

University of Prince Edward Island

Faculty of Veterinary Medicine
Summary of Dissertation

Submitted in Partial Fulfilment
of the Requirements for the

DEGREE OF MASTER OF VETERINARY SCIENCE

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Impact on Canine White Blood Cell Preservation with Addition of Bovine Serum Albumin to K₃-EDTA Whole Blood Samples

Blood smear evaluation remains a vital part of the complete blood count as automated analyzers do not reliably identify clinically relevant morphologic abnormalities. As blood samples age, sample degradation occurs and limits reliable interpretation of white blood cell morphology. In particular, nuclear swelling has the potential to cause misclassification of mature neutrophils as immature band neutrophils, which typically indicate inflammation. Cell stabilizers and preservatives have been used in other studies and in various sample types to reduce the effects of sample degradation. This study evaluated the effect of adding 22% bovine serum albumin (BSA) to canine whole blood samples prior to blood smear preparation on neutrophil nuclear area. The addition of BSA to canine whole blood was more often associated with an increase in neutrophil nuclear area. Based on these results, there is no evidence to support the use of BSA to reduce neutrophil nuclear swelling associated with sample degradation.

Presentations

Reinhart B, Gilroy C, Clancey N, Burton S, Stull J, Bishop N. Platform presentation: Impact on canine white blood cell preservation with addition of bovine serum albumin to K₃-EDTA whole blood samples. Annual meeting of the American College of Veterinary Pathologists and American Society for Veterinary Clinical Pathology (ASVCP). Online conference. October 30-November 2, 2021

Reinhart B, Clancey N, John E, Gilroy C. European Society of Veterinary Clinical Pathology Mystery Case: Sabulous cystitis in a horse. European Society of Veterinary Clinical Pathology and European College of Veterinary Clinical Pathology Online Congress. October 13-16, 2021.

Reinhart B, Gilroy C, Clancey N, O'Neil E, Bourque A. Diagnosis of renal lymphoma by Wright-Giemsa stained cytocentrifuged urine evaluation in a cat. Virtual Annual meeting of the American College of Veterinary Pathologists and ASVCP. October 30-November 1, 2020. Clinical Pathology Focused Group Poster Session (C-10).

Awards Received

ASVCP 2021 Share the Future Presentation Award

ASVCP 2021 Young Investigator Award