

Mastitis in Dairy Cows: A Comprehensive Guide for Veterinary Professionals



Mastitis is a prevalent and economically significant disease in dairy cows, causing substantial losses to the dairy industry worldwide. It is estimated that mastitis accounts for approximately 30% of all production losses in dairy herds, making it a top concern for veterinarians and dairy farmers alike. This article provides a comprehensive overview of mastitis, including its causes, symptoms, diagnosis, treatment, and prevention strategies, offering valuable insights for veterinary professionals seeking to effectively manage this disease and safeguard the health and productivity of their dairy herds.

**Mastitis in Dairy Cows, An Issue of Veterinary Clinics:
Food Animal Practice (The Clinics: Veterinary Medicine**



Book 28)

★★★★★ 5 out of 5

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Causes of Mastitis

Mastitis is primarily caused by bacterial infections, with the most common pathogens being *Staphylococcus aureus*, *Streptococcus uberis*, and *Escherichia coli*. These bacteria can enter the mammary gland through various routes, including:

- Direct contact with contaminated bedding, milking equipment, or the environment
- Trauma to the udder or teats
- Poor milking practices
- Suppressed immune system
- Increased milk production

Symptoms of Mastitis

The symptoms of mastitis can vary depending on the severity of the infection. In acute cases, cows may exhibit:

- Swollen, red, and painful udder

- Fever
- Reduced milk production
- Abnormal milk appearance (e.g., clots, pus)

In chronic cases, mastitis may be less noticeable, with symptoms including:

- Persistent high somatic cell count (SCC) in the milk
- Gradual decrease in milk production
- Udder fibrosis

Diagnosis of Mastitis

The diagnosis of mastitis involves a combination of clinical examination, laboratory tests, and milk culture. Clinical examination includes observation of the udder and milk, palpation of the mammary glands, and measurement of milk yield and SCC. Laboratory tests, such as milk microscopy and bacterial culture, can identify the specific causative pathogen and determine its antibiotic susceptibility.

Treatment of Mastitis

The treatment of mastitis depends on the severity of the infection and the causative pathogen. In acute cases, treatment typically involves:

- Antibiotics administered via intramammary infusion or systemic injection
- Anti-inflammatory drugs to reduce udder swelling and pain
- Warm compresses and milking to promote drainage

In chronic cases, treatment may be more challenging, and it may involve multiple courses of antibiotics or long-term dry cow therapy. In severe cases, mastectomy (surgical removal of the affected mammary gland) may be necessary.

Prevention of Mastitis

Prevention is the most effective strategy to manage mastitis in dairy herds. Key prevention measures include:

- Maintaining a clean and hygienic milking environment
- Proper milking practices (e.g., teat dipping, regular milking intervals)
- Early detection and treatment of clinical mastitis
- Vaccination against common mastitis pathogens
- Genetic selection for mastitis resistance

Mastitis is a complex and costly disease in dairy cows, affecting both animal welfare and milk production. By understanding the causes, symptoms, diagnosis, treatment, and prevention strategies, veterinary professionals can effectively manage mastitis and minimize its impact on dairy herds. This article provides a comprehensive overview of mastitis, offering valuable insights for veterinarians and dairy farmers seeking to safeguard the health and productivity of their animals.

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