

Coliform Mastitis

Coliform mastitis is a type of environmental mastitis caused by bacteria that are usually found in faeces. Coliform bacteria are an important cause of mastitis in UK herds, there they are isolated from 20-37% of clinical cases of mastitis. In NZ it is responsible for 1-5% of clinical cases.

Our lower incidence of coliform mastitis may be due to our pastoral farming systems, and lower milk yields, however more coliform mastitis may emerge in areas of NZ where wintering barns are becoming common. This condition can be severe and prevention is aimed at keeping the cow and her environment as clean and dry as possible.

Clinical signs

Visual changes to the milk such as watery milk or milk containing blood, clots or flakes can occur (but not always). Changes to the udder causing heat, pain or swelling often indicate a deeper infection. Some cows can also become systemically ill and may be depressed, off their food, have a mild to high fever, diarrhoea and in serious cases can be recumbent and unable to rise. Death can occur. Very mild cases of mastitis are also possible. Coliform infections tend to be short duration but occasionally after a major inflammatory episode high SCC and low milk production may persist in the affected quarter as a result of fibrosis.

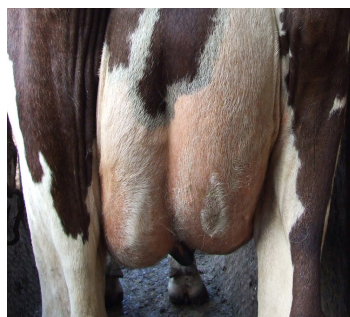
Diagnosis

Diagnosis is based on culture of a milk sample at the lab. Often however the affected cow may have been seen on farm, and a combination of history and clinical signs leads the farmer and veterinarian to a likely diagnosis of Coliform mastitis which allows treatment to be commenced promptly before culture has confirmed the disease.

Treatment

Treatment depends on the severity of signs. As opposed to Strep or Staph mastitis,

Coliform ones are primarily a milk infection more than an udder tissue infection, hence emptying the milk as often as possible is an important part of the treatment as it drains the source of toxins out. Systemic signs need to be addressed with anti-inflammatories. Antibiotics have not been proven to help but can be recommended in cases of systemic infection or septic shock. In clinical cases fluid therapy including pumping fluids into the rumen and early veterinary intervention.



Swollen udder



Gangrenous mastitis



Peracute mastitis

FACTS

- Cows most at risk of coliform mastitis are newly calved cows and cows that are sick, weak, down or short of energy to fight infection.
- Dry period management is critical as infections can lie dormant until the first period of lactation (normally the first month).
- Affected cows should be treated quickly using appropriate medicines supplied by your vet, in

some cases the disease can be severe and vets may need to administer fluid therapy.

- Prevention is aimed at keeping the cow and her environment as clean as possible. Good milking hygiene and dry cow therapy can also help to reduce the number of infections on your farm.



XLVets Coliform Mastitis

Case study

A severe case of toxic mastitis caused by *E. coli* in a newly calved dairy cow. The cow was down, depressed and had a high temperature and heart rate. Milk in one quarter was watery and the udder was hot and painful to the touch, the vet was called as soon as the cow was spotted in the field.

The cow was treated with intravenous non-steroidal anti-inflammatories, antibiotics and fluids given both in the vein and via a stomach tube. The affected quarter was stripped as frequently as possible and an intramammary tube inserted between stripings.



By the following morning the cow was up and about, eating and drinking and much brighter. Further anti-inflammatories were given to try and reduce the toxins in the cows bloodstream and the full course of antibiotics was completed.



Control and prevention

Control and prevention relies on reducing teat end exposure to faeces and maximising cow health and teat health. Methods include:

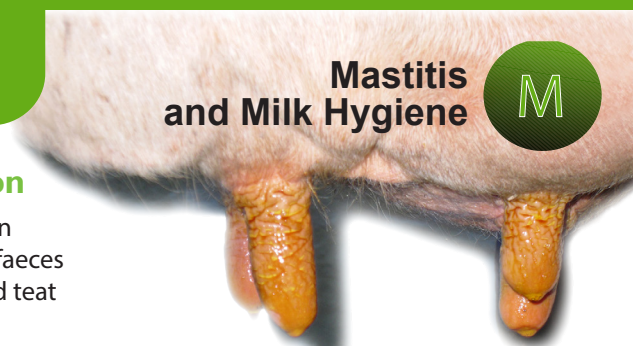
Dry cow therapy including antibiotics and/or teat sealants to prevent new infection.

- Correct milking machine maintenance and set up and milking routine to reduce teat damage.
- Diet e.g. vitamins A, E as well as selenium and zinc help contribute to good udder health.
- Dietary fibre helps stiffen faeces to keep cows udders clean, trimming tails as cows calve can also help with this.
- Environmental cleanliness for lactating cows as well as dry cows and calving cows. Calve cows on as clean paddocks as practical.

Advice

- Look out for cows showing signs of mastitis: changes to the milk or udder, especially if the cow is sick in herself.
- Treat cows promptly under guidance from your veterinarian.
- Monitor the cow to ensure she responds to the treatment and complete the full course.
- Always check the 4 teats and appearance of milk (paddle test as a good idea) on a cow looking ill in early lactation.
- If you are getting a lot of cows that are systemically sick with mastitis, confirm the cause with milk cultures.

Mastitis and Milk Hygiene



AVERAGE COST

An average case of clinical mastitis can cost between \$100-250 depending predominantly on the milk yield of the animal involved, and when in the season the case is.

There are a number of components which contribute to the average cost. The losses consist of treatment costs which varies depending on whether intramammary tubes are used alone or in combination with other treatments.

The volume of milk discarded will depend on the milk yield of the animal involved and the duration of the treatment, while there will always be a component of farm labour involved in treating the mastitis and sanitising the equipment afterwards. All mastitis cases damage the milk secretory tissue and depending on the stage of the lactation, there will be varying consequential losses of milk yield for the rest of the season which need to be accounted for.

Unfortunately some mastitis cases result in unplanned culling and therefore an average mastitis case needs to take account of a percent of these culls.

Mastitis also affects reproduction and even subclinical infections over the mating period can affect conception rates.

There is also a risk of inhibitory substance residues whenever cows are treated, this risk has to be covered with insurance.

For more information contact your local XLVets practice:

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