

Campylobacteriosis: A serious infectious threat

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Introduction

Campylobacteriosis is a common infectious disease that affects both animals and humans. It is caused by *Campylobacter* bacteria and is often associated with contaminated food and water. In animals, Campylobacteriosis primarily affects domestic livestock, poultry, and pets, leading to various clinical symptoms and economic losses in the agricultural industry.

Etiology

Campylobacteriosis is a zoonotic disease, meaning it can be transmitted from animals to humans. The most common species responsible for the infection are *Campylobacter jejuni* and *Campylobacter coli*. These bacteria are gram-negative, spiral-shaped, and motile, with a flagellum that allows them to move.

Transmission

The primary reservoirs of *Campylobacter* are the intestines of healthy carrier animals, particularly birds (e.g., poultry), cattle, swine, sheep, and companion animals (e.g., dogs and cats). The bacteria are shed in the faeces of infected animals, and transmission to humans and other animals mainly occurs through the consumption of contaminated food products, such as undercooked poultry or unpasteurized milk, and contaminated water.

Pathogenesis

Upon ingestion, Campylobacter bacteria colonize the intestinal lining of the host animals. They have the ability to penetrate and damage the intestinal mucosa, leading to inflammation and various gastrointestinal symptoms. The bacteria also produce toxins that contribute to the disease's pathogenicity.

Clinical Symptoms

Clinical signs of Campylobacteriosis in animals may vary depending on the species and severity of infection. Common symptoms include:

- Diarrhea (often bloody or mucoid)
- Abdominal pain
- Vomiting
- Reduced feed intake and weight loss
- Fever
- Dehydration

Young animals are more susceptible to severe infections, which can lead to increased morbidity and mortality rates. In poultry, Campylobacteriosis is a leading cause of disease and can significantly impact production and economic losses.

Diagnosis

Diagnosing Campylobacteriosis in animals requires laboratory testing. Faecal samples are collected from affected animals and subjected to various techniques, such as bacterial culture, polymerase chain reaction (PCR), and enzyme-linked immunosorbent assay (ELISA). The isolation and identification of Campylobacter species from the faecal samples confirm the diagnosis.

Prevention and Control

Preventing and controlling Campylobacteriosis in animals is essential to reduce the risk of transmission to humans and minimize economic losses in livestock production. Some preventive measures and control strategies include:

- Hygiene and Sanitation: Maintaining clean and hygienic living conditions for animals to reduce bacterial shedding and contamination.
- Biosecurity: Implementing strict biosecurity measures on farms and in animal handling facilities to prevent disease introduction and spread.
- Vaccination: Although there is no specific vaccine available for Campylobacteriosis in animals, some countries have developed poultry vaccination programs to reduce Campylobacter colonization in poultry flocks.



- Antibiotic Use: In severe cases, veterinarians may prescribe appropriate antibiotics to treat infected animals. However, the use of antibiotics should be judicious to minimize the development of antibiotic-resistant strains.

Additionally, public health education regarding proper food handling and cooking practices is essential to prevent human infections. Cooking poultry and other meat products thoroughly and practicing good hand hygiene after handling animals are crucial preventive measures for humans.

Conclusion

In conclusion, Campylobacteriosis is a significant bacterial disease that affects animals, particularly livestock and poultry. It can have economic implications and is a zoonotic disease, posing a risk to human health as well. Implementing proper prevention and control measures is essential to reduce the prevalence of Campylobacteriosis in animals and minimize its impact on both animal and human populations

