



Review on Major Dairy Cattle Diseases and their Management in Ethiopia

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Summary: Effective health management is one of the important tooling for profitable dairy farming system. In addition, if there is the suspected animal, the clinical examination to identify the clinical abnormalities that are present and the risk factors that determine the occurrence of the disease in the individual or population is critical. The most economically important dairy cattle diseases are foot and mouth disease, mastitis, hemorrhagic septicemia (pasteurellosis), anthrax, black leg, brucellosis and parturient paresis (hypocalcemia/milk fever).

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1. Introduction

The purpose of the clinical examination is to identify the clinical abnormalities that are present and the risk factors that determine the occurrence of the disease in the individual or population. From this information the most likely cause can be determined. In addition, the organs or systems involved, the location, type of lesion present, the pathophysiological processes occurring and the severity of the disease can be deduced from the information gained during the clinical examination. Without a proficient clinical examination and an accurate diagnosis it is unlikely that the control, prognosis and welfare of animals will be optimized (Ararsa, 2016).

2. Foot and mouth disease

Causes: The main cause of FMD is virus of which there are seven types (A, O, C, SAT 1, SAT2, SAT3 Asia 1) of each producing the same symptoms and distinguishable only in laboratory. Airborne spread of the disease can take place under favorable weather conditions. Animals pick up the virus either by direct contact with the infected animal or by contact with food stuff. Outbreaks have been linked with the implementation of meat and meat products. The disease can also be spread by people, vehicles,

and other objects that have been contaminated by the virus.

Symptoms: The clinical sign of FMD include the fever, blisters in the mouth and feet, drop in milk production, loss of appetite, quivering of lips and frothing of mouth, cows can develop blister in the teat and lameness.

Prevention and control: FMD outbreaks are usually controlled by quarantines and movement restriction. Euthanasia of affected and in-contact animals and cleansing and disinfection of the affected premises, vehicles and equipment. Infected carcasses must be disposed of safely by incineration, rendering, burial or other techniques. Slurry can be heated to 67 °c (153°f) for three minutes. Rodents and other vectors may be killed to prevent them from mechanically distinguishing the virus. Good biosecurity measures should be practiced and vaccination can be reduced the spread of FMD or protect specific animals (Ararsa, 2016).

3. Mastitis

Causes: Mastitis is inflammation of mammary gland and udder tissue. The main causes of mastitis are bacterial invasion of teat canal by variety bacterial sources present on the farm. As the result of chemical, mechanical, or thermal injury to cow's

udder. Mastitis is closely related to production system and environment that cows are kept in (Ballard and Rockett, 2009).

Symptoms: The main symptoms of mastitis are udders are swelling, heat, hardness, redness or pain, milk with watery appearance, flake, clot or pus, reduction in milk yield, increase in body temperature, lack of appetite and reduction in mobility of due to the pain udder.

Prevention and control: hygienic environment-clean environment, animal, milking vessels and milkers. Prompt identification and treatment of clinical mastitis cases. Culling of chronically affected animals and regular testing and maintenance of the milking machine. Good record keeping and dry cow management and the affected should be milked at last (Ballard and Rockett, 2009).

4. Hemorrhagic septicemia (pasteurellosis)

Causes: the main causes of pasteurellosis are pasteurella species and cattle and water buffalo are the principal host of pasteurellosis and it is widely considered that buffalo are more susceptible. Radical change in weather including the advent of monsoons. It is also caused by seasonal level of low nutrition. Presence of work (draft animals). Transmitted by ingestion or inhalation, either during direct contact or via fomites, feed and water. It occurs generally in low lying areas periodically inundated rainwater and in areas where irrigation facilities have developed.

Symptoms: the main symptoms are the majority of cases in cattle and buffalo are acute with death occurring from 6 to 24 hours dullness, reluctance to move, sudden onset of high fever, salivation and nasal discharge, edematous swelling are seen in pharyngeal region then spread to ventral cervical region and briskets, visible mucus membrane are congested, respiratory distress (dyspnea and shortness of breath) (Chauhan and Agarwal, 2008).

Prevention and control: the principal means of prevention is by vaccination, sulfonamides and tetracycline can be used successfully in early stages, in endemic areas regular vaccination, during outbreaks any animal with fever should be treated IV with antimicrobials as soon as possible.

5. Anthrax

Causes: the disease is caused by bacteria, transmitted by direct contact with infected animals or indirect contact through air, contaminated feed and water.

Symptoms: are sudden death (often with 2 or 3 hours), trembling, high temperature, difficult breathing, collapse and convulsion before death (this usually occur over a period of 24 hours), after death the blood may not clot and resulting a small amount of bloody discharge from nose, mouth and other openings.

Prevention and control: it is zoonotic disease therefore does not open the carcasses of suspected animal. Dead animals should be deeply buried with superficial disinfectant applications and anthrax outbreaks are usually controlled by periodically vaccination (Chauhan and Agarwal, 2008).

6. Black leg

Causes: the disease is caused by bacteria (spore forming, rod shaped, and gas producing clostridium chauvoei) and highly fatal disease of young animals; occur in young stock between 10 months and 2years of age, common in areas where with moderate rainfall and dry cultivation common and outbreaks is generally occur with onsets of rains.

Symptoms: are lameness, loss of appetite, rapid breathing, fever, emphysematous swelling on thigh muscle and unwillingness to move.

Prevention and control: vaccination can protect cattle from different illness caused by clostridium, to prevent the contamination of soil by carcasses of black leg infected animal, the infected carcasses should be buried deep and covered lime or should be creamed, administration of penicillin with repeated doses may be effective and animals should be vaccinate with three to one month before onset of rains (Frandsen *et al.*, 2009).

7. Brucellosis

Causes: brucellosis is infectious disease caused by Brucella bacteria, it is zoonotic, when human is contact with infected placenta, meat, milk, cheese, highly contagious (transmitted by intimate contact) and diagnosis is done by laboratory testing using blood sample.

Symptoms: are abortion, stillbirth, weak calf born, retention of fetal membrane, sign of infection in the membrane, swollen testicles in the bulls and infection of testicles are also seen.

Prevention and control: no effective treatment is available so detection and prevention is essential, testing herds regularly and culling has been an effective way of eradication the disease, quarantine, good sanitation and biosecurity will protect uninfected herds (Frandsen *et al.*, 2009).

8. Parturient paresis (hypocalcemia/milk fever)

Causes: Depression of ionized calcium level in tissue fluids because of imbalance between high calcium output in the colostrum and the influx of Ca to the extra cellular pool from intestine and bone during parturition (Frandsen *et al.*, 2009).

Symptoms: There are three distinct stages of parturient paresis. **Stage 1:** Cows are able to stand but show signs of hypersensitivity and excitability, they may be slightly ataxic, have fine tremor and display ear twitching and head shaking and cows may appear restless, shuffling the hind feet and bellowing. If not treated it progress to stage 2, **Stage 2:** The cow is unable to stand but is in sternal recumbency with head flexed to flank area, depression anorexia, dry muzzle and sub normal temperature and decreased intensity of heart sound, smooth muscle paralysis leads to GI stasis which can be manifested as bloat, failure to defecate, and loss of sphincter tone. **Stage 3:** Lateral recumbency, the cow is almost comatose, they have complete muscle flaccidity, unresponsive to stimuli and sever bloat, Circulatory signs worsened, animals in this condition survive only a few hours, very rare cases recover spontaneously without treatment a few remain unchanged for several hours and most deteriorate rapidly during a period of 12-24 hours and the disease can contribute to dystocia, uterine prolapse and retained fetal membranes.

Prevention and control:

Feeding diets low in Ca but normal P during pregnancy, this is because the cow develop ability to mobilize Ca from the bone and intestine actively, prophylactic treatment of Ca subcutaneously on the day of calving or oral calcium jell at calving or 12 hrs later, administration of vitamin D3 or parathyroid hormone before few days of parturition to enhance

Ca absorption from intestine and bone restoration (Jackson and Cockcroft, 2002).

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9. References

1. Ararsa Duguma, (2016). Practical Manual on Veterinary Clinical Diagnostic Approach. Journal of Veterinary Science & Technology, pp 1-10.
2. Ballard, B. and Rockett, J (2009). Restraint and Handling for Veterinary Technician and Assistants. Delmar, Cengage Learning, USA.
3. Chauhan, R.S. and Agarwal, D.K. (2008). Textbook of Veterinary, Clinical and Laboratory Diagnosis. 2nd edn. Jaypee Publishers, New Delhi, India.
4. Frandsen, R.D., Wilke, W.L. and Fails, A.D (2009). Anatomy and Physiology of Farm Animals. 7th edition. Wiley-Blackwell, USA.
5. Jackson, P. and Cockcroft, P (2002). Clinical Examination of Farm Animals. Blackwell Science, UK.

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