

CONSIDERATIONS IN MANAGEMENT OF THE PEDIATRIC TRAUMA PATIENT

- A. ORGANIZATION
 - a. Immediately notify the pediatric surgery resident or attending on call of incoming trauma
 - b. Members of the trauma team include pediatric surgery attending or resident, general and orthopedic surgery residents, emergency department physicians and personnel.
 - c. The emergency department attending is in charge of trauma patient resuscitation until the pediatric surgery resident or attending arrives who will then assume command.

- B. TEAMWORK
 - a. The surgeon in charge of trauma resuscitation gives all orders and coordinates activities.
 - b. One physician is responsible for cervical spine immobilization, airway and ventilation.
 - c. A second physician is responsible for intravenous access, fluid administration, obtaining and sending lab work (complete blood count, Chem-10, amylase, cross match 2 units packed red blood cells).
 - d. A third physician is responsible for rapid patient assessment and treatment of immediately life-threatening injuries

- C. PATIENT ASSESSMENT
 - a. Airway with C-spine control
 - b. Breathing
 - c. Circulation
 - i. Intravenous fluid: WARM Normal Saline
 - ii. Intravenous fluid rate:
 - 1. Normovolemia: 5 ml/kg/hr
 - 2. Hypovolemic shock = at least 25% blood volume loss
 - a. MILD: 20 ml/kg bolus, if improved then 5 ml/kg/hr. If not improved, repeat 20 ml/kg/bolus and have packed red blood cells available for stat administration
 - b. HYPOTENSION/ACIDOSIS: 40 ml/kg bolus and stat cross match for packed red blood cells. If improved, then 5 l/kg/hr. If not improved, stat transfusion with 20 cc/kg type specific or O neg. packed red blood cells
 - c. EXSANGUINATION HEMORRHAGE: Stat O neg. packed blood cells and lactated Ringer's.
 - d. Insert nasogastric tube, Foley catheter, take patient's temperature and keep warm with warming lights and warmed intravenous fluids. Apply electrocardiogram leads and pulse oximeter.
 - i. Do not insert nasogastric tube with extensive facial injury. Consider oral gastric tube.
 - ii. A Foley catheter should not be passed and a urethrogram performed in the presence of:
 - 1. Pelvic fracture
 - 2. Meatal blood
 - 3. Scrotal or perineal hematoma
 - 4. High riding prostate on rectal exam
 - 5. Males less than 5 years old
 - e. Complete physical examination. Remember to list positive findings and preliminary diagnosis. Calculate Glasgow coma and trauma scores.
 - f. Dress wounds and immobilize fractured extremities.
 - g. X-rays: Routinely obtain chest, abdominal and pelvic films. Obtain other x-rays including completed C-spine series as indicated by physical findings. Notify radiology of need for special studies as soon as possible.
 - h. Obtain past medical history.

- i. Consider tetanus prophylaxis or antibiotics:
 - i. Suspected intestinal injury: Unasyn or Cefoxitin.
 - ii. Open fractures: Ancef, Gentamycin
 - iii. Extensive facial/oral lacerations or other complex lacerations: Ancef.
- j. Contact appropriate consultants
- k. Talk to parents
- l. All multiple trauma patients are admitted to Surgery Service
- m. On transfer to ICU, pediatric surgery resident or attending will discuss with ICU attending as to which service patient shall remain.

D. MONITORING THE TRAUMA PATIENT

- a. Respiratory status airway, breathing, oxygen saturation, chest auscultation, respiratory rate
- b. Hemodynamic status: pulse, blood pressure, peripheral perfusion (skin color, temperature, capillary refill), urine output.
- c. Neurologic status: state of consciousness, response to stimuli, pupil size, equality, and reactivity

E. DEHYDRATION

- a. Treatment of severe dehydration (i.e., hypertrophic pyloric stenosis, severe diarrhea, and ruptured appendicitis) is a surgical emergency. Intravenous access is the responsibility of the surgeon and is to be obtained as soon as possible. Do not add potassium to intravenous fluids until urine output is obtained. Fluid boluses should be with dextrose – free solutions.
 - 4. Dehydration Resuscitation Guideline
 - i. 20 cc/kg normal saline bolus
 - ii. If patient continues to have physical findings consistent with hypovolemia (tachycardia, low blood pressure, poor peripheral perfusion, lethargy) or has not voided within two hours of fluid bolus, REPEAT 20 CC/KG NORMAL SALINE BOLUS
 - iii. Add 20 mEq KCL/liter to intravenous fluids after patient voids
 - iv. Obtain electrolytes, BUN, creatinine q 2 h (Chem 10)
 - v. Check patient frequently

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