

## INPATIENT MANAGEMENT OF FEVER IN A CHILD WITH SICKLE CELL DISEASE (Dec 2008)

ADMIT: under Pediatric Hematology/Oncology 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 or qod until improving (compare with patient's baseline).
2. CXR if respiratory symptoms or thoracic/shoulder/upper abdominal pain are present or subsequently develop.
3. Blood culture. Consider UA & urine culture, esp. without other focus of infection. Consider other cultures (e.g. CSF).
4. Consider CRP initially and repeat later until improving, if indicated.
5. Consider electrolytes, BUN, creatinine initially and qod., 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% or  $\geq 20\%$  below baseline or if evidence of acute chest syndrome (ACS) is present (see ACS 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<sub>5</sub> 1/2 NS) + PO @ 1/2 x maintenance. Avoid excessive fluids, which may exacerbate ACS or, with severe anemia, congestive heart failure. Consider lowering IV fluid rate after 24-48 hours depending on patient's clinical status and oral intake.

### MEDICATION/TREATMENT:

1. Ceftriaxone 75 mg/kg IV q 24 hr (2 gm max single dose) or cefuroxime 50 mg/kg IV q 8 hr (2 gm max single dose). For patients with known or suspected cephalosporin allergy, substitute Clindamycin 10 mg/kg IV q 6 hr (max dose 4800 mg per day). Other choices include quinolones or meropenem 20 mg/kg IV q 8 hr (1 gm max single dose). Prophylactic penicillin should be discontinued while patient is receiving broad-spectrum antibiotics.
2. For severe illness (e.g., altered mental status, hypotension, and/or poor perfusion) or proven or suspected CNS infection 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). If meningitis is suspected in a child has allergy to ceftriaxone, meropenem should be considered instead of ceftriaxone. Draw vancomycin trough levels after 3<sup>rd</sup> or 4<sup>th</sup> dose if vancomycin to be continued > 48 hours.
3. O<sub>2</sub> by nasal cannula or face mask if needed to keep pulse ox  $\geq 92\%$  or  $\geq$  patient's baseline value, if baseline >92%. The etiology of a new or increasing supplemental O<sub>2</sub> requirement should be investigated. Avoid excessive or unnecessary O<sub>2</sub>, which may suppress the reticulocyte count and exacerbate anemia and 'mask' early deterioration of ACS.
4. Acetaminophen (may mask fever) 10-15 mg/kg po q 4-6 hr (60 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 blood transfusion 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, C, E, Kell-compatible (requires minor antigen phenotype), and freshest available 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  $\geq 24$  hr with negative cultures  $\geq 24-48$  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, (for clinic appt please call x 88239 or 392 5633).

*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.*