

Diagnostic Exercise

From The Davis-Thompson Foundation*

Question Sheet

Case #: **237**; Month: **May**; Year: **2024**

Contributors: Juliana S. Brum¹, Steven Bolin², Daniel R. Rissi³, Claudio S.L. Barros⁴

¹Swine Disease Diagnostic Laboratory, Department of Veterinary Medicine, Universidade Federal do Paraná, PR, Brazil.

²Diagnostic Center for Population and Animal Health, Michigan State University, East Lansing, MI, USA.

³Athens Veterinary Diagnostic Laboratory, Department of Pathology, College of Veterinary Medicine, University of Georgia, Athens, GA, USA.

⁴Anatomic Pathology Laboratory, Universidade Federal de Mato Grosso do Sul, Campo Grande, MS, Brazil.

Corresponding author claudiobarros1945@gmail.com

Clinical History: A chronic disease in cattle occurred on a dairy farm in southern Brazil (28° 47' 49" S 53° 13' 22" W). The herd consisted of 600 black and white Holstein dairy cattle, of which 280 were lactating cows. The attendant veterinarian reported an illness that affected lactating cows. During our visit to the farm, three cows were affected and four had already died. Clinical signs included weight loss over a few weeks, chronic intermittent diarrhea (Fig.1), abrupt drop in milk production, and subcutaneous submandibular edema. The owner used to spray bovine fecal slurry produced at the farm to fertilize the pastures on which where he kept the dairy cows. One cow was euthanized and necropsied.



Figure 1. Dairy farm in southern Brazil. An affected cow (left) flanked by a clinically normal cow from the same herd of 280 lactating cows that had weight loss, abrupt drop in milk production, and chronic and intermittent diarrhea (*inset*).

Necropsy Findings: Necropsy revealed poor nutritional status with serous atrophy of the epicardial and perirenal fat, edema of the mesentery, especially the mesocolon, and mesenteric and hepatic lymphadenomegaly. The lymphatic vessels of the small intestinal serosa had a tortuous, beaded trajectory, and the intestinal serosa was slightly opaque and edematous (Fig.2).



Figure 2. Jejunum of an affected cow. The lymphatic vessels are tortuous, and the serosa is slightly opaque and edematous.

The small intestinal wall was thickened, especially in the ileum. The mucosa in these areas was corrugated, thick, and moderately hyperemic, with transverse folds that could not be undone manually (Fig.3). The ileocecal valve was enlarged and corrugated. The cut surface of the swollen lymph nodes had white nodules throughout the cortex that contrasted with tan medullary areas. The bulging white regions correspond to granulomatous inflammation (Fig.4).

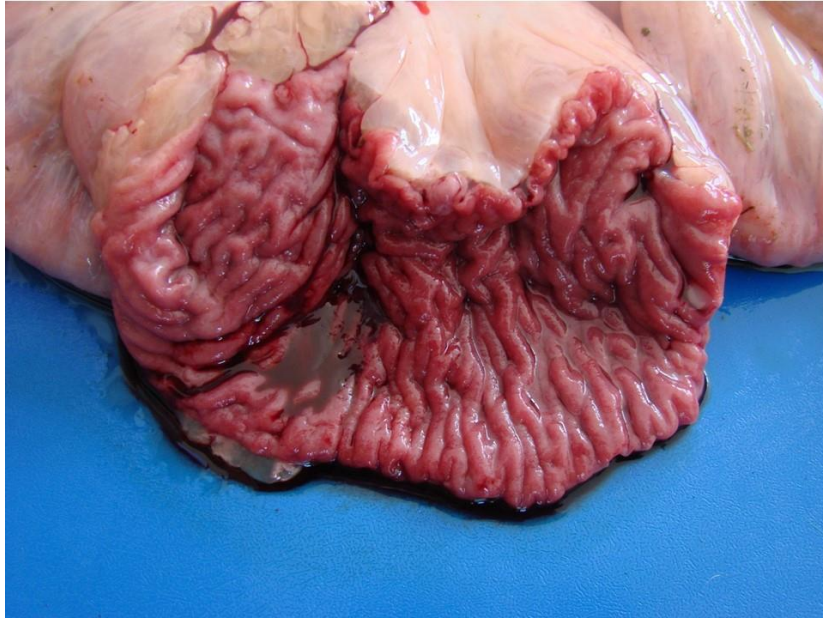


Figure 3. Ileum of an affected cow. The mucosa is corrugated, thick, and moderately hyperemic.

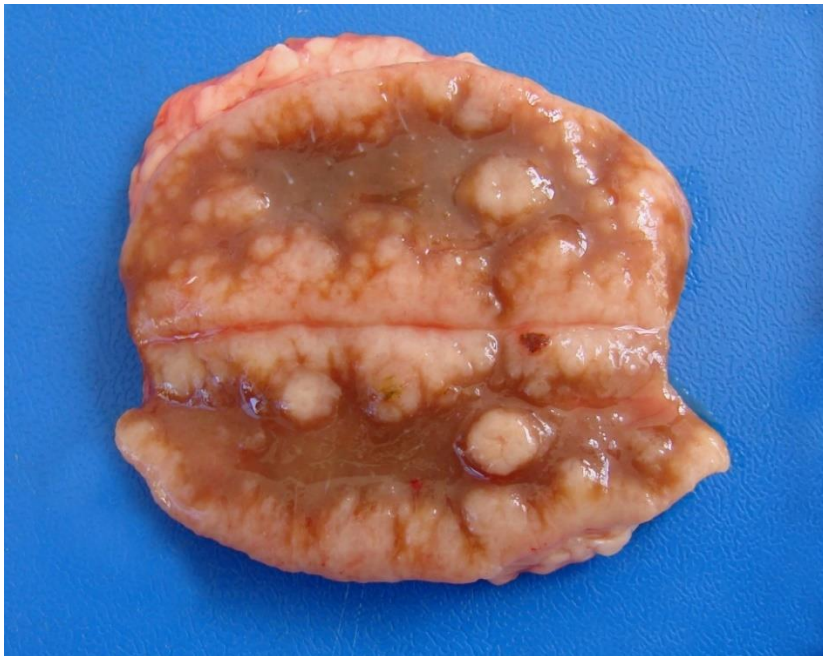


Figure 4. Mesenteric lymph node of an affected cow. White nodules are distributed throughout the cortex, contrasting to tan medullary areas.

Etiologic diagnosis:

- *Morphologic diagnosis?*
- *Etiologic diagnosis?*
- *Etiology?*
- *Name of the condition?*

*The Diagnostic Exercises are an initiative of the **Latin Comparative Pathology Group (LCPG)**, the Latin American subdivision of The Davis-Thompson Foundation. These exercises are contributed by members and non-

members from any country of residence. Consider submitting an exercise! A final document containing this material with answers and a brief discussion will be posted on the CL Davis website.

(http://www.cldavis.org/diagnostic_exercises.html)

Associate Editor for this Diagnostic Exercise: Daniel Rissi

Editor-in-chief: Claudio Barros