Differentiating Feline Intestinal Lymphoma from Inflammatory Bowel Disease (IBD)

The Diagnostic Challenge
Differentiating IBD from enteropathy-associated T-cell lymphoma (EATL) type II (small cell) in cats is extremely difficult. Both conditions are most commonly diagnosed in middle aged to older cats of any breed and sex. The most common clinical signs with both diseases include vomiting, diarrhea, weight loss and changes in appetite. In addition, food hypersensitivity and parasitism, and endocrine, renal, or hepatic disease can also cause similar symptoms. Physical, ultrasonographic, endoscopic and microscopic examinations are of limited use in differentiating IBD from EATL in many cases.

How Did We Improve Our Diagnostic Capabilities?
A step-wise diagnostic algorithm that first uses histomorphologic assessment, followed by immunophenotyping, and then PCR for Antigen Receptor Rearrangements (PARR) testing to determine clonality of lymphoid cells was developed in our laboratory to more accurately differentiate between IBD and EATL. Microscopic evaluation of routine formalin-fixed biopsy samples (endoscopic or full thickness) is used to screen for morphologic hallmarks of lymphoma, including marked lymphocytic infiltration of the tunica muscularis (full thickness samples only) and epitheliotropism (nests or plaques of lymphocytes within the epithelial layer). IHC is then used to differentiate between B- and T-cells, as well as to better visualize the location of T-lymphocytes in the epithelial layer and to identify heterogeneous inflammatory cell populations versus homogeneous neoplastic cell infiltrates. The final diagnosis is based on the combined interpretation of morphology, immunophenotyping, and PCR tests for T- and/or B-lymphocyte clonality to differentiate neoplastic and inflammatory lymphocytes. We are the only diagnostic lab that currently performs duplicate or quadruplicate amplification, heteroduplex analysis, and capillary electrophoresis, which allows us to achieve the highest possible sensitivity and to avoid pseudoclones, which are false positive results. PARR results should never be interpreted independent of morphology. We therefore only offer PARR in combination with a biopsy or a second opinion and immunophenotyping.

What Sample Should Be Submitted?
All tests can be performed on routine formalin-fixed biopsy material as well as previously submitted biopsy samples. Alternatively, clients can request another pathology service to submit the paraffin block if the tissue was originally processed elsewhere. For more information, please contact the Anatomic Pathology lab at 517.353.1683, or visit our website at animalhealth.msu.edu.
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The MSU VDL is a full-service veterinary diagnostic laboratory, fully accredited by the AAVLD for all species.

Sample Submission Forms
Visit our website at animalhealth.msu.edu to access our most current submittal forms. Customized forms preprinted with your clinic information are also available at no cost via the Product Order Form.

Unbeatable Shipping
The MSU VDL offers a variety of shipping options. Our mailers comply with U.S. Postal Service, UPS, and FedEx regulations. All UPS mailers include prepaid overnight weekday delivery. All U.S. Postal Service mailers include prepaid delivery; delivery time will vary depending on your location.

Order Mailing Supplies
Standard, insulated, and biopsy mailers are available. Contact us at 517.353.1683 or complete the Product Order Form available online at animalhealth.msu.edu. You can also place an order by completing the SUPPLIES section on a submittal form.

Packaging and Mailing Samples
For shipping recommendations for individual tests, please refer to the information provided at animalhealth.msu.edu under “Available Tests.”

Speak Directly to Experts
Our veterinary professionals are available for consultation and can help you interpret your test results to better manage the health of animals entrusted to you.

Get Results by Email and Online
Had it with the fax machine? Contact us at 517.353.1683 to have results delivered by email.

All MSU VDL clients also have free, quick access to view results online through WebView. Reports are posted to the web hourly. Visit animalhealth.msu.edu and click “Log In” to request access to your diagnostic results.

Expect Quality in Testing and Service
The MSU VDL is a leader in establishing technical guidelines for public veterinary diagnostic laboratories in the United States and maintains a quality assurance team dedicated to promoting accuracy and reliability.