rupture of brain aneurism, ischemic stroke of brain, complicated with brain swelling and strangulation and other cerebral pathologies.

Other causes of brain death may be ischemic encephalopathy developing after cardiac arrest of asphyxiation and brain swelling as the result of other extracerebral causes.

Precondition for making the diagnosis of brain death:

Defining the reasons of brain death

Absence of drug induced or other exogenous intoxication

Absence of hypothermia (rectal temperature should not be less then 32°C)

Absence of hypotony (systolic arterial pressure should not be less than 80mmHg)

Criteria of brain death are:

Coma, GCS -3point;

Absence of brain stem reflexes (pupil photoreaction, oculocephal, oculovestibular, corneal, trachea-pharyngeal)

Absence of spontaneous respiration, studied by special “Apnea test”;

Brain death should be proved by EEG or transcranial ultrasound dopplerography .

To prove the brain death studies should be conducted twice by 12 hour interval and in children till one year three times by 48 hour interval. Full description of study method is considered in the instructions for “clinical diagnosis and paraclinical study methods of brain death”.

Instruction

Regarding the clinical diagnosis and paraclinical study methods of brain death

Precondition for making the diagnosis of brain death

To make the diagnosis of brain death it is important to determine the cause of brain death. Also, it is important to exclude the influence of such factors as: drug and other exogenous induced intoxication, hypothermia, hypovolemic shock, metabolic or endocrine coma, also influence of narcotic substances and myorelaxants.

Rectal temperature of the patient should be no less than 32°C, systolic arterial pressure – no less than 80mmHg.

Clinical criteria for the diagnosis of brain death:

Absence of consciousness, coma 3 point by GCS;

Atony of all muscles;

Absence of reaction of trigeminal area on severe pain irritation

Absence of photoreaction on the bright light without the background of its dilatation background

Immobility of pupils

Absence of corneal reflexes

Absence of oculocephal reflexes

During the promotion of patient by 45 degree or during the reversing of maximally moved head contra laterally, pupils are fixated and do not move (“doll eyes”)

Oculocephal reflexes are not studied in case, when there is the spinal cord, cervical side injury or it is thought. If because of these reasons test is not made, it does not mean reverse of the brain death diagnoses.

Absence of oculovestibular reflexes:

Before making the test it is important to study if the ear drum is intact. If it is not intact, then test is not made. If because of these reasons test is not made, it does not mean to exclude brain death.

Patients head is moved from horizontal position forward by the 30 degree angle. Small sized catheter is introduced in the outer auditory canal and cold

water is injected (+4 - +8 degree temperature) during 10 second. During the absence of brain stem function, pupils are immobile.

Absence of pharyngeal and tracheal reflexes:

It is determined by the absence of cough reflex during the movement of endotracheal tube in tracheal or upper respiratory pathway.

On the background of spontaneous artificial airway, during 10-15 min, 100% oxygen is given, until in artery 2 reaches 200mmHg, after that artificial airway machine is turned off. Giving of 100% oxygen lasts with the volume of 0.1L/kg/min, until a 2 does not exceeds 60mmHg (to reach this level 8-10min is needed). If at this time spontaneous breathing signs does not manifest, apnea test is positive, which proves brain death.

Para clinical methods to prove the diagnosis of brain death

Para clinical methods of diagnosing brain death are EEG or transcranial Doppler.

Defining the presence of brain electrical activity is made according to those international electroencephalographic studies which are accepted during the brain death.

Any electrodes with minimal 8 units are used, which are located by the system "10-20" and 2 ear electrodes. The resistance between electrodes should be min 100ohm and max 10kohm. Distance between electrodes min 10h.

Recording on channels occurs during constant time, min 0.3sec, with strengthening min 2mic. volt/mm (upper limit of frequency passage min 30herz.). Minimal 8 channel device is used. EEG is registered in bi and monopolar branches. Electrical silence of brain cortex should be maintained in the term of continuous registration during min 30min. In all suspected cases of brain silence repeated EEG registration is needed.

Evaluation of EEG reactivity is conducted on light, hard noise and pain.

Duration of these irritants is min 10 sec. Light source, whose frequency is from 1 to 30herz, should be situated 80 cm away from eyes. Intensity of frequency of sound irritant is 100DB. Speakers should be placed close to patient ear.

Stimulus with maximal intensity generates by standard video and phonostimulantes. To induce pain, severe skin pricking with needle is used. EEG which is registered by phone cannot be used to determine brain electrical silence.

During transcranial dopplerography it is possible to bilaterally locate anterior, middle and vertebral arteries of brain. Dopplerographic corelant of brain death is on the background of presence of systolic stream absence of the diastolic one.

Registering the brain death diagnosis:

Defining the brain death occurs by the two independent commissions of doctors by the following membership: doctor, doctor reanimator, neurologist (min 5 years of working experience with specialty). to make special studies other specialists may be also included in the commission. Organizational side of making brain death diagnosis is made by the head of the clinic (department).

Those specialists who take part in the transplantation should not be included in the commission.

“Protocol for the defining brain death” is a main document (enclosure 1) for proving the diagnosis.

After making the diagnosis of brain death, reanimational measures, including artificial lung ventilation, can be stopped if a dead person is not a potential donor for the organ. Brain death is identical to the death of human. Studies for proving the brain death should be conducted twice, with 12 hour interval and in children till 1 year – three times by 48 h interval.

Protocol for the diagnosis of brain death №

Enclosure 1

Patient last name, first name, middle name:

Date of birth: yy/mm/dd:

Number of the patients history:

Full clinical diagnosis:

Commission: I study II study

Doctor (last name, first name):

Reanimatologist (last name, first name):

Neuropathologist (last name, first name):

Start date and time of the study:

Completion date and time of the study:

Entries are ranked by the circled “YES” or “NO”

Arterial blood pressure >80mmHg yes no yes no

Rectal body temperature >32°C yes no yes no

Drug and other exogenously induced

Intoxication is excluded yes no yes no

Myorelaxant have not been used yes no yes no

during last 6h

Narcotics have not been used yes no yes no

During last 12 hours

There was no hypovolemic shock

or it is liquidated	yes	no	yes	no
Metabolic or endocrine coma is excluded	yes	no	yes	no
Coma stage is 3 point by GCS	yes	no	yes	no
There are no spontaneous movements	yes	no	yes	no
Occulocephalic reflexes are negative	yes	no	yes	no
Occulovestibular reflexes are negative	yes	no	yes	no
Chorneal reflexes are negative	yes	no	yes	no
Tracheal reflexes are negative	yes	no	yes	no
Pharyngeal reflexes are negative	yes	no	yes	no
There is no pupil reaction to light	yes	no	yes	no
There is no spontaneous breathing	yes	no	yes	no
(Study was conducted according to “apnea test”)				
There is an isoline on EEG and corresponds				
With the indication of brain death	yes	no	yes	no
Results of the transcranial dopplerography	yes	no	yes	no
Corresponds with the indication of brain death				
II study was conducted 12 hours after the I study	yes	no	yes	no
Above mentioned studies were				
Conducted in relevance to the				
Instruction of “brain death clinical				
Diagnosis and para clinical studies”	yes	no	yes	no

Guided by the Decree of President of Georgia regarding the “Brain death criteria” and by the instruction regarding the “Brain death clinical diagnosis and para clinical study”, based on the above results we confirm that patient

.....

 (last name, first name, middle name)

Is dead on the base of the brain death.
 Doctors participating in the I study:
 Doctor (last name, first name, working place, position, signature)
 Critical medicine doctor (last name, first name, working place, position, signature)
 Neuropathologist (last name, first name, working place, position, signature)
 Doctors participating in the II study
 Doctor (last name, first name, working place, position, signature)
 Critical medicine doctor (last name, first name, working place, position, signature)
 Neuropathologist (last name, first name, working place, position, signature)

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რატომ არ მუშაობს საქართველოში კანონი თავის ტვინის სიკვდილის შესახებ

კრიტიკული მედიცინის ინსტიტუტი, თბილისი, საქართველო

მოტანილია საქართველოს პრეზიდენტის 2001 წლის ბრძანებულება “თავის ტვინის სიკვდილის კრიტერიუმების შესახებ”. სამწუხაროდ დღემდე საქართველოში არ ყოფილა ამ კანონის გამოყენების არცერთი შემთხვევა. მიუთითებენ, რომ ამის მიზეზი შესაძლოა მრავალი ფაქტორი იყოს. სახელდობრ გარკვეული მნიშვნელობა უნდა ჰქონდეს მოსახლეობის ინფორმაციულობის არასასურველ დონეს. ასევე მნიშვნელოვანია ისიც, რომ საქართველოში ოდითგან უაღრესად დიდ პატივს მიაგებენ ადამიანის სიცოცხლეს და ყველაფერს ცდილობენ ბოლო წუთებამდე იბრძოლონ მის შესანარჩუნებლად. ამ თვალსაზრისით ასევე მნიშვნელოვან ფაქტორს წარმოადგენს ორთოდოქსული მართლმადიდებლური რელიგია, რომელსაც დღემდე ოფიციალურად არ გამოუთქვამს თავისი მოსაზრება თავის ტვინის სიკვდილის შესახებ. თუმცა ამ თვალსაზრისით უმთავრესი ეტყობა მაინც ის ფაქტია, რომ დღემდე საქართველოში მნიშვნელოვან პროგრესს ვერ მიაღწია ორგანოთა და ქსოვილთა ტრანსპლანტაციის საქმე და მოთხოვნა დონორთა ქსოვილებისა და ორგანოების მიმართ თითქმის არ არსებობს.