Brain Death in the Toxicology Patient

Laura Tormoehlen, MD
ACMT Spring Meeting 2014

www.sfexaminer.com www.dallasnews.com

It's in the news

Practice Parameter: Determining Brain Death in Adults. Report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 1995; 45: 1012-4.

- "Brain death is the absence of clinical brain function when the proximate cause is known and demonstrably irreversible."
- Prerequisites:
  - Clinical or imaging evidence of an acute CNS event
  - Exclusion of "complicating medical conditions"
  - **No drug intoxication or poisoning**
  - Core temperature > 32°C

Tox is the first criterion – but it doesn't always make the list

- Coma
- Absence of brainstem reflexes
- Apnea

Brain Death Criteria

- Brain-dead organ donors – 226
- Strict adherence to guideline – 101 (44.7%)
- Loose adherence to guideline – 84 (37.2%)
- Incomplete – 41 (18.1%)

There is variability in practice

Shappell CN, Frank JI, et al. "Practice variability in brain death determination: A call to action." *Neurology* 2013; 81(23): 2009-14.

Prognosis of Coma After Cardiac Arrest in the Era of Hypothermia

Michael De Georgia, MD; Bassel Raad, MD

ABSTRACT

Purpose of Review: Outcome prediction is more difficult in comatose survivors of cardiac arrest who are treated with hypothermia than in those who are kept normothermic. This article compares prognostication measures in these two groups of patients.

Recent Findings: The introduction of therapeutic hypothermia for cardiac arrest has resulted in reduced mortality and better neurologic outcomes among survivors. However, it has also introduced greater uncertainty into the process of prognostication. For guidance on predicting outcome, most neurologists have relied on the 2006 AAN practice parameter. The studies on which the practice parameter was based, however, were performed before the advent of hypothermia. Data from posthypothermia era studies suggest a change in the predictive power of some markers that are regularly used to assess prognosis in post–cardiac arrest patients. It is unclear whether the same rules apply when predicting outcomes after cardiac arrest in cooled patients. In this new era of hypothermia, caution must be exercised when using the current AAN practice parameter to predict prognosis in post–cardiac arrest comatose survivors.

Summary: This article compares and contrasts prognostication before and after the introduction of hypothermia in an attempt to provide new guidance on predicting outcomes.

It's more complicated than it used to be.

Continuum Lifelong Neurol 2012; 18(3):515-31.

Discussion