# Yersinia Enterocolitica

Yersinia enterocolitica is a gram negative bacilli that can cause GI disease and is most frequently linked to ingestion of pork, raw milk, and contaminated water. Yersinia enterocolitica can also be linked to contact with infected pet feces and spreads easily in daycare centers. Infections preferentially involve the ileum, appendix, and right colon. Individuals infected with Y. enterocolitica generally present with abdominal pain but fever and bloody diarrhea may also occur. The organisms multiply in mesenteric lymph nodes and can lead to mesenteric adenitis or granulomatous microabscesses in the lymph tissue. The involvement of the regional lymphatics can mimic acute appendicitis in teenagers and young adults. There have been reports of post infectious complications of Reiter's disease, now called Reactive arthritis.




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## Characteristics

**Gram-Negative**
Graham-cracker Negative-devil
Yersinia is a Gram-negative bacteria that does not stain when crystal violet dye is applied, due to much thinner peptidoglycan layer.

**Bacilli**
Rod
This bacteria is rod shaped.

**Non-lactose Fermenting**
Nun-milk-carton Ferns
Yersinia enterocolitica is characterized as a lactose nonfermenter because it cannot utilize lactose sugars in culture. The bacteria grow as white or colorless colonies on MacConkey agar, which is used to test for lactose fermenting capability.

**Non-H2S Producing**
Nun with H-shaped Sulfur-match
Yersinia enterocolitica does not produce H2S (hydrogen sulfide), which allows it to be differentiated from other oxidase negative Gram-negative bacteria, like Salmonella and Proteus.

**Oxidase-Negative**
Wilting Ox-daisy
The oxidase test is used to determine if a bacterium produces certain cytochrome C oxidases in order to use oxygen for energy production.Yersinia enterocolitica is oxidase- negative, meaning it does not use the electron transport chain to make energy.

**Day Care Centers**
Day care kids with toys
Children at daycare centers are at higher risk for infection due to fecal-oral contact.

**Pork**
Pig
This bacteria is most frequently linked to ingestion of pork, raw milk and contaminated water.

**Raw Milk**
Cow udders
This bacteria is most frequently linked to ingestion of pork, raw milk, and contaminated water.

**Pet (Puppy) Feces**
Dog poop
Yersinia enterocolitica can be linked to contact with infected pet feces.

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## Signs and Symptoms

**Bloody Diarrhea**

Red Toilet

Individuals infected with Y. enterocolitica generally present with abdominal pain, but fever and bloody diarrhea may also occur.

**Mesenteric Adenitis**

Mesentery Add-knights

Mesenteric adenitis is inflammation of the mesenteric lymph nodes.

**Granulomatous Microabscess in Mesenteric Lymph Nodes**

Granny llama with Abscess-guy and llama eating a Lymph-lime

The organisms multiply in mesenteric lymph nodes and can lead to granulomatous microabscesses in the lymph tissue. The granulomatous response can create diagnostic confusion with Crohn's disease.

**Pseudoappendicitis (Mimics)**

Appendicitis-pen Mime

The involvement of the regional lymphatics can mimic acute appendicitis in teenagers and young adults.

**Reactive Arthritis**

Writer King-Arthur

Reactive Arthritis (formerly Reiter's syndrome) is an autoimmune condition that typically develops after an infectious process.The clinical pattern consists of inflammation of the joints, inflammation of the eyes and urethritis. Yersinia enterocolitica has been linked to reactive arthritis.

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