March 2004

INPATIENT MANAGEMENT OF FEVER IN THE CHILD WITH SICKLE CELL DISEASE

CONSULTS: Hematology Service

MONITORING:
1. Vital signs with BP q 2 hr until stable, then q 4 hr (suspect septic shock).
2. Consider CR monitor and ICU for any signs cardiovascular instability.
3. Record I & O. Consider daily weight.
4. Continuous or frequent pulse ox for severe illness or if respiratory signs or symptoms present.

DIAGNOSTICS (if not previously obtained):
1. CBC, diff, platelet, and reticulocyte count initially and daily until improving (compare with patient's baseline).
2. CXR if tachypnea, cough, thoracic or abdominal pain, or any respiratory symptoms are present or subsequently develop.
3. Blood culture. Consider urinalysis and urine culture, especially without other focus of infection. Consider other cultures (e.g. CSF).
4. Consider CRP initially and daily until improving.
5. Consider electrolytes, BUN, creatinine initially and q.o.d., especially for patients receiving vancomycin.
6. Consider renal and liver function tests (BUN, creatinine, fractionated bili, ALT) and DIC screen for very severe pain or any evidence of encephalopathy (R/O acute multi-organ failure syndrome).
7. Consider abdominal ultrasound, liver function tests, amylase and lipase for RUQ, epigastric or severe abdominal pain (R/O cholelithiasis, cholecystitis, pancreatitis).
8. Type and screen if Hgb is <6 gm/dl or 15% or more below baseline or if evidence of acute chest syndrome present (see Acute Chest Syndrome Guideline).
9. Consider orthopedic consult with aspiration for culture of bone or joint if osteomyelitis or septic arthritis suspected.

FLUIDS, GENERAL CARE:

Treat dehydration, hypotension or poor perfusion if present. For hydrated patients with normal BP and perfusion, IV (D_5 1/4 NS) + PO @ 1-1½ x maintenance. Avoid excessive fluids, which may precipitate or exacerbate acute chest syndrome or, with severe anemia, congestive heart failure.

MEDICATION/TREATMENT:
1. Ceftriaxone 50-75 mg/kg IV q 24 hr (2 gm max single dose) or cefotaxime 50 mg/kg IV q 8 hr (2 gm max single dose). Substitute meropenem 20 mg/kg IV q 8 hr (1 gm max single dose) for patients with known or suspected cephalosporin allergy. Prophylactic penicillin should be discontinued while patient is receiving broad-spectrum antibiotics.
2. Add vancomycin 15-20 mg/kg IV q 8 hr (1 gm max single dose) and use higher dose ceftriaxone (50 mg/kg IV q 12 hr, 2 gm max single dose), cefotaxime (100 mg/kg IV q 8 hr, 2 gm max single dose) or meropenem (40 mg/kg IV q 8 hr, 2 gm max single dose) for severe illness (e.g., altered mental status, hypotension, and/or poor perfusion) or proven or suspected CNS infection. Draw peak and trough vancomycin levels after 3rd or 4th dose if vancomycin to be continued > 48 hours.
3. 0_2 by nasal cannula or face mask if needed to keep pulse ox ≥ 92% or ≥ patient's baseline value, if baseline >92%. The etiology of a new or increasing supplemental 0_2 requirement should be investigated. Avoid excessive or unnecessary 0_2, which may suppress the reticulocyte count and exacerbate anemia.
4. Acetaminophen 10-15 mg/kg po q 4 hr (75 mg/kg/day or 4 gm/day max). May add ibuprofen 10 mg/kg po q 6-8 hr if no contraindication (i.e. gastritis, ulcer, coagulopathy, dehydration, or renal impairment). Limit more frequent dosing to 5 days maximum duration.
5. Consider transfusion with RBC if Hgb is <6 gm/dl or 20% or more below baseline, especially with reticulocytopenia, and patient shows any signs of cardiovascular compromise. Request leukocyte-depleted and, if available, C, E, Kell-compatible (requires minor antigen phenotype), and sickle-negative RBC. In absence of alloantibodies, urgent transfusion should not be delayed by search for minor antigen matched units.
6. See other Clinical Guidelines for pain, acute chest syndrome, acute anemic crisis, stroke, priapism, if present.

DISCHARGE CRITERIA:
1. Afebrile ≥ 24 hr with negative cultures ≥ 24-48 hr or patient judged well enough to be observed as outpatient.
2. Taking adequate oral fluids and able to take po medications (e.g. prophylactic penicillin) if applicable.
3. Resolution of any pulmonary symptoms or documentation of adequate oxygenation on room air.
4. No evidence of anemic crisis (aplastic or sequestration): stable hemoglobin/hematocrit.
5. Follow-up arranged.

These guidelines do not indicate an exclusive course of treatment or serve as a standard of care. Variations based on a physician's best medical judgement may be appropriate in individual cases.