

Northwest Veterinary Associates, Inc.

Should You Be Worried About Udder Edema?

February 2021 Newsletter prepared by Dr. Sebastyan

Udder edema is classically seen as symmetrical swelling around the udder that can extend towards the fore udder and brisket. Udder edema has been associated with an increased incidence of multiple transition cow diseases such as mastitis, metritis, and cystic ovaries. It is seen in high producing dairy and beef cows before and after parturition. During the time around calving, the udder goes through a lot of growth and maturation, and due to its highly vascular nature it receives a lot of blood flow priming it for localized swelling.

Heifers that are older than 26 months are at a higher risk for udder edema as well as cows that get little exercise. There is also an increased risk of udder edema in a dam carrying a bull calf compared to a heifer calf likely due to the size of the calf. The increase in fetal growth during the last trimester of pregnancy increases pressure and decreases blood flow away from the udder. Simultaneously there is an increase in blood flow to the udder to prepare for colostrum and milk production at parturition. It is thought that since heifers have smaller blood vessels compared to cows, this explains why they are more prone to udder edema.

Another suspected cause of udder edema is the increased permeability of the blood vessels. A lot of proteins (immunoglobulins) are being transferred into colostrum from the blood vessels. This makes the vessels more permeable ('leakier') allowing fluid to leave the vessels and collect in the surrounding tissue, which we see as edema.

Nutrition is also thought to play a role in udder edema. High salt and high potassium diets have been implicated in udder edema. These minerals result in fluid retention leading to increased swelling. Low magnesium and excessive grain during the dry period have also been thought to increase the incidence of udder edema.

Complete milk out may be affected when an animal has severe udder edema. The edema can cause discomfort during milking making it difficult to fully milk the animal. Pressure differences in the quarters can also lead to abnormal milk let down and post milking leakage. This increases the risk of mastitis as well as a decrease in overall milk production. Udder-thigh dermatitis can develop due to increased contact between the udder and the legs resulting in further discomfort for the animal. Severe cases of udder edema can also put a lot of strain on the support apparatus of the udder and can result in those structures breaking down. Lastly, in extremely cold conditions frostbite is more likely to be seen in animals with severe udder edema due to poor circulation. Unfortunately, udder edema is more common in the winter versus summer months.



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Treatment for udder edema is indicated if there is concern for any of the previously mentioned outcomes. For less severe cases or on organic dairies where other therapeutic options are not approved for use, hot compresses and massage can be used to stimulate circulation. Repeat these treatments as often as possible and a visible reduction in swelling should be observed. Diuretics such as Furosemide are the mainstay of treatment. This drug can cause increased calcium loss in urine, so there is an increased risk of hypocalcemia post calving. If edema is severe post calving, a combination of Furosemide and dexamethasone can be used.

Since the exact cause of udder edema is not fully understood, it is hard to have an adequate prevention strategy. If udder edema is affecting your herd, a nutritional consult may be warranted, but if only a few animals are affected talk to your vet about case-by-case treatments.