



CD Connection

Orange County Communicable Disease News

Health Care Agency/Public Health Services - Epidemiology



August 2007

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ENDEMIC (FLEA-BORNE) TYPHUS IN ORANGE COUNTY!!

We recently received reports of cases of endemic typhus in Orange County residents. Three cases were reported this month, including one child and two adults residing in Westminster and Huntington Beach. In January 2007, two additional cases were reported in Orange County residents. Cases have also been reported in Long Beach and Los Angeles in recent years.

- **Transmission:** Endemic (murine) typhus is usually caused by *Rickettsia typhi*, although *Rickettsia felis* may also cause a typhus-like illness. Humans become infected through inoculation of nonintact skin, mucus membranes or respiratory tract with feces from infected rat or cat fleas. This most commonly occurs at the time of the flea bite or through scratching. Infected persons may not recall a flea bite. There are two distinct transmission cycles, the urban cycle which involves rats and rat fleas, and the suburban cycle which involves cats, cat fleas, and opossums. The suburban cycle appears to be the one accounting for the recent infections in Orange County.
- **Incubation period:** 6-14 days
- **Clinical manifestations:**
 - Fever, headache (can be severe), myalgias, malaise are common.
 - Rash – macular or maculopapular, may start several days after initial symptoms.
 - Nausea, vomiting, cough may also be present.
 - Hepatitis, pneumonia may also be present.
 - Aseptic meningitis, encephalitis, renal failure, respiratory failure are uncommon complications.
- **Laboratory findings** may include: thrombocytopenia, leukopenia (neutropenia), transaminitis (increased AST and ALT).
- **Diagnosis:** Orange County Public Health can facilitate testing for typhus. Please call Epidemiology at 714-834-8180 to discuss any suspect cases.
 - **Serology:** Four-fold rise in *R. typhi* IgG titers in paired acute and convalescent sera is diagnostic; positive *R. typhi* IgM is suggestive of infection. Depending on the laboratory, these may be ordered as Typhus IgM and Typhus IgG, respectively. **Antibody titers may be negative in the first week of illness, so acute and convalescent testing in patients with compatible symptoms may be needed.** Note: Rickettsial antibodies cross-react, so serology may also be positive for the agent of Rocky Mountain Spotted Fever (RMSF) or other rickettsial species.
 - **Additional testing:** Polymerase chain reaction (PCR) detection of *R. typhi* nuclei acid in whole blood (EDTA tube) during the acute illness or from a biopsy of a skin lesion if rash is present is not readily available but may be arranged through Orange County Public Health if indicated.
- **Treatment:** Doxycycline is the treatment of choice. **If endemic typhus is strongly suspected, empiric treatment should be considered pending laboratory confirmation as testing turnaround may take several days and early treatment can prevent severe and fatal infections.**
- **Prevention:** Flea control for pets and eliminating food sources and accumulation of brush and debris in the yard that may attract or harbor opossums, stray cats, rodents, or other animals.



Reporting

- Typhus is a reportable disease. Please report suspect and confirmed cases to Orange County Epidemiology (phone 714-834-8180; fax 714-834-8196).
- For the newly updated list of reportable diseases, see www.ochealthinfo.com/epi/report-diseases.htm.

FOR MORE INFORMATION:

Orange County Health Care Agency Epidemiology:
www.ochealthinfo.com/epi or 714-834-8180

Orange County Health Care Agency Animal Care Services
www.ochealthinfo.com/regulatory/acs/index.htm or 714-935-6848

Orange County Vector Control District:
www.ocvcd.org or 714-971-2421

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.