ANAPLASMOSIS

(formerly termed human granulocytic ehrlichiosis [HGE])

1. **Agent**: *Anaplasma phagocytophila* bacteria

2. **Identification**:

   a. **Symptoms**: Symptoms are usually nonspecific; the most common complaints are fever, headache, anorexia, nausea, myalgia and vomiting. Symptoms can range from mild illness to a severe, life-threatening or fatal disease. The disease may be confused clinically with Rocky Mountain spotted fever (RMSF) but differs by rarity of a prominent rash.

      Laboratory findings include leukopenia, thrombocytopenia, and elevation of one or more liver-function tests. In hospitalized cases, the laboratory findings may be only slightly abnormal on admission, and become more abnormal during hospitalization.

   b. **Differential Diagnosis**: RMSF, bacterial sepsis, Lyme disease, flea-borne typhus, toxic-shock syndrome, gastroenteritis, viral syndromes, tick-borne encephalitis and other multi-system febrile illnesses.

   c. **Diagnosis**: Preliminary diagnosis of anaplasmosis is based on clinical and laboratory findings. Confirmation is based on: the evaluation of a blood smear, development of serum antibodies to *A. phagocytophila*; immunofluorescence test; PCR.

3. **Incubation**: 5 to 14 days.

4. **Reservoir**: Deer, elk, and wild rodents are likely reservoirs anaplasmosis.

5. **Source**: Blacklegged tick (*Ixodes scapularis*) in the northeast or upper Midwestern United States or western blacklegged tick (*Ixodes pacificus*) in Northern California.

6. **Transmission**: Bite of an infected tick. Most patients report a tick bite or association with wooded, tick-infested areas prior to onset of illness.[1]

7. **Communicability**: No evidence of person-to-person transmission.

8. **Specific Treatment:** A tetracycline such as doxycycline; chloramphenicol for pregnant women and children under 8 years of age.

9. **Immunity**: Susceptibility is believed to be general. No data are available on protective immunity in humans from infections caused by these organisms. Re-infection is rare but has been reported.

REPORTING PROCEDURES

1. Reportable within 7 days of diagnosis (Title 17, Section 2500, *California Code of Regulations)*.

2. **Report Form:** **EHRLICHIOSIS/ANAPLASMOSIS CASE REPORT (CDPH 8573)**

3. **Epidemiologic Data**:

   a. Recent travel to endemic areas.

   b. History of tick and other insect bites.

   c. History of possible exposure to ticks in wooded areas.

   d. Occupational exposure.

CONTROL OF CASE & CONTACTS:

CASE:

1. **Isolation**: None.

2. **Concurrent disinfection**: Remove any ticks.

CONTACTS: No restrictions.

PREVENTION-EDUCATION

1 See http://www.cdc.gov/anaplasmosis/.

1. Use of tick repellants in endemic areas.
2. Wear protective clothing in wooded areas.
3. Control ticks on domestic animals.
4. Avoid tick-infested areas when possible. Check skin periodically and remove attached ticks immediately.

DIAGNOSTIC PROCEDURES

1. **Serology**: Indirect immunofluorescence. Paired acute and convalescent sera recommended.

   Container: Serum separator tube.

   Laboratory Form: CDPH–VDRL General Purpose Specimen Submittal Form

   Examination Requested: Anaplasmosis serology.

   Material: Whole blood.

   Amount: 10 ml.

   Storage: Refrigerate until transported.

   Remarks: Collect first (acute) blood specimen within 1 week of onset. Collect second (convalescent) blood specimen 2 to 4 weeks later.

2. **PCR**

   Container: Red top or red-grey top tube.

   Laboratory Form: CDPH–VDRL General Purpose Specimen Submittal Form

   Examination Requested: Anaplasmosis PCR

   Material: Serum.

   Amount: 1 ml.

   Storage: Refrigerate or freeze until transported.