International Journal of Chemical Studies

P-ISSN: 2349–8528
E-ISSN: 2321–4902
IJCS 2018; 6(6): 2762-2763

Received: 14-09-2018
Accepted: 18-10-2018

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Udder edema in a doe: A case report

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Abstract
A 4 year old doe weighing about 35 kgs was presented at the outdoor clinic of Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Navania Udaipur for the treatment of udder swelling. Anamnesis revealed that the doe was pregnant and this swelling had developed two days before. The owner had treated the doe with some traditional medicine but no improvement was seen. Clinical examination revealed a normal rectal temperature, respiration rates and feeding and watering. A watery fluid was aspirated from the udder, showing the presence of edema. Udder edema was diagnosed by observation, palpating, pitting appearance of udder tissue and the aspirated watery fluid. Inj. Frusemide @3 mg/kg bw was injected intramuscularly. Inj. Frusemide was repeated for 3 days. Besides, B-complex along with liver extract 2 ml i/m, an antihistaminic (Chlorpheniramine maleate) 2 ml i/m were also given. There was gradual reduction of edematous swelling just after the start of the therapy, until it was completely reduced after 3 days.

Keywords: doe, watery fluid, udder edema, frusemide

Introduction
Edema of the udder at parturition is physiological but it may be sufficiently severe to cause edema of the belly, udder and teat [1]. Udder edema is a periparturient disorder characterized by excessive accumulation of fluids in the intercellular tissue spaces of the mammary gland. The highly vascular nature of the bovine mammary gland makes the tissue more prone to developing localized edema [2]. The etiology of udder edema is unclear and may be associated with reduced mammary blood flow and increased intravenous pressure [3, 4]. Udder edema appears in two forms: physiologic (acute) and chronic. Physiologic (acute) edema is usually not painful and occurs within two different clinical stages: at first, a gradual congestion appears under the skin, meanwhile the udder becomes turgid and fills out with colostrum. In the next stage, pitting edema develops symmetrically. Udder edema can become a chronic condition and persist throughout the lactation period [4].

Case history and Observations
A 4 year old doe weighing about 35 kgs was presented at the outdoor clinic of Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Navania Udaipur for the treatment of udder swelling. Anamnesis revealed that the animal was pregnant and this swelling had developed two days before. The owner had treated the doe with some traditional medicine but no improvement was seen. Clinical examination revealed a normal rectal temperature, respiration rates and feeding and watering. A watery fluid was aspirated from the udder, showing the presence of edema. Udder edema was diagnosed by observation, palpating, pitting appearance of udder tissue and the aspirated watery fluid.

Fig 1: Udder edema in doe.

Therapeutic management

The following treatment was instituted, starting on the day of presentation: Inj. Frusemide @3 mg/kg bw. A dose of 4 ml was injected intramuscularly. Inj. Frusemide was repeated for 3 days. Besides, B-complex along with liver extract (Beecom-L) 2 ml i/m, an antihistaminic (Chlorpheniramine maleate) 2 ml i/m were also given. There was gradual reduction of edematous swelling just after the start of the therapy, until it was completely reduced after 3 days.

Discussion

Udder edema begins shortly before calving when blood flow increases to the udder in preparation for lactation. It is normal for most animals to experience some degree of udder edema before calving. Under normal conditions, the edema will clear from the udder within a week or two post-calving. Physiologically, a developing fetus can restrict the flow of blood and lymph away from the udder while at the same time metabolic changes, especially hormonal fluctuations, cause an increased blood supply to the area. This combination can lead to the excessive pooling of fluid [5]. Udder edema does not seem to be caused by just one factor but rather a combination of factors; genetic predisposition, management and nutrition, large foetus size, heavy concentrate feeding and incomplete developed mammary vein may be responsible for severe udder edema. Udder edema can result due to compression of mammary vein by the large fetus, causing mammary or ventral edema in late pregnancy. Pronounced udder edema interferes with complete milk out because it causes discomfort and milking may accentuate that discomfort. In addition, interstitial edema in the mammary glands may cause pressure differentials that interfere with normal production and let down of milk. Therefore chronic or pathologic udder edema may have a negative effect on the lactation potential. Interference with complete milk out resulting from pain, as well as mechanical or pressure influences, also may lead to post milking leakage of milk in animals with severe udder edema. This translates into an increased risk of mastitis.

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