

The Hope Line

Winter 2019

Greetings!

We hope our referral community has enjoyed their holiday season thus far. To wrap up 2019 Dr. Deitz, our Jacksonville based internist, has provided us this instrumental guide in diagnosing and treating protein-losing enteropathy! As always, reach out to any of us if we can help in any way with your medicine and/or oncology patients.

-Cheers from the Team at Southeast Veterinary Oncology and Internal

Protein-losing Enteropathy

Protein-losing enteropathy (PLE) is a general term applied to GI disease causing loss of serum proteins (albumin and globulins) due to leakage into the intestinal lumen. A chemistry panel will typically show panhypoproteinemia. In contrast, decreased protein due to renal disease (due to loss of albumin through a damaged glomerulus) or liver disease (due to lack of production of albumin by the liver) usually results in only hypoalbuminemia.

Underlying causes for PLE include

- Inflammatory bowel disease (lymphoplasmacytic, eosinophilic, or granulomatous enteritis)
- Lymphangiectasia
- Parvovirus
- Histoplasmosis
- Phycomycosis
- Giardiasis
- Intussusception
- GI erosion/ulceration
- Lymphoma



Panhypoproteinemia due to GI disease is uncommon in the cat. Biopsy of the GI tract is required for definitive diagnosis of the underlying cause for PLE. Certain breeds appear to be predisposed: Basenji, Soft-coated Wheaten Terrier, Shar-Pei, Rottweiler, Yorkshire Terrier, and Lundehund.

Clinical signs

- Chronic intermittent small bowel diarrhea
- Anorexia
- Vomiting
- Weight loss
- Ascites/edema when albumin is <2.0g/dL
- Distended abdomen
- Dyspnea/tachypnea can occur with pleural effusion caused by hypoalbuminemia
- Occasionally there may be no clinical signs

Diagnostics

- Minimum database to include CBC, serum biochemistry profile, urinalysis
- Urine protein:creatinine ratio if there is protein seen on urinalysis
- Bile acids to evaluate for liver disease as a cause of low albumin
- Fecal floatation
- Abdominal effusion analysis and cytology (if present)
- GI malabsorption panel (TLI, PLI, cobalamin, folate)
- Additional diagnostics dependent on signalment and history
 - ◇ Parvoviral testing in puppies
 - ◇ Rectal scrape or urine antigen testing for histoplasmosis if warranted (travel to endemic area)
- Abdominal and thoracic radiographs
- Abdominal ultrasound

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Protein-losing Enteropathy

Once other etiologies for low albumin are ruled out (negative urine protein and normal bile acids), a diagnosis of PLE is made by exclusion. Other common blood work abnormalities include low cholesterol, low calcium, low magnesium, and lymphopenia. Cobalamin is frequently decreased due to poor absorption in the ileum from diffuse mucosal disease. Abdominal radiographs may be normal or may show effusion if present. Thoracic radiographs may be normal or may show effusion. Abdominal ultrasound may show thickened intestines, enlarged mesenteric lymph nodes, intestinal mucosal striations (which can indicate lymphangiectasia), and effusion. Fluid analysis of abdominal fluid reveals a pure transudate.

Definitive diagnosis generally requires intestinal mucosal biopsies that can be obtained via endoscopy, laparotomy, or laparoscopy. Due to the diffuse nature of most underlying causes of PLE and the risks associated with low albumin (poor healing), endoscopic biopsy is often preferred. However, if there is a lesion not reachable by the endoscope seen on ultrasound, a surgical lesion is found (intussusception), or a liver biopsy is needed to determine if liver disease is a cause of low albumin, then laparotomy should be pursued. Endoscopy does allow visualization of the intestinal mucosa.

Treatment

Treatment includes identification and removal or management of the underlying cause when possible (e.g., immunosuppressive drugs for IBD, surgery for intussusception, antifungals for histoplasmosis, chemotherapy for GI lymphoma). Hypocobalaminemia requires parenteral supplementation. Additional supportive care may be necessary (fluid therapy, transfusion), especially prior to diagnostic procedures such as endoscopy.

Prognosis

Prognosis is dependent on underlying cause but is considered guarded to poor in most cases.

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