

Yersiniosis



Case Definition

Acute gastroenteritis, with positive stool culture (or blood culture) for *Yersinia enterocolitica* or *Yersinia pseudotuberculosis*.

Reporting Requirements

- All positive isolates of *Yersinia enterocolitica* are reportable by laboratory.
- All cases of yersiniosis are reportable by attending health care professional.

Clinical Presentation/Natural History

Acute gastro-intestinal infection, usually appearing with watery diarrhea (especially in young children), but may be associated with enterocolitis, acute mesenteric lymphadenitis resembling appendicitis, fever, headache, pharyngitis, anorexia, vomiting and erythema nodosum (especially in adults).

Etiology

Yersinia enterocolitica is the most common *Yersinia* in Manitoba. Most *Yersinia* strains are not pathogenic.

Epidemiology

Reservoir: The pig is the principal reservoir for pathogenic *Y. enterocolitica* in Manitoba; asymptomatic pharyngeal carriage is common in swine, especially in the winter.

Transmission: Fecal-oral transmission by eating and/or drinking contaminated food and water, or by contact with infected persons or animals (including pets). Animals are usually asymptomatic. *Y. enterocolitica* has been isolated from a variety of foods; however, pathogenic strains are most commonly isolated from raw pork or pork products, including cold cuts. Because of its ability to multiply under refrigeration, there is an increased risk of infection by *Y. enterocolitica* if

uncured meat, stored in evacuated plastic bags, is undercooked. Nosocomial transmission has been reported, as has transmission by transfusion of stored blood from donors who were asymptomatic or had mild gastrointestinal illness.

Occurrence:

General: Worldwide. The majority of *Y. enterocolitica* cases occur among infants and children. Outbreaks have been associated with contaminated chocolate milk, tofu and pork chitterlings. Many cases are related to ingestion of raw or undercooked pork.

Manitoba: The rate of *Yersinia* infection has been increasing since 1994, although rates remain below two cases per 100,000 population. Fifty-two cases were reported between 1995 and 1999. In 1999, 11 cases were reported, a rate of one per 100,000.

Incubation Period: Approximately three to seven days, generally under 10 days.

Susceptibility and Resistance: Enterocolitis is generally more severe in children.

Period of Communicability: Fecal shedding continues for as long as persons are symptomatic, usually for two to three weeks; untreated cases may shed the organism for up to three months.

Diagnosis

Usually by stool culture; blood cultures may be positive if patients are septic.

Key Investigations

- History of ingestion of potentially contaminated food (particularly pork) and time of consumption.
- History of animal contact.
- Screening of contacts.
- Stool cultures.

Control

Management of Cases:

- Enteric precautions while symptomatic.
- Exclusion from work of persons in high-risk occupations while they are symptomatic.
- Appropriate antibiotics may shorten the duration of symptoms. Both *Y. enterocolitica* and *Y. pseudotuberculosis* are usually sensitive to tetracyclines, quinolones and trimethoprim/sulfamethoxazole.

Management of Contacts:

- Screening of asymptomatic contacts and work restrictions for contacts are not required.

Management of Environment:

- Pasteurization of milk.
- Protection of water supplies from animal and human feces; water purification.

Management of Outbreaks:

- Epidemiological investigation (including screening of contacts) for suspected common source outbreaks.

Preventive Measures:

- Sanitary disposal of human and animal feces.
- Avoid eating raw pork.
- Sanitary preparation of meat and other foods.
- Good personal hygiene before food handling, especially after handling pork.