NYPQ - ATCC - Traumatic Brain Injury Pathway, GCS<9

ATTENTION!
Any change in the patient's neurologic condition should prompt a call to the SICU attending and Neurosurgery.

Traumatic Brain Injury patient with GCS < 9

- Patient requires intubation (RSI + lidocaine 100mg)
- ABG, maintain \( P_aCO_2 \) 35-40mmHg, \( P_aO_2 > 60 \)mmHg
- HOB > 30 degrees (or reverse Trendelenberg if spine not cleared)
- Maintain MAP > 70mmHg until ICP available
- CT head (consider early FFP if patient has a surgical lesion)

- Neurosurgical consultation
- Admit to SICU (or directly to the Operating Room)
- Establish access/monitoring (CVP/PAC, arterial catheter, ICP monitor)
- Pain control (IV fentanyl)
- Sedation, after establishing a baseline examination
- Seizure prophylaxis with levetiracetam

Is ICP > 20mmHg?

Yes

Drain ICP via EVD, Discuss with Neurosurgery.

No

Continue monitoring. If CPP < 60mmHg, apply ATLS principles to find and treat potential causes of SHOCK.

\[ \text{Check CPP} \]

CPP > 60mmHg

Administer mannitol 0.25-1.0 g/kg IVP

\[ \text{Check heart rate.} \]

HR < 120 BPM

Norepinephrine drip, titrate to effect.

Phenylephrine drip, titrate to effect.

HR > 120 BPM

May repeat hypertonic saline bolus if CI <120, \( Na < 160 \)

Patient euvoletic, but CPP < 60mmHg.

CPP < 60mmHg

May repeat hypertonic saline bolus (3%). Check 'ytes.

\[ \text{May repeat mannitol if Serum Osm < 320 & patient is euvoletic.} \]

ICP still > 20mmHg?

Yes

Frequent reassessment of Neurologic exam and ICP

No

Check CPP

CPP > 60mmHg

Administer hypertonic saline bolus (3%). Check 'ytes.

Last Modified on April 12, 2016, by Jason Sample
Author's Note

These guidelines are designed to prevent secondary brain injury in patients with severe traumatic brain injury. These patients require other interventions to maximize their chances of a favorable outcome. These interventions include, but are not limited to: early enteral nutrition, seizure prophylaxis, DVT prophylaxis and stress ulcer prophylaxis. For more information about the care of patients with TBI, please visit the website of the Brain Trauma Foundation. There, you can search their online guidelines for the care of patients with brain injury. The guidelines can be found at their website:

Brain Trauma Foundation at https://www.braintrauma.org/

References