



Dilation of Lymphatic Vessels in the Gastrointestinal Tract (Lymphangiectasia)

Basics

OVERVIEW

- “Lymphatic vessels” are vascular channels (similar to veins) that transport lymph; “lymph” is a clear to slightly colored fluid that contains white-blood cells—it circulates through the lymphatic vessels removing bacteria and other materials from body tissues and it also transports fat from the small intestines; it eventually empties into the blood, returning tissue fluids into the general body circulation
- “Lymphangiectasia” is defined as the dilation of the lymphatic vessels in the gastrointestinal tract; the “gastrointestinal tract” includes the stomach, small intestines, and large intestines
- Lymphangiectasia is an obstructive disorder of the lymphatic system of the gastrointestinal tract, resulting in high fluid pressure in the lymphatic vessels (known as “lymphatic hypertension”) and the loss of body proteins through the intestines (known as “protein-losing enteropathy”)

GENETICS

- A familial (a condition that runs in certain families or lines of dogs) tendency for the condition in which proteins are lost from the body through the intestines (protein-losing enteropathy) has been reported for soft-coated Wheaten terriers, basenjis, Norwegian Lundehunds, and Yorkshire terriers; however, a genetic cause has not been identified

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs

Breed Predilections

- Increased likelihood of lymphangiectasia seen in soft-coated Wheaten terriers, basenjis, Norwegian Lundehunds, and Yorkshire terriers as compared to other dog breeds

Mean Age and Range

- Dogs of any age can be affected
- Most common in middle-aged dogs

Predominant Sex

- Increased likelihood of lymphangiectasia seen in female soft-coated Wheaten terriers as compared to males
- No sex has been reported to be more likely to develop lymphangiectasia in other breeds

SIGNS/OBSERVED CHANGES IN THE PET

- Clinical signs are variable
- Diarrhea—long-term (chronic), intermittent or continuous, watery to semisolid consistency; however, not all affected pets have diarrhea
- Buildup of fluid in the abdomen (known as “ascites”)
- Buildup of fluid under the skin (known as “subcutaneous edema”)
- Difficulty breathing (known as “dyspnea”) from buildup of fluid in the space between the chest wall and the lungs (known as “pleural effusion”)
- Weight loss
- Excessive gas formation in the stomach or intestines (known as “flatulence”)
- Vomiting

CAUSES

Primary or Congenital (Present at Birth) Lymphangiectasia

- Localized—intestinal lymphatic vessels only
- Diffuse lymphatic abnormalities (such as accumulation of milky fluid in the space between the chest wall and lungs [known as “chylothorax”]; swelling due to the accumulation of lymph caused by blockage of the lymphatic vessels and/or lymph nodes [known as “lymphedema”]; accumulation of milky fluid in the abdomen [known as “chyloabdomen”]; or blockage of the thoracic duct, through which lymph is emptied into the general circulation)

Secondary Lymphangiectasia

- Right-sided congestive heart failure; congestive heart failure is a condition in which the heart cannot pump an adequate volume of blood to meet the body's needs
- Inflammation of the sac (known as the “pericardium”) around the heart, characterized by thickening of the sac (condition known as “constrictive pericarditis”)
- Budd-Chiari syndrome (condition in which blood flow is blocked in the veins of the liver)
- Cancer (lymphoma); “lymphoma” is a type of cancer that develops from lymphoid tissue, including lymphocytes, a type of white-blood cell formed in lymphatic tissues throughout the body

TREATMENT

HEALTH CARE

- Mostly treated as outpatients
- May need hospitalization if complications due to low levels of albumin, a type of protein, in the blood (known as “hypoalbuminemia”) develop

ACTIVITY

- Normal

DIET

- Low-fat diet with high-quality protein
- Long-chain triglycerides stimulate intestinal lymph flow and may lead to increased intestinal protein loss
- Diets fortified with medium-chain triglycerides (MCTs) may be beneficial
- May feed MCTs to supplement fat and increase caloric intake
- Commercial sources of MCTs—MCT oil or Portagen (Mead Johnson, Evansville, IN)
- Supplement with fat-soluble vitamins—A, D, E, and K
- Elemental diets also can be used; “elemental diets” are liquid diets that contain amino acids, carbohydrates, low levels of fats, vitamins, and minerals that can be absorbed without the need for digestion

SURGERY

- When intestinal lymphangiectasia is secondary to an identifiable lymphatic blockage or obstruction, consider surgery to relieve the obstruction
- Surgery to remove part of the sac (pericardium) around the heart (known as a “pericardiectomy”) may be indicated in cases of inflammation of the sac, characterized by thickening of the sac (constrictive pericarditis)
- Affected pets that benefit from surgical intervention are rare

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Try steroids, if dietary therapy alone is unsuccessful (steroid treatment is not intended to treat lymphangiectasia, but rather to treat coexistent inflammation of the stomach and/or intestines); prednisone or prednisolone can be administered, after remission of the disease, dosage slowly can be decreased to the lowest dose effective at controlling the disease
- If the pet is cobalamin (vitamin B12) deficient, cobalamin must be supplemented to achieve therapeutic response
- If a secondary imbalance between different intestinal bacteria (known as “small intestinal dysbacteriosis”) or small intestinal bacterial overgrowth is suspected, the pet should be treated with antibiotics (tylosin); small intestinal bacterial overgrowth (SIBO) is a condition in which a high number of bacteria are found in the upper small intestine

Follow-Up Care

PATIENT MONITORING

- Monitor body weight, serum total protein, albumin, and globulin concentrations, and evidence of recurrent clinical signs (such as fluid buildup in the space between the lungs and chest wall [pleural effusion], in the abdomen [ascites], and/or under the skin [edema]); “albumin” and “globulin” are types of proteins found in the blood
- Pets need to be reevaluated dependent on severity of the disease process

POSSIBLE COMPLICATIONS

- Breathing difficulty from fluid buildup in the space between the lungs and chest wall (pleural effusion)
- Severe protein-calorie depletion
- Diarrhea that is resistant to medical treatment

EXPECTED COURSE AND PROGNOSIS

- Prognosis is guarded
- Some pets fail to respond to treatment
- Remissions of several months to more than 2 years can be achieved in some pets

Key Points

- Unpredictable disease progression and response to treatment
- Some pets fail to respond to treatment
- Remissions of several months to more than 2 years can be achieved in some pets

Notes

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