Levels of acute phase response, lipid peroxidation and antioxidant substances in the left and right abomasum displacement in cows

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Summary

The aim of this study was to evaluate the metabolic changes occur in Holstein cows with left and right abomasal displacements. For this purpose; total sialic acid (TSA), malondialdehyde (MDA), glutathione (GSH), ceruloplasmin (CPN), aspartate transaminase (AST), alanine transaminase (ALT), triglycerides (TG) and cholesterol (CHOL) levels were measured in the blood serum samples. Three study groups were designed; left abomasal displacement (LAD) (n = 18), right abomasal displacement (RAD) (n = 7), and control (n = 8). TSA values of the LAD group elevated significantly (P<0.0001). In the LAD group, CPN and AST increased significantly (P<0.0001) as well. Compared to the control group, GSH decreased significantly in both LAD and RAD groups (P<0.0001). MDA, ALT, TG, and CHOL values did not display statistically significant differences between groups. Among the clinical examination parameters, rumen contraction rates were decreased in both LAD and RAD groups significantly (P<0.0001). These data suggest that oxidative damage along with other mechanisms might have taken part in the pathogenesis of abomasal displacement.

Key Words: cow, abomasum displacement, acute phase response, lipid peroxidation, oxidative stress