Murine Typhus

Murine Typhus is not currently a reportable disease in Louisiana.

Epidemiology

Rickettsia typhi and *Rickettsia felis,* which are bacteria spread to humans by the bite of fleas, are the etiologic agents of murine typhus (also known as Flea-borne Typhus). *R. typhi* is spread through the flea *Xenopsylla cheopsi* and *R. felis* is typically spread through the cat flea, *Ctenocephalides felis.* The common hosts for *X. cheopsi* are the black rat or roof rat (*Rattus rattus*) and the Norway or wharf rat (*Rattus norvegicus*), although it has been found in many other rodent species. Common hosts for *C. felis* are domestic and feral cats, opossums, and domestic dogs. Although fleas are the vector for murine typhus, in many cases patients cannot recall a history of flea exposure or bites.

Murine typhus used to be common in the United States but was almost entirely eradicated due to public health campaigns in the 1940-1950s. Since then, sporadic cases have been identified in the U.S., with marked increases in recent years.

After an incubation period of six to 14 days, an acute, nonspecific, febrile illness develops. Most cases also report some combination of headache, chills, arthralgia, and myalgia, and some report rash. The rash normally erupts on the upper trunk and spreads outward, usually excluding the face, soles of the feet, and palms. Laboratory findings that have been reported include anemia, leukopenia, thrombocytopenia, or elevation of hepatic transaminases. Due to its general symptoms, murine typhus frequently goes unrecognized or is confused with other diseases.

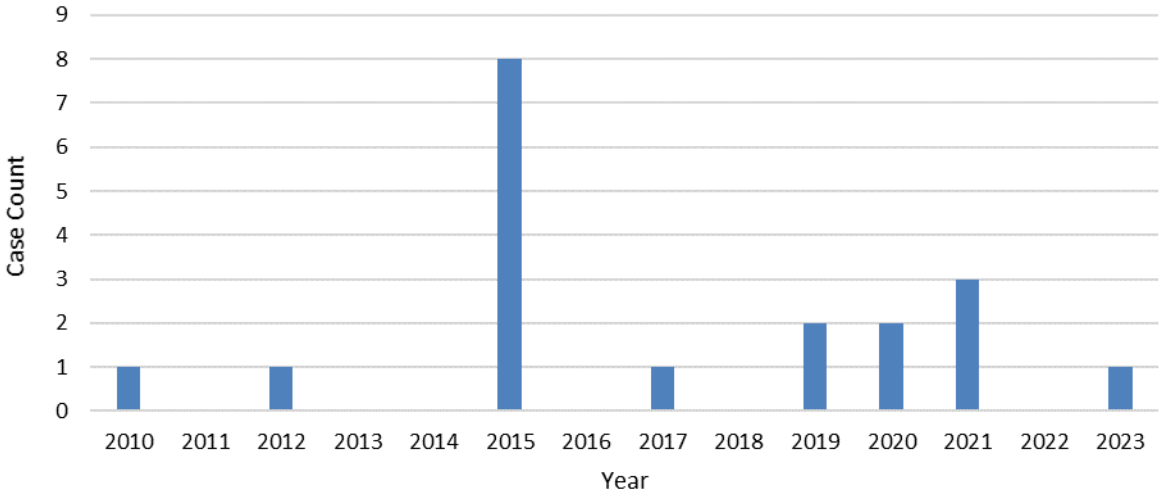
The mortality rate for murine typhus with appropriate antibiotic use is less than 1%. However, without treatment the disease becomes more severe and the potential for complications increases. Because it may take up to 10 days for antibodies to become detectable by laboratories, antibiotic therapy should be administered upon suspicion of a rickettsial infection. Risk factors include advanced age and immunocompromised status.

Cases

Although descriptive statistics are presented, they should be interpreted with caution given the extremely small numbers reported.

In Louisiana, since 2010 there have been 19 cases reported (Figure 1). Since the condition is not reportable in Louisiana, these case counts are not representative of disease burden in the state.

Figure 1: Murine Typhus Cases - Louisiana, 2010-2023



Geography

Of cases where the parish of residence is known, the majority of case reports came from Louisiana Department of Health Regions 7 and 5, which are in western Louisiana.