Catastrophic Brain Injury Guidelines

Consider obtaining a critical care consult if not already involved in patient care

Notify Donor Network

Maintain SBP >90 (MAP>60)

1. Consider invasive hemodynamic monitoring
2. Adequate hydration: Ensure adequate hydration to maintain euvolemia
3. Vasopressor support: If hypotensive post adequate rehydration, utilize Neosynephrine 50 mcg/min; (max dose 300mcg/min) as the first presser of choice followed by Levophed 0.03-0.3 mcg/kg/min. Consider hormone replacement therapy (T4 Protocol):
   * Obtain accucheck – if blood sugar < 200, give 25 gms of D50
   * Administer 20 u of Regular Insulin IVP – recheck blood sugar in 1 hr
   * Solu-Medrol 500mg IVP over 2min – 1st dose STAT, then q6hrs IV
   * T4 20 mcg IVP over 2 min (may cause transient hypotension)
   * Initiate gtt at 10 mcg/hr, titrate to a max dose of 50 mcg/hr – if patient becomes hyperdynamic/hypertensive wean or d/c T4 gtt

Maintain Urine Output >0.5 ml/kg/hr <300 ml/hr (consider DI i f >300 ml/hr X2 hours)

1. Treat Diabetes lnsipidus with Vasopressin IV drip 0.02 – 0.06 units/min, if UO still >300 ml/hr, then treat with DDAVP 1-2 mcg IVP PRN
2. If UO falls below 1ml/kg/hr, assess fluid status - may need rehydration or BP support

Maintain P02 >100, C02 35-45

1. Adequate ventilation: 5.0-8.0 cm/h2o PEEP; consider vent changes to maintain C02 35-45
2. Aggressive respiratory hygiene if not contraindicated by patient's condition (suction and turn every 2 hours)
3. Respiratory treatments to prevent bronchospasm

Maintain pH 7.35-7.45, Bicarb 22-26

1. Consider Vent Changes to maintain pH WNL
2. If pH <7.20 give 1amp Bicarb. Recheck ABG in 1hr and repeat if needed until pH >7.29
3. If continued acidosis, consider evaluating alternative sources of acidosis with appropriate treatment

Other orders to consider:

1. Monitor and treat electrolytes maintaining the following:
   * Sodium: 134-145 mEq/L
   * Potassium: 3.5-5.5 mmol/L
   * Magnesium: 1.8-2.4 E/L
   * Phosphorus: 2.0-4.5 mg/dl
   * Ionized Calcium: 1.2-1.4 mmol/L
2. Monitor glucose and treat with insulin drip if needed (keep 80-150 mg/di) rather than SQ
3. Monitor and treat Hgb, Hct, Coagulation Factors (especially if gunshot wound to the head, or other penetrating head injury)
   * Maintain Hgb >7.5 g/gl; and Hct >25%
   * If PT > 18.0 or INR >1.6; give 2 units FFP
   * If Fibrinogen 70-100; give 2 units FFP. If <70; give cryoprecipitate
   * If platelets <50; give 6 pack of platelets

\* remember to re-check labs after treatment

1. Maintain temp 36-37.5 Celsius with bair hugger/warming-cooling blanket