

Tongue Ulcer

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Dairy veterinarians often have a diagnosis or at least a short differential list from only the clinical signs even before examining the animal. This article will challenge your diagnosis and lengthen your differential list.

"Ellie", a one week fresh, first lactation cow, off feed, is presented to your practice. History includes a slow start from freshening, interest only in roughage not concentrate, and hypogalactia. On physical exam, the RUMMBA test was performed. (R = rumen, U = uterus, M = mammary, M = metabolic status, B = bronchial, and A = abomasum)

- R-rumen: One contraction per minute. Herd fresh cow rumen pH = 6.0. Negative abdominocentesis.
- U-uterus: Normal uterine involution.
- M-mammary: Low SCC (C.M.T.). Small udder development.
- M-metabolic: Mild ketosis. Normal serum calcium levels. B.C.S. = 3.25.
- B-bronchial: Respiration rate = 30 breaths/min. Clear bronchial sounds.
- A-abomasum: No displaced abomasum.

Further information includes temperature = 101.6 F° and heart rate = 65 beats/min. "Ellie" is from an average herd: good vaccination program, monthly pregnancy check, average post-partum disease rate (e.g. Fatty Liver Syndrome, etc.), and adequate nutrition. However, similar signs have occurred to other fresh animals (especially heifers) in the past. Some displaced abomasum surgeries have had slow recoveries, also.

With our findings we have discredited many post-partum diseases, D.A., TRP, subclinical acidosis, uterine infection, mastitis, subclinical hypocalcemia, and pneumonia.

What comes to mind next? Possibly a "floating" displaced abomasum, treat the mild ketosis, recheck her in a couple of days? That is one possibility, along with some others; however, we have found that a complete P.E. was not performed. On further exam of her oral cavity a 3 cm in diameter ulceration, on the dorsal base of her tongue near the lingual fossae was found (see figure 1). The ulcer is painful and bleeds easily on palpation. Culture and virus isolation revealed Bovine Herpes



Figure 1.

Virus-4 (DN599). The virus isolation was negative for Bovine Herpes Mammalitis, BVD, IBR, PI-3, Vesicular Stomatitis, Foot and Mouth Disease, Malignant Catarrhal Fever, and Bovine Papular Stomatitis.

Discussion

Tongue ulcers are a common diagnosis in our practice. The infectious rate can vary from 0 to 75% on each farm. Of the dairies in our area approximately 50% have had tongue ulcers diagnosed. The ulcers occur more during the post-partum period (possibly during the dry period), winter months, change in feed or change in temperature. Heifers commonly get tongue ulcers. If diagnosed with a tongue ulcer they may flair up next lactation. Other post-partum diseases may also be present, especially II° ketosis or displaced abomasum. They can also be present after displaced abomasum surgeries and slow the recovery rate.

Through time the best treatment has been found to be silver nitrate application to the affected site (see Figure 2) followed by an anti-bacterial spray (e.g. BluKote) (see figure 3). This should be done *every other day* until the appetite has returned. Other post-partum diseases should be treated accordingly.



Figure 2.

Questions that could be raised would be milk production lost from tongue ulcers and from their secondary diseases. Also, the spread of the disease: from cow to cow, cow to fetus, etc. Thiry *et. al* theorize BHV-4 is spread via the oronasal route.¹ They also found that BHV-4 is frequently isolated from culture of organs of clinically healthy cattle and are able to persist in a latent state following primary infection.¹ This research challenges the hypothesis that the BHV-4 (DN599) is the causative agent of tongue ulcers and that the BHV-4 may just be an accidental contaminant. However, tongue ulcers in cows do seem to mimic other herpes viruses in other species. Stress due to either freshen-



Figure 3.

ing, increased confinement in the winter months, or change in feed lowers the immune system and allow the expression of the virus. Further research is needed to definitively diagnosis the causative agent.

In final, this article will help lengthen your differential list and change our P.E. exam to RUMMBAT.

References

1. Bovine Herpesvirus-4 (BHV-4) Infections of Cattle. E. Thiry, M. Bublot, J. Dubuisson, P.-P. Pastoret, Department of Virology-Immunology, Faculty of Veterinary Medicine, University of Liege, B-1070 Brussels, Belgium.

Abstract

Omasal and abomasal impaction in beef suckler cows

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A group of late gestation suckler cows were housed in straw yards and had been fed solely on pea haulm for the previous three weeks. Four cows became ill, with a variety of clinical signs, two died, one was euthanized

and one recovered spontaneously. Postmortem examination revealed severe omasal and abomasal impaction. No further cases occurred after changes were made to the diet of the cows.