Ehrlichiosis and Anaplasmosis

Ehrlichiosis and anaplasmosis are tick-borne diseases of humans caused by germs (*bacteria*). The official names of these infections are:

- Human monocytic ehrlichiosis (HME) caused by Ehrlichia chaffeensis and other closely related ehrlichia.
- Human granulocytotropic anaplasmosis (HGA), caused by Anaplasma phagocytophilum.

We will use the terms HME and HGA to describe these infections.

CAUSES

- HME mostly occurs in south-central and southeastern United States, where the Lone Star tick lives. However, infection sometimes occurs in 47 states of the union.
- HGA infections are limited to fewer geographic locations. Most cases are reported from southern New England, New York, New Jersey, Wisconsin and Minnesota. This distribution is almost identical to that of Lyme disease because of the shared species of ticks called Ixodes.

Young forms of all of these ticks typically feed on deer that are persistently infected with the bacteria. The infected adult tick transmits the infection by biting a human. Adult ticks are active during warmer times of the year. For this reason, most infections occur between late spring and early fall.

SYMPTOMS

Many affected individuals have no symptoms. The infection may only be found if revealed by special blood tests. For those with symptoms, HME and HGA cause similar illnesses. Symptoms typically begin a week or more after a tick bite, and may include:

- Fever.
- Headache.
- Fatigue, tiredness (*malaise*).
- Muscle pain, chills.
- Feeling sick to your stomach (*nausea*).
- Loss of appetite.

Symptoms commonly last for 1 to 3 weeks if a patient is not diagnosed or not treated with an antibiotic. Extremely severe disease is rare, but occasional deaths from infection have been reported.

DIAGNOSIS

Diagnosis is suggested by a history of tick bite or potential exposure to ticks. Blood tests that show abnormalities of liver function and low counts of white blood cells and platelets. Proof of these infections requires seeing the bacteria in a smear of blood on a microscope slide or special testing of the liquid part of your blood (*serum*).

TREATMENT

Treatment with an antibiotic is almost always effective in eliminating symptoms within a couple days and curing the infection.

PREVENTION AND CONTROL

Ticks prefer to hide in shady, moist ground litter, but can often be found above the ground clinging to tall grass, brush, shrubs and low tree branches. They also inhabit lawns and gardens, especially at the edges of woodlands and around old stone walls. Within the normal geographic areas where HME and HGA occurs, no vegetated area can be considered completely free of infected ticks. In tick-infested areas, the best precaution against infection is to avoid contact with soil, leaf litter, and vegetation as much as possible.

Potential hosts (such as humans) acquire ticks only by direct contact with them. Once a tick gains access to

human skin it generally climbs upward until it reaches a more protected area. This is often the back of the knee, groin, navel, armpit, ears, or nape of the neck. It then begins the slow process of embedding itself in the skin. Campers, hikers, field workers and others who spend time in wooded, brushy, or tall grassy areas can avoid exposure to ticks by using the following precautions:

- Wear light-colored clothing with a tight weave to spot ticks more easily and prevent contact with the skin.
- Wear long pants tucked into socks, long-sleeved shirts tucked into pants, and enclosed shoes or boots.
- Use insect repellent. Spray clothes with insect repellent containing either DEET or Permethrin. Only DEET can be used on exposed skin. Make sure to follow the manufacturer's directions carefully.
- Wear a hat and keep long hair pulled back.
- Stay on cleared, well-worn trails whenever possible.
- Spot-check yourself and others frequently for the presence of ticks on clothes. If you find one, there are likely to be others; check thoroughly.
- Remove clothes after leaving tick-infested areas and, if possible, wash them to eliminate any unseen ticks. Check yourself, your children, and any pets from head to toe for the presence of ticks.
- Shower and shampoo.

SEEK MEDICAL CARE IF:

If you get the symptoms listed above and they do not go away in a day or two, HME or HGA should be suspected and you should see your doctor. You should do this even if you are not aware of a tick bite.

Document Released: 12/15/2001 Document Re-Released: 03/14/2011
ExitCare® Patient Information ©2011 ExitCare, LLC.