Coma treatment

Initial evaluation

Includes measures to protect brain (by providing CBF, O2, and glucose), assesses the upper brainstem (Cr. N. VIII), and rapidly identifies surgical emergencies. Keep “pseudocoma” as a possible etiology in back of mind.

Outline of approach to comatose patient

1. cardiovascular stabilization: establish airway, check circulation (heartbeat, BP, carotid pulse), CPR if necessary

2. obtain blood for tests

a) STAT:electrolytes(especiallyNa,glucose,BUN),CBC+diff,ABG

b) others as appropriate:toxicology screen(serum&urine),calcium,ammonia,antiepileptic drug (AED) levels (if patient is taking AEDs)

3. administer emergency supportive medications

a) glucose:at least 25ml of D50 IVP.Due to potentially harmful effect of glucose in global ischemia, if possible check fingerstick glucose first, otherwise glucose is given without exception, unless it is known with certainty that serum glucose is normal

b) naloxone(Narcan®):in case of narcotic overdose.1amp(0.4mg)IVP

c) flumazenil (Romazicon®): in case of benzodiazepine overdose. Start with 0.2 mg IV over 30 seconds, wait 30 secs, then give 0.3 mg over 30 secs at 1 minute intervals up to 3 mg or until patient arouses

d) thiamine:50–100mg IVP (3% ofWernicke’s present with coma)

4. core neuro exam (assesses midbrain/upper pons, allows emergency measures to be instituted rapidly, more thorough evaluation possible once stabilized):

5. if herniation syndrome or signs of expanding p-fossa lesion with brainstem compression

initiate measures to lower ICP then get a CT scan if patient begins improving, otherwise emergency surgery.

✖ Do NOT do LP

6. if meningitis suspected (altered mental status + fever, meningeal signs…)

a) if no indication of herniation,p-fossa mass,focal deficit indicating mass effect or papilledema: perform LP, start antibiotics immediately (do not wait for CSF results)

b) if evidence of possible mass effect, coagulopathy or herniation,CT to R/O mass.If significant delay anticipated, consider empiric antibiotics or careful LP with small gauge needle (≤ 22 Ga), measure opening pressure (OP), remove only a small amount of CSF if OP high, replace CSF if patient deteriorates; LP in this setting may be risky

7. treat generalized seizures if present. If status epilepticus is suspected, treat as indicated (p. 488); obtain emergency EEG if available

8. treat metabolic abnormalities

a) restore acid-base balance

b) restore electrolyte imbalance

c) maintain body temperature

9. obtain as complete history as possible once stabilized