

## Results and Conclusions

Of the 200 milk and serum samples, nine tests were incorrectly performed and eliminated from analysis. A total of 165 cows tested open using the ECF milk test and 104 using the ECF serum test. The cows were palpated 34 to 45 days after breeding. Of 165 cows that tested open using the ECF milk test, 24 were found pregnant by rectal palpation. Of the 104 cows that tested open using the ECF serum test, 25 were found to be pregnant by rectal palpation. In this study, the ECF

test results did not correlate well with those reported by the manufacturer. The most serious problem was false negatives. There was a 22% false-negative rate for the serum assay and a 20% false-negative rate for the milk assay. These data are consistent with results reported by Adams and Jardon (1999), who noted a 49% false-negative rate when serum was tested three-to-seven days after insemination. The high false-negative rate reported in this study is a concern for practical use of this test under routine field conditions.

# Comparison of the Effects of Two Approaches to Retained Placenta on the Uterine Bacteriology, Cytology and Fertility of Dairy Cows

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## Introduction

Retained placenta, common in postpartum dairy cows, involves those animals not releasing their placenta within 8-24 hours after parturition. Cows with retained placenta (RP) are more prone to metritis and cystic ovarian disease than healthy ones. On the other hand, metritis complex, in the presence and/or the absence of retained placenta, has a detrimental effect on reproductive performance. Although retained placenta can be minimized by application of preventive and control measures in the herd, removing the placenta by manual, hormonal, antibacterial and antiseptic ways are other suggested methods. The aim of the present study was to compare manual removal, conservative treatment and control (non-retained healthy cows) based on uterine bacteriological and cytological state and reproductive performance.

## Materials and Methods

Ninety postpartum Holstein cows were allocated into three groups of 30: 1) Treatment, 2) Conservative approach and 3) Control. Cows unable to release their placenta 24 hours postpartum were considered suffer-

ing from the disease. Bacteriological and histological samples were obtained from the uterus on days 20 to 25 and 40 to 50 postpartum and the results combined with the reproductive indices, were statistically analysed by analysis of variance (ANOVA), chi square and Fisher exact test.

## Results

Average days open were estimated 129, 122 and 110 days in these groups, respectively, with no significant difference among them. First-service conception rates (29, 40 and 48 percent, respectively) and overall conception rates (42, 40 and 1.9, respectively) also were not statistically different. However, breaking the data of treatment groups into 1) manual removal and 2) parenteral/ local infusions showed there was a significant difference in the number of services per conception between the two groups (2.7 vs 2) ( $P \leq 0.05$ ). Culling rates in the three groups were 20, 16 and 3.3 percent, respectively, which was probably due to occurrence of uterine infections in the treated groups. The mean birth weights of the calves were 42, 42 and 44 kgs (92.4, 92.4 and 97 lbs) in the three groups, respectively, and the differences were not statistically significant despite results from

the previous studies. Dystocia and twinning increased occurrence of the disease ( $P \leq 0.05$ ). However, sex of the calf was not affected. Days open and conception rate remained unaffected by the method of handling (146 vs. 112 days and 36.6 vs. 50 percent for manual removal vs. Conservative approach, respectively). However, number of services per conception was significantly different (2.75 vs. 2) ( $P \leq 0.05$ ). In this study, *Actinomyces pyogenes* and *Bacterioides melaninogenicus* were isolated more frequently in RP animals, and this was significantly different among groups in first and second sampling ( $P \leq 0.05$ ). No difference could be found for other bacteria. From the cytological viewpoint, the mean neutrophils and lymphocytes were quite different among the three groups (69, 64.8 and 43.6 for the neutrophils and 42, 53

and 57 for lymphocytes, respectively). The difference was significant in the first, but not the second, sampling.

### Conclusion

Retained placenta increased occurrences of uterine infections and negatively affected reproductive performance. Removing the placenta manually depressed the uterine defense mechanism, and this was improved by application of the conservative method.

### Reference

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## Evaluation of Two Treatment Protocols against *Staphylococcus aureus* at Drying-off

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### Introduction

A lot is known about control strategies to treat and prevent *Staphylococcus aureus* mastitis in dairy cattle. However, *S. aureus* continues to be one of the major causes of mastitis in dairy herds worldwide. The efficacy of current lactating cow antimicrobial therapy is clearly limited. Although intra-mammary dry cow therapy improves cure rate, the high proportion of treatment failures prevents this procedure from forming the basis for an effective control program. It has been suggested that extended lactational therapy prior to drying-off might improve cure rate. The goal of this study is to compare the efficacy of two treatment protocols, using either the combination of novobiocin and penicillin as a dry cow therapy (Novodry plus®), or the same treatment preceded by 3 complete treatments with Pirlimycin (Pirsue®), on bacteriological cure and reduction of somatic cell count (SCC) in cows infected with *S. aureus*.

### Material and Methods

This study used 107 Holstein cows from 23 herds enrolled in a herd health program at the Faculté de médecine vétérinaire of the Université de Montréal. The

unit of interest was the cow, all milk samples were composite. The animals were identified as *S. aureus* positive if they showed a positive culture for *S. aureus* from a milk sample taken during the lactation prior to treatment. The cows were randomly allocated to one of the two treatment protocols at drying-off. The first protocol (N) consisted of one intramammary injection of Novodry in each quarter at drying-off ( $n=40$ ), the second protocol (3P+N) consisted in 3 consecutive treatments (2 tubes 24 hours apart in each quarter) of Pirsue® at intervals of 36h and followed by one intramammary injection of Novodry® before drying-off ( $n=42$ ). Duplicate composite milk samples were taken prior to treatment at drying-off and 3 composite milk samples were taken after calving at 2 weeks intervals starting 3 days after calving. The milk samples were analysed according to NMC guidelines (NMC, 1990). Somatic cell counts were obtained from the milk samples of the monthly dairy herd improvement system program (PATLQ: Programme d'Amélioration des troupeaux Laitiers du Québec). For a bacteriological cure, the 3 milk samples after calving needed to be negative for *S. aureus*. The difference between the average linear score (L2S) of the first 3 tests after calving and the last 3 tests prior to drying-off for each cow was compared by treatment groups. Treatment