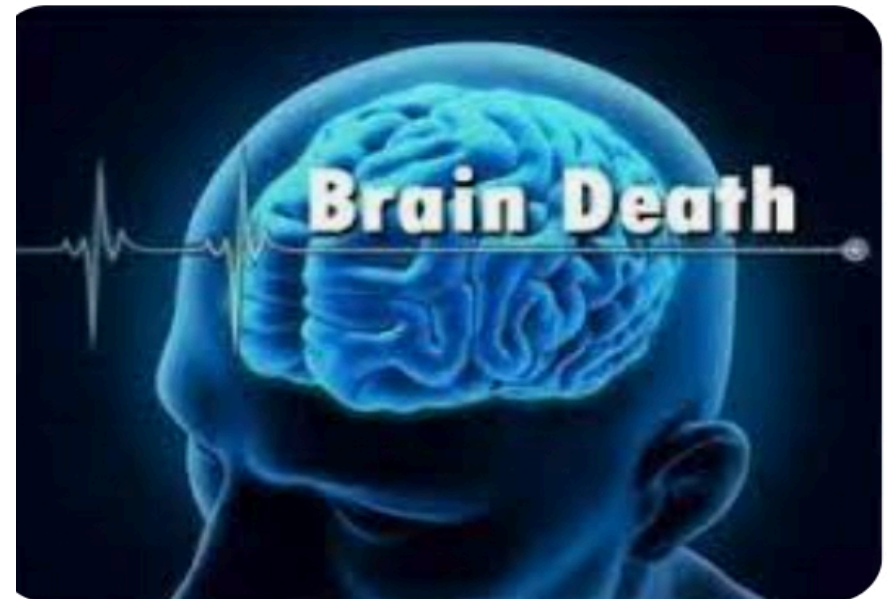


Lecture 8

Brain Death

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تعديل من خلال WPS Office

Brain Death

- Defines as the irreversible cessation of either circulatory and respiratory functions or all functions of the entire brain ,including the brainstem.
- An evaluation for brain death should be considered in patients who have suffered a massive ,irreversible brain injury of identifiable cause established by history ,clinical exam ,lab testing or neuro imaging (CT scan or MRI).



*** It is not the same as a coma or brain damage because there's no chance of recovery and it is irreversible.**

*** Once brain death is confirmed the person is legally deceased and life support is removed unless organ donation is an option.**



Causes of Brain Death

- 1] Severe head trauma from accidents or head injuries.
- 2] Internal brain injuries like strokes or aneurysms.
- 3] Lack of oxygen (anoxia or ischemia)
from events like a heart attack (Cardiac arrest)
or drowning that leads to irreversible brain damage.
- 4] Brain infections like meningitis or encephalitis.
- 5] Brain tumor that cause swelling and pressure.



Diagnosis of brain death

A- is based on the demonstration of :-

1. Coma :The patient must exhibit irreversible ,unresponsive coma with a known cause sufficient to explain the loss of brain function.

2. Absence of Brainstem Reflexes:

- This includes no pupillary response to light ,corneal ,
oculocephalic(doll's eyes) ,oculovestibular (caloric)
gag and cough reflexes.

3. Apnea :The absence of spontaneous respiratory effort during a formal CO₂ challenge(apnea test).



B- Clinical examination

- Typically by one or two doctors ,to confirm the absence of all neurological function ,This involves:

Prerequisites :**Ensuring confounding conditions like severe hypothermia ,low blood pressure, hypoglycemia ,or the presence of sedating drugs have been ruled out.**

C- Ancillary Tests(if needed)

- Tests like an electroencephalogram(EEG)to check for electrical activity or a cerebral blood flow study (cerebral angiography) may be used to confirm the diagnosis especially if a complete clinical exam is not possible.



D. Lazarus 'Sign

- * Brain-dead patients may occasionally exhibit spontaneous , brief movements of the limbs or torso ,known as Lazarus 'sign.
- * These are spinal reflexes ,not evidence of brainstem activity and are often triggered by hypoxemia or spinal cord ischemia after ventilator disconnection.

E. The Potential Organ Donor

- *The diagnosis of brain death often precedes the opportunity for organ donation.



THANK YOU!

