Last updated: 1/1/2016

Clinical Suspicion of HLH

(fever, splenomegaly, cytopenia, hepatitis)

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FERRITIN

Ferritin < 500

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Low likelihood for HLH.

Based on SLCH data:

- Ferritin > 5000 rarely seen outside of HLH
- Ferritin between 500 – 5000 may be seen in HLH or with other etiologies. Careful evaluation with consulting services is essential.

Ferritin > 500

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INITIAL ASSESSMENT

- Triglycerides > 265
- Fibrinogen < 150
- Cytopenias
- Splenomegaly
- Hepatitis
- Persistent fevers

If ≥ 2 are present or high index of suspicion regardless of above results

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DIAGNOSTIC EVALUATION

1. Consult H/O, Rheum, ID
2. Immune testing:
   - Elevated sIL-2r (sCD25)
   - NK cell function low/absent
   - CD107a degranulation low/absent
   - Protein expression testing
     - Perforin (all patients)
     - SAP (males only)
     - XIAP (males only)
   - EBV PCR and serologies

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TREATMENT

(managed by H/O &/or Rheum)

1. **Initiate therapy**
2. **Genetic testing**

The diagnosis of HLH is established if either 1 or 2 below is met:

1. Molecular diagnosis consistent with HLH (determined by flow cytometry testing or genetic testing)
2. Fulfill 5 of 8 below:
   - Fever
   - Splenomegaly
   - Cytopenias affecting at least 2 lineages of blood
   - Hypertriglyceridemia (fasting level ≥ 3 mmol/L or ≥ 265 mg/dL) OR hypofibrinogenemia (≤ 150 mg/dL)
   - Hemophagocytosis in bone marrow, spleen, lymph nodes (or affected tissue)
   - Low or absent NK cell activity
   - Elevated soluble IL2r (≥ 2400 U/mL)
   - Elevated ferritin (> 500 mg/L)

In general, patients with HLH should meet these criteria. Occasionally, a patient will clinically appear to have HLH but may not meet diagnostic criteria. Diagnosis and decision to treat should be based on input from H/O, Rheum and ID and best clinical judgment.

Guidelines developed in collaboration with H/O, Rheum, PICU, ID, Lab medicine.

Reference: Jordan et al. Blood. 2011; 118:4041-52