

Reported Use of Non-Steroidal Anti-Inflammatory Drugs in Food Animal Practice

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A cross-sectional study was designed to determine 1) the extent to which nonsteroidal anti-inflammatory drugs (NSAIDs) are used in the treatment of food animals, 2) demographic and practice factors that may influence their use, and 3) if withdrawal times for milk and slaughter are recommended. A survey questionnaire was mailed to a stratified random sample of 2000 veterinarians whose practices were at least 50% food animal. A multiple regression model was used for data analysis. Seventy percent of practitioners contacted responded. Of those, approximately 95% reported using NSAIDs, with 58, and 24 and 18% of

respondents reporting use more than once a week, once a week, and 1 to 2 times per month, respectively. Use of flunixin meglumine was reported more frequently than the use of other NSAIDs such as aspirin, phenylbutazone and dipyrone. Eighty percent of respondents that used NSAIDs, did so in combination with antibiotic therapy. Withdrawal times for milk and meat were based on guidelines for the antibiotic. When using NSAIDs as a sole therapy, recommendations for withdrawal times for milk and meat were wide ranging.

N-Acetyl-B-D-Glucosaminidase as a Predictor of Milk Loss and Recovery Following Clinical Mastitis

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Introduction

N-acetyl-B-D-glucosaminidase (NAGase) is a lysosomal enzyme found in milk and other body fluids. Milk NAGase level has been reported to be increased in clinical and nonclinical mastitis, primarily due to leakage from damaged secretory epithelial cells (3,4,6,10,12). The value of NAGase as a prognostic indicator of severity of clinical mastitis has been suggested (6,10), but never evaluated.

Clinical mastitis is becoming more important as management improvements have resulted in greater control of nonclinical pathogens (2,11). Economic losses due to clinical mastitis include decreased milk production, discarded milk, loss of animals due to culling or death, therapeutic costs, veterinary fees, and labor (1,5). Clinical mastitis cases vary greatly in lost milk production, duration of treatment, duration of clinical signs, and risk of culling from the herd. At the onset of signs, it is difficult to predict which cases will be most severe. Accurate early prognosis for mastitis has economic value. This study was conducted to assess the ability of a single milk NAGase level (obtained at clinical onset) to predict severity of mastitis.

Materials and Methods

Milk samples were collected at clinical onset from 508

episodes of mastitis on a 1700 cow Michigan dairy farm. Milking personnel detected mastitis by presence of a hot, hard, or swollen quarter and/or abnormal flakes, color or consistency of the milk. Milk from all four quarters of clinical cows was collected for NAGase and WMT determination (9,13). Milk from clinical quarters was aseptically collected for microbiological culture (7). Daily milk production, all disease events, and treatments were recorded for all cows in the herd using a computerized record keeping system.

NAGase concentration was determined using a commercially available test kit (8,9). NAGase activity was expressed as $\mu\text{Moles}/\text{min}/\text{L}$ (μM). NAGase results are reported as mean \pm standard error of the mean in units of μM . NAGase was measured for each clinical quarter and for one reference quarter from the same cow (the quarter with the lowest WMT value).

Results

Etiologic agents isolated included *Staphylococcus aureus* (13.8%), *Staphylococcus spp.* (8.6%), Diphtheroids (2.8%), non agalactiae *Streptococcus* (7.0%), coliforms (*Escherichia coli*, *Klebsiella spp.*, *Citrobacter spp.*, and