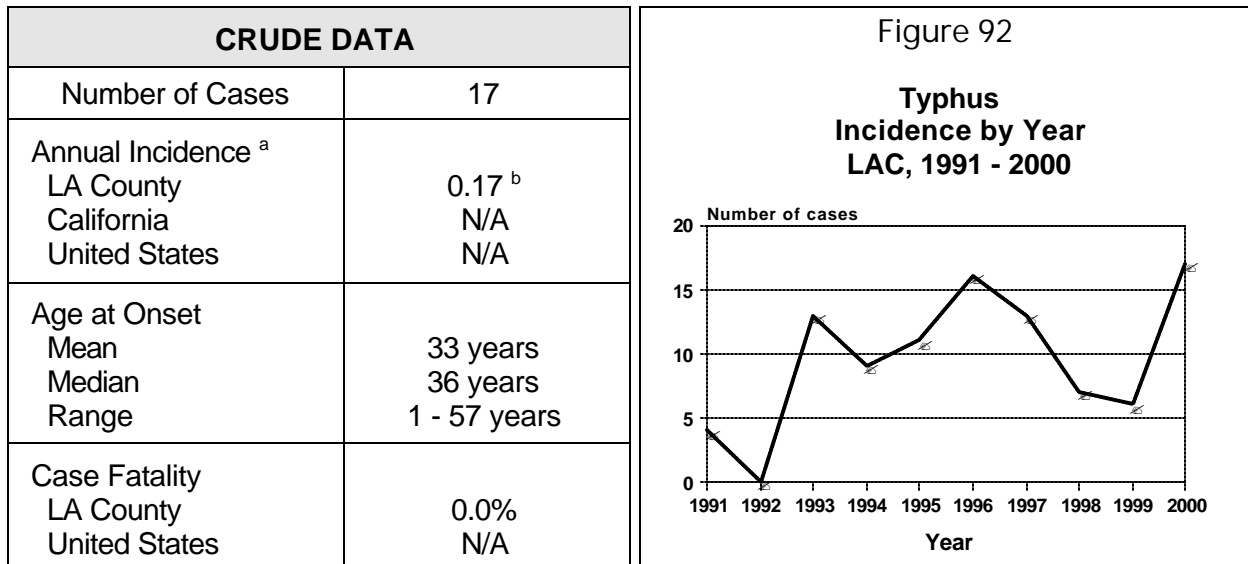


TYPHUS



^a Cases per 100,000 population.

^b Rates based on less than 19 observations are unreliable.

ETIOLOGY

Typhus (murine typhus, endemic typhus) is caused by bacteria, *Rickettsia typhi* and *R. felis*. It is transmitted through the bite, or contact with feces, of an infected flea. Reservoir animals are predominantly rats and other small mammals that live in areas with heavy foliage. Most reported cases of typhus live in the foothills of central LAC. Symptoms include fever, severe headache, chills, and myalgia. A fine, macular rash may appear 3 to 5 days after onset. Occasionally, complications such as pneumonia or hepatitis may occur. Fatalities are uncommon, occurring in less than 1% of cases. The disease is mild in young children. Typhus is not vaccine preventable, but can be treated with antibiotics.

DISEASE ABSTRACT

- ACD received few typhus reports until 1993 (Figure 92), when a fatal case may have led to increased awareness of the disease.
- In 2000, the 17 typhus cases represent the highest annual incidence ever reported in LAC.
- Cases occur more often in summer and fall; for 2000, nearly half of cases had an onset in October and November.

LOCATION

Typhus is endemic in the foothills of central LAC. Cases are reported from Silverlake, Echo Park, Eagle Rock, Glendale Hills, Pasadena and Altadena. Animal reservoirs have tested positive for *Rickettsia* in these areas. The reasons for this localized endemic area are unclear. In 2000, 7 cases were in residents of Foothill Health District, 6 were from Alhambra, 2 from Central, and 1 case each from Hollywood-Wilshire and San Fernando Health Districts. Twelve (70%) of reported cases were hospitalized for an average of 5 days.

PREVENTION

Typhus infection can be prevented through flea control measures implemented on pets and in the yard. Foliage in the yard should be kept trim so that it does not provide adequate harborage for small mammals. Screens can be placed on windows and crawl spaces to prevent entry of animals into the house.

TRANSMISSION

Human infection most commonly occurs by introduction of infectious flea fecal matter into the bite site or into adjacent areas which have been abraded by scratching. While 30% of cases did not recall being bitten by fleas, most did observe small mammals such as rats, opossums, dogs and cat in their yards, and thus had exposure to animals that carry fleas. Typhus cannot be transmitted from person to person.

COMMENTS

Each case of endemic typhus is carefully interviewed regarding potential exposures. If possible, field studies of the property where exposure occurred and surrounding areas in the neighborhood are conducted. Local residents are contacted and provided with education about typhus and prevention of the disease by controlling fleas and eliminating harborage for potentially typhus-infected animals that carry fleas.

The nonspecific clinical presentation and the lack of a definitive test during the acute phase of the illness make the early diagnosis of endemic typhus difficult. Thus, diagnosis of endemic typhus depends on the clinical acumen of the treating physician, and is often confirmed after the patient has recovered. Accurate reporting of typhus or suspect typhus cases is important to identify endemic areas in LAC which can be monitored for the presence of disease in the animal populations and to institute control measures. Treatment with antibiotics hastens recovery and lessens the chance of complications.

ADDITIONAL RESOURCES

Azad AF, Radulovic S, Higgins JA, Noden BH and Troyer JM. Flea-borne rickettsioses: ecologic considerations. *Emerg Infect Dis* 1997;3:319-27.

Sorvillo FJ, Gondo B, Emmons R, Ryan P, Waterman SH, Tilzer A, Andersen EM, Murray RA, and Barr AR. A suburban focus of endemic typhus in Los Angeles County: association with seropositive domestic cats and opossums. *Am J Trop Med Hyg* 1993;48:269-73.

Acute Communicable Disease Control website:
<http://lapublichealth.org/acd/procs/b73/b73index.htm>