



KEY WORDS

- ✓ Cattle
- ✓ Abomasum Displacement
- ✓ Motilin
- ✓ Leptin
- ✓ Ghrelin

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INVESTIGATION OF THE PREDICTIVE LEVEL OF MOTILIN, LEPTIN AND GHRELIN FOR ABOMASUM DISPLACEMENT IN DAIRY COWS

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THESIS ABSTRACT

Abomasal displacement (AD) is a disease that causes significant economic losses in dairy cows. This study investigated the relationship between serum motilin, ghrelin, leptin, and selected biochemical parameters measured on postpartum day 7 and the subsequent development of AD. A total of 45 Holstein cows from the same herd were monitored for 60 days; 11 developed early DA (days 7–13 postpartum), 11 developed late DA (days 14–21 postpartum), and 23 healthy cows served as controls. Serum motilin and ghrelin concentrations were significantly higher in the early AD group than in the control group ($p<0.05$). Leptin showed an increasing trend ($p=0.068$). ALP and AST activities were significantly higher in both the early and late DA groups than in controls ($p<0.05$). These findings indicate that motilin increases several days before the onset of DA and may serve as a potential biomarker for its early prediction.

APPLICATION AREAS OF THE THESIS RESULTS

This study suggests that serum motilin concentrations may change before the development of displacement of the abomasum (DA), providing a novel approach for the early prediction of the disease. Incorporating these biomarkers into routine metabolic profiling may facilitate the identification of high-risk dairy cows before the onset of clinical signs. Furthermore, these findings may contribute to a better understanding of the pathophysiology of DA and provide a scientific basis for the development of future diagnostic tests.

ACADEMIC ACTIVITIES

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