

during the first 10 days of lactation and may result in higher milk production during the first 180 days in milk. However, IMT with cephalixin sodium during the close-

up dry period does not seem to aid in the clearance of prior infections or reduce the prevalence of clinical mastitis among adult cattle.

Association between Local (Udder) Clinical Signs and Important Outcomes of Clinical Mastitis Episodes in Dairy Cattle

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Introduction

Clinical mastitis (CM) is the most common infectious disease of dairy cattle and is responsible for significant economic losses. There are many local clinical signs associated with inflammatory changes of the mammary gland during bacterial infection. Treatment and prognosis of CM is often decided based on one or more of these clinical signs, however, there have been no studies evaluating the association of important outcomes associated with CM and the presence of these signs in cows with mild systemic disease.

Materials and Methods

Cows with CM exhibiting mild systemic disease signs (N=240) from a 1500-cow dairy were enrolled in the study. Cows were examined for the presence or absence of firmness and swelling of the affected mammary gland, clots in milk and character of the secretion (thin, thick or serum). Milk culture results and intramammary treatment (IMT) were recorded. Outcomes assessed were: need for re-treatment (RTX); recurrent CM episode in the same quarter 15-60 days later (RECUR); dried quarter, death or culling; and sick pen days (SPD). Data was evaluated using PROC GENMOD and GLM in SAS.

Results

RTX occurred in 27% (63/231) and RECUR in 25% (51/206) of CM episodes. Quarter-drying and cow-culling occurred in ~5 of CM episodes, and no deaths occurred. RTX was the only outcome associated with local clinical signs evaluated. Re-treatment was 3.64 (1.32-10.2) times more likely in a cow with serum vs. thin secretion. Cows with swelling were 2.82 (1.06-8.14) times more likely to be re-treated, while those receiving pirlymicin IMT were 6.66 (1.99-25.7) times more likely to be re-treated than those who initially received no IMT treatment. Secretion was the only clinical sign affecting SPD. Cows with serum had significantly greater SPD (11.6) than those with thick (6.9) or thin (7.4) secretions ($P<0.001$).

Significance

Results suggest serum secretion and swelling of the affected mammary gland was associated with increased re-treatment rate, and serum secretion was associated with greater SPD in cows with systemically mild CM. This type of data will be useful in determining which local clinical signs associated with CM are the most important to evaluate.