

Behavioral and Physiologic Responses to Tail Docking in Calves and Preparturient Heifers

D.A. Schreiner, BS, MS; P.L. Ruegg, DVM, MPVM
University of Wisconsin, Madison, WI 53706

Introduction

Many dairy farmers utilize tail docking because they believe it improves milking hygiene and increases the comfort of milking personnel. Few studies have been conducted to determine behavioral and physiological effects of tail docking in dairy cattle, and the optimal age to remove tails is unknown. Our study's objectives were to determine: 1) behavioral and hormonal effects of tail banding with rubber rings one month prior to first parturition in dairy heifers, both with and without use of an epidural and 2) to determine the behavioral response to tail banding using rubber rings on calves 1-6 weeks of age.

Materials and Methods

The study used 24 non-lactating Holstein heifers ranging in age from 20-25 months (preparturient heifers, PPH). Forty Holstein heifer calves 1-6 weeks old (preweaned calves, PWC), were observed for 10 days from the treatment day. PPH were randomly assigned to treatment groups as follows: 1) Control (C); tails were cleaned and handled; 2) Rubber Ring Dock (D); tails were cleaned, handled and an elastrator band applied 3 to 4 inches below the vulva; 3) Control plus Epidural (CE); 4) Rubber Ring Dock plus Epidural (DE).

PWC were randomly assigned to a treatment: 1) Control (C): animals were handled; 2) Rubber Ring Dock (D): tails were cleaned and an elastrator band was applied two to three inches below the vulva. PWC were also compared by age.

PWC that were < 21 days old (Young pre-weaned calves; YPWC) (n=22) and animals that were > 21 days of age (Older pre-weaned calves, OPWC) (n=18) were compared. Behavioral, immunological and hormonal responses were recorded for PPH for 6 weeks. Additionally, behavioral responses to tail banding were recorded for PWC for 10 days. Statistical analysis was performed using PROC GLM and PROC mixed in SAS.

Results

There were no significant differences for any behavioral observation between non-lactating heifer groups during any time period ($p > 0.1415$). Additionally, there were no significant hormonal ($p = 0.49$) differences found between control and banded groups in the non-lactating heifers. There were no significant differences in hematological values except for eosinophils, which were significantly lower in the banded group compared to both epidural groups. Banded calves >21days old were significantly more restless ($p = 0.0104$) compared to control calves. Banded calves < 21days of age had no significant behavioral response to banding compared to the control group.