Effect of moving dairy cows at different stages of labor on behavior during parturition - DTU Orbit (16/02/2019)

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Cows are often moved from a group to an individual maternity pen just before calving. However, it is unclear whether moving cows during labor may alter their behavior or affect the progress of labor. The aim of this study was to determine if moving cows to a maternity pen at different stages of labor would influence calving behavior or the length of the second stage of labor. Seventy-nine multiparous Holstein dairy cows were moved from 1 of 2 group pens to 1 of 10 maternity pens adjacent to each group pen either 3 d before expected calving date or when one or more behavioral or physical signs of labor were observed. These signs were noted, and were used to retrospectively categorize cows into 1 of 3 movement categories: (1) moved before labor, (2) moved during early stage I labor (signs of suddenly tense and enlarged udder, raised tail or relaxed pelvic ligaments; could also be immediately prelabor), or (3) moved during late stage I labor (signs of viscous, bloody mucus or abdominal contractions; could also be transitioning to stage II labor). Calves were weighed within 12h of birth and remained with their dam for 3 d. The length of the second stage of labor (the time between first abdominal contractions to the delivery the calf) and the total time of abdominal contractions, lying time, and number of position changes from standing to lying made by the cow in the hour before calving were recorded. A single blood sample was taken from the jugular vein of cows 3 to 27h after calving to determine content of haptoglobin, a marker of systemic inflammation. The effect of movement category on length of the second stage of labor and behavioral variables was tested with ANOVA; category was a fixed effect and calf body weight (BW) and cow parity were covariates. The relationship between haptoglobin and the length of the second stage of labor was tested in a model with time of sampling relative to calving as a covariate. Cows moved during late stage I had the longest labor, but did not have longer contractions compared with cows in the other categories. These same cows spent half as much time lying in the 1h before calving compared with cows in the other categories, but did not differ in the number of position changes from standing to lying. We did not have the power to test the effect of movement category on haptoglobin, but cows with longer stage II labor had higher haptoglobin postcalving. Moving cows to a maternity pen during the late part of the first stage of labor caused a delay in the second stage of labor, and this was likely driven by altered lying behavior.

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