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THE INTERPRETATION OF SOME BLOOD PARAMETERS IN COWS IN THE PERIPARTURIENT PERIOD-PRECLINICAL STUDY

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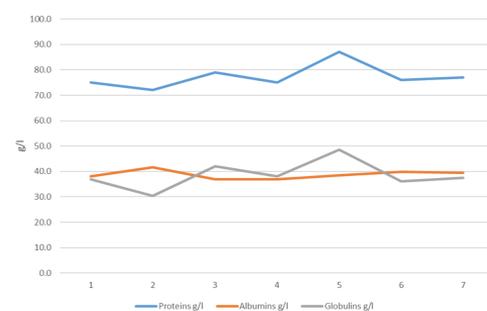
Abstract: Since dairy cows during the transition period have multiple endocrine and metabolic changes, it is necessary to determine the reference limits of laboratory analytes in normal transition cows. Before parturition, the analyses reveals an average of 77.29 g/l for proteins, 38.74 g/l for albumins, 38.54 g/l for globulins and 2, 41 mmol/l for calcium. After parturition, the same blood parameters have slightly higher values, thus for proteins, albumins, globulins and calcium, an average of 80 g/l was recorded; 40.01 g/l; 39.97 g/l and 2.84 mmol/l respectively.

• Introduction

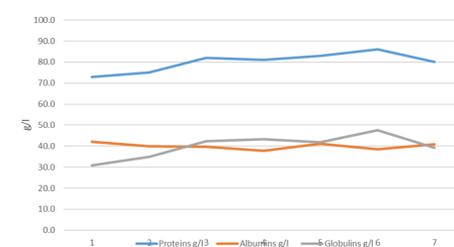
The late gestation and early lactation represent the most important and difficult periods for high-yielding dairy cows, which are connected with the change from a gestational non-lactating to a non-gestational lactating state. Serious changes during the periparturient period were observed in other blood metabolites in cows, including haematological, mineral, enzymatic and hormonal profiles, as well as some variables related to protein metabolism.

• Material and method

This study was aimed at the evaluation of changes in the concentrations of total proteins, albumin, globulin and calcium in 7 clinically healthy dairy cows in the period from 1 week before to 1 week after calving. Blood samples were collected by jugular vein puncture, in vacutainers with serum separation gel, for biochemical determinations. The expressed serum was analyzed with the Rayto Chemray 120 Vet biochemical analyzer.



After parturition, the same blood parameters have slightly higher values, thus for proteins, albumins, globulins and calcium, an average of 80 g/l was recorded; 40.01 g/l; 39.97 g/l and 2.84 mmol/l respectively.



• Results and discussions

Before parturition, the analysis of some blood biochemical parameters on 7 samples (n=7) reveals an average of 77.29 g/l for proteins, 38.74 g/l for albumins, 38.54 g/l for globulins and 2, 41 mmol/l for calcium. The samples are homogeneous, the coefficient of variability (CV%) having values that fall within the range of 4.38-6.19% with the exception of globulins where it has a value of 14.49%.

• Conclusions

These results showed dynamic changes in the serum protein which reflect the physiological response of the organism to the variation of metabolic and immune functions occurring from gestational non-lactating to a non-gestational lactating state in periparturient dairy cows.