

3rd International Conference on

VETERINARY & LIVESTOCK

November 02-03, 2017 Bangkok, Thailand

Comparison of physiological factors according to diarrhea severity of calves

Jinhee Kang¹, S H Jung¹, J B Chae², S H Kim³, A Cho³, Y H Jung³, C Y Choe³, J G Yoo³, D H Yu⁴, K S Choi⁵, H C Kim⁶, B K Park⁷, J S Chae² and J Park¹¹Chonbuk National University, South Korea²Seoul National University, South Korea³National Institute of Animal Science, South Korea⁴Gyeongsang National University, South Korea⁵Kyungpook National University, South Korea⁶Kangwon National University, South Korea⁷Chonnam National University, South Korea

Introduction & Aim: Changes in chemical composition of the blood and body fluids can be observed if animals have a disease. In particular, newborn calves are susceptible to diseases and therefore hematologic tests and serum chemistry tests could become an important guideline to the diagnosis and the treatment of diseases. Calf diarrhea is a major disorder with high mortality. However, there have been no studies, on changes in physiological factors associated with calf diarrhea. The aim of this study is to suggest available physiological factors reflecting severity of calf diarrhea.

Materials & Methods: A study was conducted on 115 calves aged less than 2 months from 9 cattle farms in Korea. Calves were classified by 4 groups based on the liquid condition of fecal samples obtained from calves; solid, semi-solid, loose and watery type. Blood physiological parameters were compared among the groups. Blood physiological parameters included white blood cell and red blood cell profiles using IDEXX PROCYTE DX. Also, IDEXX Catalyst One was used to perform serum test on blood urea nitrogen, glucose, sodium and phosphorus.

Results: Neutrophils were 34.5% and 36.4% in solid while semi-solid state while 29.4% and 39.0% in loose and watery state. On the other hand, monocytes were 11.7% and 10.2% in solid and semi-solid state while 17.6% and 22.0% loose and watery state. Also, RBC, hemoglobin concentration and hematocrit were 10.7, 11.2 and 35.7% respectively in calves with solid fecal state, but it was 10.4% 10.1% and 31.7% in calves with semi-solid fecal state 9.9%, 10.3% and 31.3% in calves with loose fecal state and 9.5%, 10.8% and 33.7% in calves with watery fecal state. Calves with loose and watery fecal state showed increase in the blood urea nitrogen and decreased in glucose and sodium, phosphorus.

Conclusion: The study reports that any infections yield more neutrophils and monocytes in calves with solid feces. Loose and watery diarrhea causes dehydration resulting in higher blood urea nitrogen, and intestinal fluid loss resulting in decrease in glucose, sodium and phosphorus. The test will allow to monitor health status in diarrheic calves and the results could be useful information for appropriate fluid therapy according to test result categories.

Biography

Jinhee Kang is a Postgraduate student of Chonbuk National University, Graduate School of Veterinary Medicine. She has participated in research related to healthcare and disease prevention of large animal.

jinhee524@naver.com

Notes: