

Effect of Rumen Transfaunation on Selected Rumen Parameters, Blood Metabolites and Feed Intake in Dairy Cows with Left Displaced Abomasums

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Introduction

Transfaunation for the treatment of rumen disorders and for prolonged anorexia has been utilized for over 30 years and is becoming increasingly popular. There has been no work evaluating its efficacy. The objective of this study was to determine if ruminal transfaunation of cows surgically treated for left displaced abomasums increases the rate at which rumen fermentation, energy metabolism, and feed intake returns to normal levels compared to non-transfaunated cows.

Materials and Methods

Twenty Holstein cows from two dairies, diagnosed with a left displaced abomasum, were randomly assigned to either surgical correction plus transfaunation or surgical correction plus placebo. Feed constituents and management methods at both dairies were similar. Animals were given either 10L of strained rumen fluid collected from donor animals at the time of surgery and again 24 hours later, or 10L of water at the time of surgery and again 24 hours later. The cows were fed a total mixed

ration (TMR) twice daily for *ad libitum* intake with the orts weighed twice daily. Rumen fluid was collected prior to surgery and transfaunation and again at 24 hours, 48 hours, and five days post-surgical correction. Rumen fluid was analyzed for pH, total volatile fatty acid (VFA) concentrations, VFA molar proportions, protozoal numbers, and ammonia concentrations. Venous blood was obtained at the time of rumen fluid sampling and analyzed for beta-hydroxybutyrate (BHB) and non-esterified fatty acid concentrations (NEFA). The data were statistically analyzed using unpaired t-test and Cox regression.

Results and Conclusion

No significant differences were noted in rumen pH, concentrations of VFAs or NEFAs between treated cows and controls. Feed intake and the acetate-to-propionate ratio were numerically greater, while BHB concentrations had a faster return to normal levels in the treated group. The differences were not statistically significant. Under conditions of this study, rumen transfaunation had a limited benefit for the post-operative treatment of cows with left sided abomasal displacements.