

Mycobacteria and Food Poisoning: Causes, Symptoms and Prevention

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DESCRIPTION

Foodborne illnesses are a pervasive global issue, affecting millions of people annually. While bacteria like Salmonella and *E. coli* are commonly associated with food poisoning, there is a lesser-known sinner that hides in the shadows – mycobacteria. Mycobacteria are a diverse group of bacteria that includes the infamous *Mycobacterium tuberculosis*, responsible for tuberculosis. However, some members of this group can also lead to foodborne illnesses, presenting a unique testing for public health.

Understanding mycobacteria

Mycobacteria are characterized by a waxy, hydrophobic cell wall, which makes them resistant to many common disinfectants and antibiotics. This resilience allows them to survive in diverse environments, including water, soil, and even certain foods. While most mycobacteria are harmless, some species can cause infections in humans.

Mycobacterium avium subspecies Paratuberculosis (MAP) is one such pathogenic mycobacterium. It is primarily associated with Johne's disease in animals, but there is increasing concern about its potential role in human diseases, including Crohn's disease. Additionally, *Mycobacterium marinum*, found in aquatic environments, can cause skin infections in humans.

Mycobacteria and food contamination

Mycobacteria can contaminate various food sources, including unpasteurized milk, fresh produce, and seafood. One of the challenges in addressing mycobacterial foodborne illnesses lies in their slow growth and the difficulty of detection using conventional methods. This delayed response often results in cases going unnoticed until symptoms appear.

Unpasteurized milk is a common vehicle for mycobacterial transmission. MAP, for instance, has been found in milk from infected cows, and consumption of contaminated milk or dairy products can lead to gastrointestinal infections. Additionally, mycobacteria can thrive in water, and seafood harvested from

contaminated waters may carry the bacteria, posing a risk to consumers.

Symptoms and diagnosis

The symptoms of mycobacterial food poisoning are similar to those of other foodborne illnesses and may include abdominal pain, diarrhea, fever, and weight loss. Due to the slow growth of mycobacteria, diagnosis is challenging, often requiring specialized laboratory techniques. The lack of routine screening for mycobacteria in food samples further contributes to underreporting and underdiagnosis.

Prevention and control

Preventing mycobacterial foodborne illnesses involves a combination of strategies, including proper food handling and hygiene practices. Consumers should be cautious when consuming raw or undercooked foods, especially milk and seafood. Pasteurization of milk and proper cooking of seafood can significantly reduce the risk of mycobacterial contamination.

Regulatory measures, such as regular monitoring of dairy farms and seafood harvesting areas, can help identify and control potential sources of mycobacteria. Improved diagnostic methods for detecting mycobacteria in food samples are essential for timely intervention and outbreak prevention.

CONCLUSION

While mycobacteria are often associated with chronic diseases like tuberculosis, their role in foodborne illnesses should not be underestimated. The secret nature of these bacteria, coupled with their resilience in various environments, poses challenges for both detection and prevention. As we strive to enhance food safety, it is important to broaden our understanding of lesser-known pathogens like mycobacteria and implement measures to mitigate their impact on public health. Through a combination of research, awareness, and improved food safety practices, we can work towards a future where mycobacterial food poisoning is better understood and effectively controlled.

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