To: Albany County Health Care Providers

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Re: ANAPLASMOSIS HEALTH ADVISORY

Date: July 21, 2011

Over the past 2 months, our Infectious Diseases physician colleagues have encountered an unprecedented number of hospitalized patients with anaplasmosis (formerly known as Human Granulocytic Ehrlichiosis). Anaplasmosis is a tickborne disease transmitted by the bite of an infected *Ixodes scapularis* tick, commonly known as the deer tick. This is the same tick that transmits Lyme disease and babesiosis and an individual tick can be co-infected with more than one organism.

We have identified more than 12 confirmed cases from 5 counties in the Capital Region admitted to area hospitals, and most of these patients have been previously evaluated by their primary care physicians, urgent care practitioners, and emergency room clinicians. These unexpected cases that have proven to be anaplasmosis could understandably be misdiagnosed as a viral syndrome or other non-specific febrile illness.

There are several key clinical and laboratory characteristics that should alert clinicians to this diagnosis. All anaplasmosis-infected patients experience fever, myalgias, arthralgias, and intense fatigue. Occasional associated symptoms include mild headache, nausea, and cough. Rash and frank arthritis are absent. These symptoms tend to be mild, but on rare occasion, sepsis syndrome with multi-organ failure has occurred in untreated patients. Anaplasmosis-infected patients requiring hospitalization tend to be older than 50 years.

Pertinent laboratory features that have been frequently encountered include:

- **leukopenia**, often with a marked left shift/bandemia
- **thrombocytopenia** of 30,000 – 100,000
- **atypical lymphocytosis** (monospot negative)
- **abnormal LFTs**, notably LDH.

The constellation of these lab abnormalities coupled with the patients' symptoms should alert the practitioner of a probable case of anaplasmosis.

In those patients in whom anaplasmosis is suspected, the following supportive/confirmatory testing should be ordered:

- **Blood smear review** by a hospital or other commercial labs for parasites. Anaplasmosis can be detected with the presence of typical intra-cytoplasmic morulae. Babesiosis may also be ruled out by this method
- **Anaplasmosis PCR** on a whole blood sample containg EDTA as the anticoagulant

- **Anaplasmosis/ehrlichiosis IgM and IgG serology.** Please note that serologic positivity may not occur for 4 to 6 weeks after onset of illness. Therefore, a negative test does not rule out acute anaplasmosis
- **Lyme serology** (since co-infection can occur).

The drug of choice for the treatment of anaplasmosis is doxycycline 100 mg po BID for 10 days,and this drug should be administered empirically in those patients meeting the above clinical criteria, and while awaiting results of confirmatory blood tests. The response to doxycycline tends to be dramatic.

Please let us know if we can be of further assistance in this regard.

References:

1. Centers for Disease Control and Prevention. Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichioses, and anaplasmosis – United States: a practical guide for physicians and other health-care and public health professionals. MMWR 2006;55(No. RR-4)
2. Wormser GP, Dattwyler RJ, Shapiro ED, et al. The clinical assessment, treatment, and prevention of Lyme disease, human granulocytic anaplasmosis, and babesiosis: clinical practice guidelines by the Infectious Diseases Society of America. Clin Infect Dis. 2006;43(9):1089-134.
3. NYS DOH Website: http://www.health.ny.gov/diseases/communicable/ehrlichiosis/fact_sheet.htm
4. Centers for Disease Control and Prevention. Anaplasmosis. Available at: http://www.cdc.gov/anaplasmosis/