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LSUHSC-Shreveport, LA
Critical Care

Barbiturate Coma

I. Clinical Indications for Use:

- A) Cerebral ischemia
- B) Status epilepticus
- C) Increased intracranial pressure

II. Criteria for Use

- A) Ordered by a physician.
- B) Consult shall be present Neurology/Neurosurgery
- C) Patient has arterial line in place.
- D) Patient is receiving mechanical ventilation
- E) Patients shall have some form of sedation monitoring with the capability of assessing EEG.

III. Drug Protocols

A) Sodium Pentothal

- 1) Loading dose: 10 mg/kg over 30 minutes
 - a. Pediatric patients will have load given over 1 – 2 hours per an auto syringe pump
- 2) Continuous Infusion:
 - Mix Sodium Pentothal 4 gm in 1000 cc N/S or D₅W
 - Dose range of 1 – 3 mg/kg/hour

B) Pentobarbital Sodium (Nembutal)

- 1) Loading dose to be: In divided doses over a 10-20 minute period, give 3-5 mg/kg.
 - a. Pediatric patients will have load given over 1 – 2 hours per an auto syringe pump
- 2) May follow at 1-2 hour intervals with dose of 1-2 mg/kg IVP.
- 3) Dose range 1 – 3 mg/kg/hour
- 4) Burst suppression pattern on EEG indicative of barbiturate coma achieved at serum levels of 3 to 4 mg/100 ml.

* Maximum dosage of 50 mg/minute*

IV. Nursing Implications

- A) Notify MD if SBP < 90 or < than specified MAP necessary for adequate cerebral perfusion pressure.

Notify MD for indicators of decreasing cardiac performance as barbiturate coma has myocardial depressant effect.

Policy

MD

1. Writes order for Barbiturate Coma
 - a. Order include Drug, load, and continuous infusion rate
 - b. Assures presence of Neurology/Neurosurgical Consult on chart
2. Writes parameters for sedation level and MD notification.

RN

1. Notes order
2. Sends order to pharmacy
3. Prepares continuous infusion as per continuous narcotic infusion policy.
4. Assures presence of sedation monitor and/or EEG monitor on patient. If sedation monitor used should have EEG capacity present.
5. Assesses and documents patient sedation level at least every 4 hours.
6. If patient has an ICP monitor, assesses and documents ICP hourly.
7. Assesses and documents sedation monitoring value every hour (i.e. BIS or Sed Line) if in use.
8. Assesses and documents ventilatory/respiratory status at least every 4 hours
9. Informs Cardiopulmonary of any ventilator setting changes that need to be performed per MD order
10. Discusses with family plan of care and answers any questions

Reference:

1. Censulla, J. & Sebastian, S. (2003). Pentobarbital sodium coma for refractory intracranial hypertension. Journal of Neuroscience Nursing, 35 (5).
2. Louisiana State Board of Nursing. Declaratory Statement on the Role and Scope of Practice of the Registered Nurse in the Administration of Medication and Monitoring of Patients During the Levels of Procedural Sedation (Minimal, Moderate, Deep and Anesthesia) as Defined Herein. Adopted 3/17/2004.
3. Pentobarbital Coma Protocol. Mission Hospital, St. Joseph Health System. 7/2005.