

Significance

This study supports the importance of exteriorizing the uterus during fetal delivery, especially for a dead calf. Intra-operative complications were associated with the development of peritonitis post-operatively. Sup-

portive therapy likely plays a significant role in dam survivability when dealing with emphysematous calves. The positive results of elective cesareans with respect to both dam and calf survival supports the concept that bovine cesarean sections should not be considered an option of last resort.

Antimicrobial Treatment of Fresh Cows with Subclinical Gram Positive Mastitis

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Introduction

Subclinical mastitis is a major contributor to the bulk tank somatic cell count (SCC). Dairies with a moderate to high bulk tank SCC and a low clinical mastitis rate can expect to have a number of cows with subclinical mastitis. Using Dairy Herd Improvement (DHI) SCC results on a regular basis, subclinical mastitis can be identified as the high SCC cows. Identifying the high SCC cows is relatively easy on herds that utilize DHI testing on a regular basis. However, not all high SCC cows need treatment nor is it cost effective to treat all high SCC cows. Antimicrobial treatment should be reserved for those cows that treatment is likely to cure. It is generally regarded that these cows are relatively early in lactation with gram-positive, environmental mastitis (*Staphylococcus* spp and *Streptococcus* spp) and have not had chronic episodes of clinical mastitis. This study compared the cure rates of fresh cows with subclinical gram-positive mastitis with and without intramammary antimicrobial treatment.

Materials and Methods

On a 3,000 Holstein cow commercial dairy, one four-quarter composite milk sample was taken from every fresh cow within 1-7 days in milk. The milk sample was then cultured using standard culture techniques. All cows that were culture positive for *Streptococcus* spp, *Staphylococcus* spp, or *Staphylococcus aureus* were enrolled in the trial. Cows with clinical mastitis were excluded from the trial. All cows enrolled in the first two months were the non-treated controls. All cows enrolled in the following two months were treated with cephapirin sodium (Cefa-Lakâ), one tube in each of the

four quarters intramammary (IMM) once a day for three days. A cure was defined as a linear score less than 4.0 at the first test following antimicrobial treatment. Post-treatment milk samples were not collected for culture.

Results

Cows with a linear score greater than 4.0 at first test in the non-treated control group were 5/12 (41.7%) for *Streptococcus* spp, 34/71 (47.9%) for *Staphylococcus* spp, and 8/12 (66.7%) for *Staphylococcus aureus*. Cows with a linear score greater than 4.0 at first test in the treated group were 8/13 (61.5%) for *Streptococcus* spp, 6/16 (37.5%) for *Staphylococcus* spp and 4/6 (66.7%) for *Staphylococcus aureus*. There was no significant difference in any of the groups ($p=.55$, $p=.63$, $p=.69$, respectively).

Significance

Treating fresh cows with subclinical gram-positive mastitis with IMM cephapirin sodium did not significantly reduce linear score for those cows compared to non-treated controls in all cases. Previous work has illustrated that a cow loses about 3 lb (1.36 Kg) of milk for every one increase in linear score. Although reducing a cow's SCC at the beginning of lactation does not guarantee a low SCC for the remainder of lactation, it does increase the chance that she will produce more milk at the beginning of lactation, and thus potentially reach higher peak milk than if she continued to have a persistently high SCC. IMM treatment of fresh cows with subclinical *Staphylococcus* spp mastitis is not an effective way to reduce early lactation SCC only in cows with subclinical *Staphylococcus* spp mastitis.