Mild traumatic brain injury treatment

Guideline

see Mild traumatic brain injury guideline.

Admitting orders for minor head injury (GCS≥14)

1. activity: BR with HOB elevated 30–45°

2. neuro checks q 2 hrs (q 1 hr if more concerned; consider ICU for these patients). Contact physician for neurologic deterioration

3. NPO until alert; then clear liquids, advance as tolerated

4. isotonic IVF (e.g. NS+20 mEq KCl/L) run at maintenance: ≈ 100 cc/hr for average size adult (peds: 2000 cc/m2/d). Note: the concept of “running the patient dry” is considered obsolete

5. mild analgesics: acetaminophen (PO,or PRifNPO),codeine if necessary

6. anti-emetic: give infrequently to avoid excessive sedation, avoid phenothiazine anti-emetics (which lower the seizure threshold); e.g. use trimethobenzamide (Tigan®) 200 mg IM q 8 hrs PRN for adults

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Even though admitting a patient with a mild traumatic brain injury (TBI) to the ICU might be the appropriate decision to ensure proper interventions in the case of secondary neurological worsening, existing data do not support this [1) 2)].

Because of the low risk of intracranial damage, a head computed tomography or hospital admission is not always necessary in these patients. To estimate the risk of intracranial abnormalities in mild TBI, various prediction rules and guidelines have been developed, for example the Canadian CT head rule, National Institute for Health and Care Excellence (NICE) guidelines for head injury and CHIP prediction rule [3) 4) 5)].

Implementation of a selective neurosurgical consultation policy reduced neurosurgical consultations without any impact on patient outcomes, suggesting that trauma surgeons can effectively manage these patients [6) 7)].

Patients with the constellation of traumatic subarachnoid hemorrhage and/or intraparenchymal hemorrhage IPH and mTBI do not require neurosurgical consultation, and these findings should not be used as the sole criteria to justify transfer to tertiary centers [8)].

Since 2000, center's standard practice has been to obtain a repeat head computed tomography (CT) at least 6 hours after initial imaging. Patients are eligible for discharge if clinical and CT findings are stable. Whether this practice is safe is unknown.

Discharge after a repeat head CT and brief period of observation in the ED allowed early discharge of

a cohort of mild TBI patients with traumatic ICH without delayed adverse outcomes. Whether this justifies the cost and radiation exposure involved with this pattern of practice requires further study [9].

Criteria for observation at home

1. head CT scan not indicated, or CT scan normal if indicated

2. initial GCS ≥ 14

3. patient is now neurologically intact (amnesia for the event is acceptable)

4. there is a responsible, sober adult that can observe the patient

5. the patient has reasonable access to return to the hospital E/R if needed

6. no “complicating” circumstances (e.g., no suspicion of domestic violence, including child abuse)

Research

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9)

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