

ABSTRACT

The Effects of Hemolysis, Lipemia and Bilirubinemia on Acute Phase Protein Levels in Cattle

Acute phase response, is the reaction of an animal against trauma, inflammation and infection. During the acute phase response, APP such as haptoglobin, ceruloplasmine or SAA produce in liver. This proteins have some important effect to resistance the disease. Recent investigations have shown that the quantification of APP concentrations in plasma or serum can provide valuable diagnostic information in the detection, prognosis and monitoring of the disease. Hemolysis, lipemia and bilirubinemia in serum samples are commonly submitted for laboratory analyses. We can't found any investigation about the effects of hemolysis, lipemia and bilirubinemia on APP levels in cattle. For this reason, the aim of this study was to determine whether hemolysis, lipemia and bilirubinemia affect the APP concentrations.

Serum samples were obtained from 20 clinically normal cattle in various farms Aydın region Işıklı Village. Aliquots of sera were divided four tubes and stored at -20°C until analyses. Hemolysed blood, lipid and bilirubin were prepared and added to serum samples as described previously. Haptoglobin, ceruloplasmin and SAA analyses were performed in this samples. The results were estimates statistically. Haptoglobin concentration is higher hemolysed and hyperbilirubinemic samples but this high levels are not statistically important but lipemic samples haptoglobin levels are significantly important compared the normal samples. In SAA analyses all serum samples results were higher than normal samples. Only bilirubinemic serum samples SAA concentrations were significantly important. In cerulplasmin analyses we found important difference between hemolysed and normal samples but bilirubinemic samples concentrations were not statistically important.

As a result it was suggested that serum acute phase analysis must be performed within samples that are unhemolysed, non lipemic and do not containing bilirubin.

However in cases of illness that serum obtaining is not available, the results of the present study should be evaluated.

Key words: Acute phase protein, hemolysis, lipemia, bilirubinemia, cattle.