PRAIRIE DIAGNOSTIC PERSPECTIVE

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Farewell to Dr. Musangu Ngeleka

After more than twenty-five years of dedicated service, we bid farewell to our colleague and friend, Dr. Musangu Ngeleka, as he enters retirement. Since joining Prairie Diagnostic Services in 1999, Dr. Ngeleka has been an integral part of our organization and a trusted presence in the veterinary community.

His expertise as a clinical veterinary microbiologist, his commitment to advancing diagnostic science, and his steadfast dedication to the clients and communities we serve have left a lasting impact. Over the years, Dr. Ngeleka combined scientific rigor with genuine humility. He shared his knowledge generously, mentored colleagues, and contributed to research that advanced animal health and food safety. His work on E. coli and Salmonella has been especially valuable to the veterinary and animal health community, strengthening disease detection and response across prairies and beyond.

While it is not easy to say goodbye to someone who has given so much of himself, this is also a time of celebration.
We celebrate the legacy Dr. Ngeleka leaves at PDS and the many contributions he has made to veterinary medicine.

On behalf of all of us at Prairie Diagnostic Services, we extend our heartfelt thanks to Dr. Ngeleka for his years of service, his professionalism, and his friendship. We wish him health, joy, and fulfillment in the next chapter of his life.

Welcoming New Expertise to Our Team

Dr. Ruwani Karunarathna, BVSc, PhD, DACVM
Microbiologist, Prairie Diagnostic Services | Adjunct Professor, WCVM

Ruwani earned her Veterinary degree from the University of Peradeniya, Sri Lanka, in 2012. She completed her Ph.D. in Veterinary Pathology at the Western College of Veterinary Medicine (WCVM) in 2019, where her research focused on the pathogenesis of Enterococcus and Escherichia coli co-infections in embryos and neonatal chickens. With a strong passion for diagnostic microbiology, she joined Prairie Diagnostic Services (PDS) during her graduate studies and achieved diplomate status in bacteriology and mycology from American College of Veterinary Microbiologists in 2022. As a postdoctoral fellow (2022–2025), she worked on validating a metagenomic approach for identifying Salmonella serovars in poultry fluff. Her ongoing interest lies in improving and decentralizing Salmonella diagnostics across Canada through innovative and effective diagnostic solutions. In 2025, she joined PDS as a microbiologist, where she currently oversees the Bacteriology and Molecular Diagnostics sections. She also serves as an adjunct professor in the Department of Veterinary Pathology at WCVM, actively contributing to graduate research and teaching. She is particularly interested in applied research that advances diagnostic tools and services at PDS. Outside of work, she enjoys spending time with her family, including her two young children, Kate and Kenneth.

Dr. Shanika Kurukulasuriya, BVSc, PhD, MVetSc, DACVP
Clinical Pathologist, Prairie Diagnostic Services

Shanika is a veterinary graduate (BVSc) from the University of Peradeniya, Sri Lanka. She earned a PhD in the Department of Veterinary Pathology at the Western College of Veterinary Medicine, University of Saskatchewan. Motivated by a strong passion for veterinary diagnostics, Shanika further completed the Clinical Pathology residency program (MVetSc) at the same institution and became a board-certified clinical pathologist as of September 23, 2025.
Shanika recently joined Prairie Diagnostic Services as a Veterinary Clinical Pathologist and looks forward to advancing veterinary diagnostics through high-quality clinical pathology.

A Complex Case of Calf Diarrhea

Dr. Yanyun Huang (Anatomic Pathologist, CEO)

We recently investigated a 3-week-old calf with diarrhea that was part of a herd experiencing unusually high mortality in bottle-fed calves sourced from multiple farms. Microscopic examination revealed enterocolitis with intralesional bacteria in the ileum *(figure 1).* Routine diagnostics identified attaching and effacing E. coli, which correlated with the ileal lesions. Rotavirus was detected at very low levels, while other common agents such as coronavirus, BVD, and Cryptosporidium were negative.

Interestingly, crypt necrosis *(figure 2)* in the small and large intestines—lesions often associated with coronavirus infection—was also observed, despite a negative coronavirus PCR result.

To further investigate the crypt necrosis, metagenomic sequencing was performed and revealed a high number of reads consistent with Aichivirus B (bovine kobuvirus), a picornavirus reported worldwide in cattle and other hosts. However, no viral particles were observed on electron microscopy, and the literature to date provides only limited and inconclusive evidence linking Aichivirus B to disease in calves.

This case illustrates both the complexity of calf diarrhea and the value of combining traditional and advanced diagnostics. While sequencing can uncover unexpected or poorly understood viruses, detection alone does not establish pathogenicity. In this case, there is no convincing evidence that Aichivirus B played a causative role in the crypt necrosis or the clinical disease. For now, it should be regarded as a finding of uncertain significance rather than an emerging pathogen of concern.

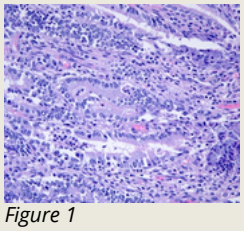


Figure 1

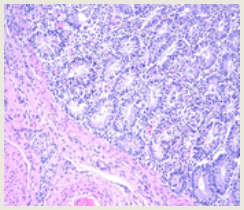
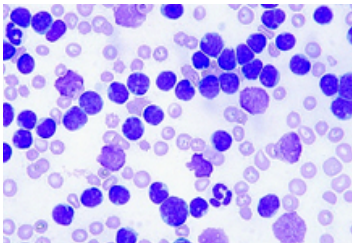


Figure 2

Lymphocytosis Unleashed: A Diagnostic Journey Through Advanced B-Cell CLL in a Dog

Lilani Munasinghe (Clinical Pathologist, PDS)

A 9-year-old male Labrador Retriever presented with progressive lethargy, inappetence, and pale mucous membranes. Physical examination revealed generalized peripheral lymphadenomegaly and marked hepatosplenomegaly. FNA of peripheral lymph nodes had previously revealed reactive lymphoid hyperplasia. A subsequent CBC revealed severe non-regenerative anemia and marked leukocytosis. The leukocytosis was characterized by extreme lymphocytosis, neutrophilia, monocytosis, and eosinophilia. Platelet count was within normal limits.



Blood smear evaluation revealed a predominance of small to medium-sized lymphocytes, some with indented nuclei. Occasional large lymphocytes/blast-like cells with prominent nucleoli were observed, along with rare mitotic figures. Smudge cells and cytoplasmic fragments were present, suggesting cellular fragility and high lymphoid turnover.

These findings were consistent with a lymphoproliferative disorder, most likely chronic lymphocytic leukemia (CLL). However, the presence of occasional large, atypical lymphocytes and mitoses raised concern for possible blast transformation or progression to a more aggressive leukemia.

Other abnormalities in leukogram provided important diagnostic context. The marked neutrophilia and monocytosis suggested a concurrent inflammatory and/or tissue-destructive process, potentially secondary to neoplastic process. The severe eosinophilia was suspected to be paraneoplastic – a recognized feature of some hematopoietic malignancies. The non-regenerative anemia raised concern for bone marrow infiltration of neoplastic cells, though acute blood loss and anemia of inflammatory disease could not be entirely excluded. Previous diagnosis of reactive lymphoid hyperplasia by cytology is likely explained by the abundance of small to medium lymphocytes in this case.

To further characterize the lymphoid population, peripheral blood was submitted to the Flow Cytometry Laboratory at the University of Guelph. Results showed uniform expression of CD45 and MHC class II, with strong positivity for CD21 and moderate expression of CD25, confirming a B-cell phenotype. Although B-CLL in dogs typically follows an indolent course, the degree of lymphocytosis, generalized lymphadenopathy, hepatosplenomegaly, and presence of immature/atypical lymphoid forms suggested advanced-stage disease, with possible blast transformation.

Despite supportive care and treatment with prednisone, the patient deteriorated and passed away at home 12 days following initial hematologic evaluation. Necropsy was not performed. This case highlights the potential for B-cell CLL in dogs to progress aggressively and underscores the diagnostic value of flow cytometry in lymphoproliferative disorders.

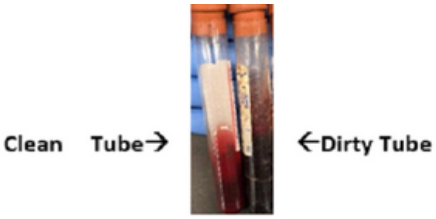
Special thanks to LaRhonda Sobchishin, Research Technician in the Department of Veterinary Pathology, for capturing the image. Thanks also to the clinical pathology staff, whose keen observation and genuine care for our patients prompted a timely review of this blood smear—even though it wasn't a STAT case. Appreciate their dedication!

Johne's Testing

- Create a PDS submission form and an Excel spreadsheet of animal IDs (the animal IDs must match the IDs on the sample container). Email the Excel spreadsheet to dso@usask.ca. Attach a copy of the Animal ID list to the completed and submit it to PDS along with the samples.
- An Excel spreadsheet is available on the PDS website under Services - *Forms*
- Turnaround time will be longer if large batches (greater than 25 samples) are submitted. Contact PDS for current turnaround time (email: dso@usask.ca; telephone: 306-966-7316).

Unacceptable Containers **Preferred Container**

- **Fecal Samples**: Place feces in a sterile, wide mouth, screw top container that will withstand shipping. Place a minimum of 15 grams (3 tsp.) of feces in each container. Make sure the screw top is secure. Samples with less than 2 grams will not be processed. Do not send samples in gloves, Ziploc bags, pop top containers, pill bottles, or twirl top bags.
- **Pooled Testing:** samples must be submitted individually; pooling will be done in the lab.
- **Serum Samples:** Collect blood in a red top tube. Make sure the exterior of the blood tube is clean (extra charges may apply for dirty tubes). Ensure tube stopper is completely inserted and secure. Do not wrap tape around tube stoppers



- Label each container/tube with the animal ID, using a waterproof marker
- Package samples in a sturdy shipping container that will prevent samples from breaking and leaking during shipping.

*For additional information see Johne's Testing at PDS under Bovine on the PDS website (pdsinc.ca) - **Bovine**.*