Case # 1
PERSISTENT LYMPHOCYTOSIS IN A DOG

Presenter: Cinzia Mastrorilli

Contributors: Lisa Pohlman, Melinda Wilkerson

Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, Manhattan, Kansas.

Specimen: Peripheral blood

Signalment: Canine, Jack Russell Terrier, female, 7 years old

History and clinical findings: The dog has been under the care of the referring veterinarian (South Carolina) for annual examinations and vaccinations since an early age. In March 2007, during a routine check-up with CBC, she was found to have a lymphocytosis (lymphocytes 13000 cells/μL). Other hematological or serum biochemical abnormalities were not identified. Since the dog did not have any clinical signs, the owner chose to monitor the lymphocyte concentration. By December 2007 the lymphocyte concentration had reached 44000 cells/μL, yet the dog remained clinically healthy. At that time the referring veterinarian submitted a peripheral blood sample to the Kansas State Immunology Laboratory for immunophenotyping.

Additional diagnostic tests:
- *Immunophenotyping:* viability of the cells was 91%. The percentages of cell types were 20% granulocytes, 2% monocytic cells, 76% lymphoid cells, based on size and granularity. The gated lymphocytic population stained positive for the following selected markers: CD45 (89%), CD3 (93%), CD4 (4%), CD8α (97%), CD8β (9%), CD21 (2%), CD79a (1%), CD34 (3%).

- *PCR for the Antigen Receptor Rearrangement (PARR):* negative.

- *Serology for Ehrlichia canis:* negative.

Photographs with legends

Figure 1: Peripheral blood smear, modified Wright's stain, 60x objective. The majority of the lymphocyes are small to medium-sized cells with round to reniform nuclei. Chromatin is coarse and nucleoli are inconspicuous. Cytoplasms are moderate in amount, and contain a variable number of fine to larger azurophilic granules.

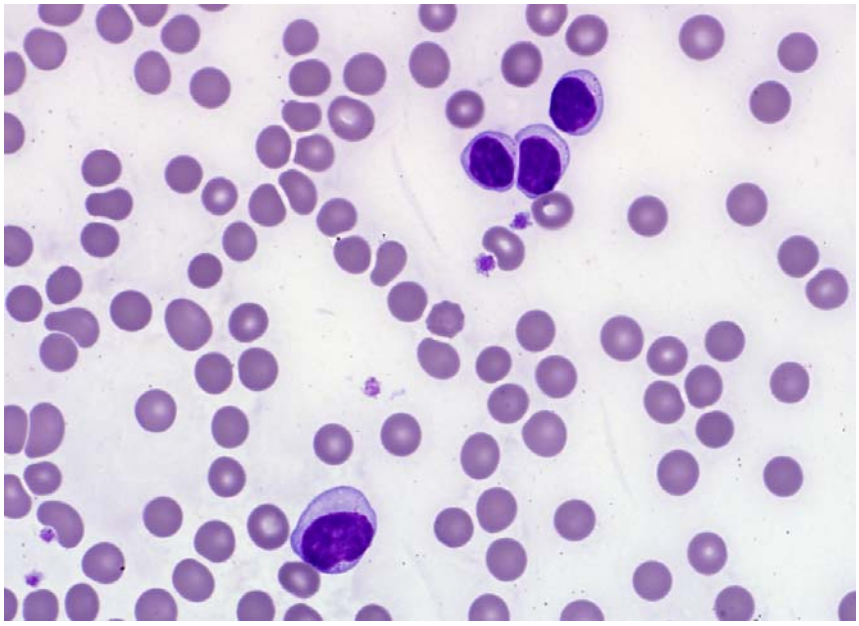

Figure 2: Peripheral blood smear, modified Wright's stain, 60x objective. Lymphocytes are occasionally deeply cleaved, or floriform–shaped.