

absence of udder cleft dermatitis by using a mirror to view the ventral udder. Mange lesions of the tail head or escutcheon were assigned a score of 0, 1, 2, or 3, with 0 corresponding to no visible lesions and 3 representing the most severe lesions. Skin scrapings were collected from a subset of cows.

Results and Conclusions

Of the 1597 cows and late-gestation heifers examined, 18% were found to have lesions between the halves of the udder. These usually were located at the cranial edge of the cleft between the two front quarters. Sizes of the lesions ranged from approximately 2 to 10 cm in diameter with varying amounts of purulent exudate, crusting and necrosis. Udder cleft dermatitis was significantly more common in older animals ($P < 0.0001$). The herd had widespread mite infestation. Forty-three

of 56 skin scrapings from the escutcheon or tail head were positive for *Sarcoptes scabiei* and 88% of cows had a mange score > 0 . There was a positive association ($P < 0.05$) between mange score and the presence of udder lesions for first- and second-lactation cows, but for third-lactation cows, those with a mange score of 3 had a lower prevalence of udder cleft dermatitis than cows with less-severe mange lesions.

In first-lactation cows, udder cleft dermatitis was less common in the first four months of lactation than later ($P = 0.04$). In contrast to what has been reported for sores between the udder and thigh, the udder cleft lesions in this herd were more common in older cows and were found in cows in all stages of lactation and in the latter part of the dry period. The association between high mange scores and the occurrence of udder cleft dermatitis is consistent with a common etiology, but does not prove causality.

Treatment of Cows with Retained Fetal Membranes with Ceftiofur

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Introduction

Retention of fetal membranes occurs after 5 to 15% of calvings. One of the most common treatments is the manual removal of the retained membranes and a local antibiotic treatment. An additional systemic therapy with antibiotic drugs is recommended for cows with a body temperature $\geq 39.5^{\circ}\text{C}$ (103.1°F). However, efficiency of manual removal and local antibiotic treatment is under discussion. The objective of this study was to compare this common treatment of retained fetal membranes to a protocol without manual removal or local intrauterine administration of antibiotics, but use of ceftiofur as a systemic antibiotic treatment in case of elevated temperature.

Material and Methods

The trial was conducted on a commercial dairy farm in Germany, housing 1200 Holstein Friesian cows. Cows that retained fetal membranes for more than 12 hours were assigned alternatively to two treatment groups. For both groups, rectal temperature was measured daily for 10 days after enrollment. In Group 1, no manual removal of the fetal membranes or local treatment was conducted. Only cows with a rectal temperature $>39.5^{\circ}\text{C}$ (101.3°F) received a systemic antibiotic treatment with 600mg ceftiofur intramuscularly on three consecutive days. In case of elevated temperature on Day 3, treatment was conducted for a total of five days. In Group 2, manual removal of fetal membranes

was attempted. Cows in this group received a local antibiotic treatment (2500mg ampicillin, 2500mg cloxacillin). In case of a rectal temperature $>39.5^{\circ}\text{C}$, 6000mg of ampicillin was administered intramuscularly. Treatment was repeated on three consecutive days. If temperature did not decrease below 39.5°C , systemic treatment was extended for another two days.

Cows that failed to respond to treatment, *i.e.* temperature $>39.5^{\circ}\text{C}$ after a maximum of five days of treatment, received 3000mg of oxytetracycline as an escape therapy in both groups. Cows that received anti-inflammatory drugs or antibiotic drugs for purposes not related to the study (*e.g.* acute mastitis) were excluded from the trial. Cure rate was defined as the proportion of cows with temperature $< 39.5^{\circ}\text{C}$ at day 10 after enrollment and no escape therapy applied.

Results

A total 35 cows were enrolled in each Group, 1 and 2. Within 10 days of observation, 33 and 32 cows showed fever in Group 1 and 2, respectively (94.3% vs 91.4%). Number of cows considered as cured was 23 (65.7%) and 24 (68.6%) in Group 1 and 2, respectively. Within 30 days post partum, 3 (8.6%) and 4 (11.4%) cows were culled in Group 1 and 2, respectively. Reproductive performance was measured by days to first service, number of cows pregnant, days open, and number of cows culled. Preliminary results showed no significant differences between groups.

Association of Prepartum Plasma Non-esterified Fatty Acid Concentration with Retained Placenta in Multiparous Holstein Cows

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Introduction

Nutritional management of dairy cows during the dry period influences risk of peripartum disease. Means of rapidly monitoring nutritional status and the effectiveness of prepartum diets, prior to the development of disease, are needed by the dairy industry. Plasma non-esterified fatty acid (NEFA) concentration is a potential means of monitoring energy status in late gestation cows. High plasma NEFA concentration is associated positively with the incidence of peripartum disease dairy cows.¹⁻³ The objective of this project was to determine, via multivariate analysis, the relationship between prepartum plasma NEFA concentration and risk of retained placenta (RP) in dairy cows.

Materials and Methods

Multiparous cows at ≥ 268 days of gestation were housed in a group pen and totally fed a mixed ration. Approximately 70 cows were in this "close-up" pen at any time. Feed was available continuously and fresh feed was offered daily at 6 h. Once weekly at 5 h cows were restrained in self-catching headlocks and coccygeal-vessel blood samples taken from four to 15 animals selected at random. Each cow was sampled only once. Sampling was over a 10-week period from November to January. The EDTA-treated samples were chilled immediately and the plasma separated and frozen within 2 h. Non-esterified fatty acid concentrations were determined by an enzymatic technique (WAKO Chemicals USA, Inc. Richmond,