

# Diagnosis and Management of IBD in Dogs and Cats

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Inflammatory bowel disease (IBD) encompasses a spectrum of illnesses that result in gastrointestinal (GI) inflammation. Although the underlying cause is not fully understood, current research is focused on the role of the GI microbiome in local immune regulation.<sup>1-4</sup>

Various other diseases that result in cellular infiltration of the GI tract must be ruled out, including *Helicobacter pylori* infection, histoplasmosis, *Pythium* spp infection, heterobilharzia (shistosomes), toxoplasmosis, feline infectious peritonitis (FIP), and various neoplasms.

## REACHING THE PRESUMPTIVE DIAGNOSIS

Typically, chronic GI tract diseases are slow and insidiously progressive, allowing time to perform diagnostics and evaluate treatment responses. When a definitive diagnosis is not possible, the goal should be to obtain a presumptive diagnosis after reasonably ruling out all other possibilities. When diagnosed in this way, IBD should always be referred to as presumptive IBD, suspected IBD, or non-biopsy confirmed IBD.

## Workup

An individualized assessment of the pet's signalment, history, and clinical signs should

be combined with the results of a routine minimum database. Fecal ova and parasite testing is reasonable; however, given the possibility of false-negative results due to intermittent fecal shedding, I recommend broad-spectrum empiric deworming in all cases (cats and dogs).

After baseline information has been established and the pet is dewormed, a hydrolyzed protein diet trial is offered. Therapeutic trials with probiotics may also be considered next. If clinical signs are progressive or nonresponsive, then a full GI panel (plus resting cortisol in dogs) should be performed.

Abdominal ultrasonography can be pursued nearly any time during the workup. At a minimum, ultrasound should be completed before empiric immunosuppressive therapy. Additional testing might be recommended based on ultrasound and before immunosuppressive therapy.

## Minimum Database

Little on routine lab work informs the clinician about GI tract health. Nevertheless, a complete blood cell count, complete serum chemistry with electrolytes, and urinalysis are suggested in the workup to evaluate for important comorbidities and assess overall health.

The finding of decreased albumin, cholesterol, and globulins is consistent with protein-losing enteropathy (PLE). Cholesterol is a main differentiator between PLE and protein-losing nephropathy and is often left out of partial chemistries. This highlights the importance of performing full diagnostics with complete serum chemistries in any ill pet.

PLE is a syndrome, not a diagnosis, and can be caused by any type of IBD or its differentials. Evidence of PLE on chemistry indicates GI tract disease chronicity. Diagnostic workup is the same as with non-protein wasting IBD, although the prognosis is more variable and has been historically considered guarded to poor.<sup>5</sup>

## GI Panel

The IBD workup is not complete without a 12-hour fasted GI panel consisting of cobalamin, folate, pancreatic lipase immunoreactivity (PLI), and trypsin-like immunoreactivity (TLI). TLI must be performed to rule out exocrine pancreatic insufficiency (EPI), an extremely important differential for maldigestion and malabsorption in both cats and dogs that is likely far more common than recognized. A normal TLI at 1 point in time does not rule out the possibility of EPI developing at a later date in either species.



Spec PLI (Idexx) is the species-specific measurement of pancreatitis, which can be seen concurrently with IBD in both cats and dogs. A normal (negative) canine or feline SNAP test (Idexx) result rules pancreatitis out, but an abnormal result does not confirm it. The Precision PSL (Antech) has shown to correlate well with the Spec PLI, although both tests have only moderate sensitivity and specificity—meaning that a normal result does not rule pancreatitis out and false positives still occur.<sup>6</sup>

Cobalamin deficiency can result from decreased absorption from the ileum, a localizing finding. It will also be seen in both species secondary to EPI. Hypocobalaminemia (< 400 ng/dL) should be supplemented. Notably, this is still within the “normal” reference range. Cobalamin is not a specific treatment for IBD, although it may help with appetite.

Folate deficiency results from failed absorption across the duodenum, making this another localizing finding. A folate low enough to require supplementation is relatively uncommon, but it should be supplemented if low. The combination of decreased cobalamin and elevated folate is most consistent with small bowel dysbiosis.

### **Cortisol**

Addison's disease (both typical and atypical) represents a major cause of intermittent waxing and waning GI tract signs in dogs. If the baseline cortisol level cannot exclude Addison's disease, then an adrenocorticotropin stimulation test is indicated before the next steps in diagnostic workup.

### **Abdominal Ultrasound**

The main purpose of evaluating the GI tract via ultrasound is to rule out mass lesions and other comorbidities. Bowel wall thickening and layering changes such as muscularis hypertrophy and hyperechoic mucosal striations are not specific to IBD and can be seen with other causes of infiltrative bowel disease.<sup>7-9</sup> Even a normal ultrasound cannot rule out clinically significant GI tract disease.

### **Infectious Disease Testing**

Infiltrative infectious GI tract diseases may mimic other types of GI tract diseases on ultrasound. Depending on geographic area or ultrasound findings, additional infectious

disease testing might be indicated. Examples include histoplasmosis urine antigen, *Pythium* serology, toxoplasmosis titers, FIP mRNA, and heterobilharzia feces polymerase chain reaction. Pets with infectious GI tract disease tend to respond favorably initially to immunosuppressive steroids before experiencing an abrupt clinical decline.

## **TREATING PRESUMPTIVE IBD Therapeutic Diet Trials**

In nonurgent cases, empiric trials are best done sequentially, allowing for a pause to monitor the effects. Typically, I recommend a period of 2 to 4 weeks to see an initial response, although it might take much longer for signs to resolve fully. In some cases of IBD, a change to a highly digestible diet may improve clinical signs. This is a reasonable first step, especially in younger patients being fed low-quality foods.

The first true feeding trial should be performed with a hydrolyzed protein diet. Due to the increased availability of boutique diets, the concept of “novel” protein is slowly being phased out of most prescription lines.

Diet changes should be made gradually by mixing together the new and old foods over several days. If a positive effect is not seen within 2 to 4 weeks of a strict diet trial, a benefit is not likely. A trial with a different brand of hydrolyzed protein diet may produce different results. Even a partial improvement in signs is an indication to continue the hydrolyzed feeding.

### **Probiotics/Prebiotics/Synbiotics**

When diet alone does not control clinical signs, probiotics or synbiotics can be added. A probiotic is a live bacterial or yeast strain with potential health benefits. Prebiotics are food additives (typically various types of fiber) that provide selective support to beneficial members of the host microbiome. Synbiotics contain both.<sup>10</sup>

For the most part, probiotics are safe and affordable, and a positive response should be seen within 2 to 4 weeks. For animals that respond favorably, the treatment must be continued for life as the benefits will stop when supplementation is stopped. The unique effects of various probiotics and combinations are not interchangeable, and a failure to respond to 1 product

does not mean the pet won't respond to a different one.

Importantly, probiotics are not regulated by the FDA, and a large number are made without meeting minimum quality standards.<sup>11</sup> High-quality probiotics contain bacterial strains normally found in the canine and feline gut, such as *Lactobacillus acidophilus*, *L. plantarum*, *L. casei*, *L. brevis*, *L. bulgaricus*, *L. reuteri*, *Bifidobacterium bifidum*, and *B. longum*. It's best to check the expiration dates and buy from companies that provide laboratory assays proving the potency of their products.

### **Antibiotics**

Historically speaking, the term “antibiotic-responsive enteropathy” has been used to describe chronic diarrhea that responds to antibiotic therapy. However, with increased understanding of the microbiome, researchers have discovered that antibiotic administration results in prolonged microbiota changes with potentially deleterious effects.<sup>3-4</sup> Ultimately, this is causing a culture shift in which antibiotic trials and long-term use of low-dose or repeat courses of antibiotics are no longer recommended.

### **Steroids/Immunosuppression**

Only after the patient has undergone a full workup, failed to respond to multiple empiric trials, and biopsies have been declined should the clinician reach for immunosuppression in the form of steroids. A positive and sustained improvement on steroids is consistent with the presumptive diagnosis of idiopathic IBD. Steroids are preferred in an empiric trial because they are cheap and available. After stabilization, the dose should be tapered to the lowest effective dose possible to manage clinical signs. This process often takes months. Following taper, some pets may be able to be maintained on diet alone, with or without probiotics. ■

References are available online at [dvm360.com](http://dvm360.com).

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