LYMPHOPLASMACYTIC-PLASMACYTIC GASTROENTERITIS

(INFLAMMATION OF THE STOMACH AND INTESTINES, CHARACTERIZED BY THE PRESENCE OF LYMPHOCYTES AND PLASMACYTES [TYPES OF WHITE-BLOOD CELL])

BASICS

OVERVIEW

- An inflammatory disease of the stomach and intestine (generally known as "gastroenteritis"), characterized by infiltration of lymphocytes (a type of white-blood cell) and plasma cells or plasmacytes (a specialized type of white-blood cell; plasma cells are lymphocytes that have been altered to produce immunoglobulin, an immune protein or antibody, necessary for fighting disease); the lymphocytes and plasma cells usually infiltrate into the lamina propria (the layer just under the lining), but occasionally involve deeper tissues, known as the "submucosa" (the layer of tissue between the lining and the muscular layer of a tubular organ) and "muscularis" (the muscular layer of a tubular organ)
- Most common form of inflammatory bowel disease (IBD) affecting dogs and cats

GENETICS

- Basenjis, Norwegian lundehunds, and soft-coated wheaten terriers have particular familial forms of inflammatory bowel disease (IBD)
- Certain genes may make an individual susceptible to development of IBD

SIGNALMENT/DESCRIPTION of ANIMAL

Species

- Dog and cat

Breed Predilections

- Basenjis and Norwegian lundehunds have particular forms of inflammatory bowel disease (IBD); gluten-sensitive enteropathy (specific type of intestinal disease related to the presence of wheat gluten in the diet) affects Irish setters; protein-losing enteropathy and nephropathy (conditions in which proteins are lost from the body through the intestines [enteropathy] or kidneys [nephropathy]) affects soft-coated wheaten terriers
- German shepherd dogs and Chinese shar peis reportedly are susceptible to lymphocytic-plasmacytic gastroenteritis
- Pure-breed cats may be more likely to have lymphocytic-plasmacytic gastroenteritis than other cats

Mean Age And Range

- Most common in middle-aged animals
- Dogs as young as 8 months and cats as young as 5 months of age have been reported to have lymphocytic-plasmacytic gastroenteritis

SIGNS/OBSERVED CHANGES in the ANIMAL

- Signs associated with lymphocytic-plasmacytic inflammation of the stomach (known as "gastritis") with or without inflammation of the intestines (known as "enteritis") can vary in type, severity, and frequency
- Generally have an intermittent, long-term (chronic) course, but may increase in frequency over time
- Cats—intermittent, chronic vomiting is the most common sign; long-term (chronic) small-bowel diarrhea is second most common sign
- Dogs—long-term (chronic) small-bowel diarrhea is the most common sign; if only the stomach is involved, vomiting is the most common sign
- Dogs and cats—lack of appetite (anorexia) and long-term (chronic) weight loss are common; while blood in the stool (known as "hematochezia"); vomiting blood (known as "hematemesis"); and dark, tarry stools (known as "melena") due to the presence of digested blood in the bowel movement are noted occasionally
- Animal may have normal body-fluid status (that is, normal hydration) or may have low body-fluid status (that is, dehydration); may have extreme weight loss with muscle wasting (known as "cachexia"), and may show signs of depression, depending on the disease severity and organ(s) affected

CAUSES

- Probably many factors cause lymphocytic-plasmacytic gastroenteritis; may involve changes in the bacteria found in the intestinal tract and in the immune response

Infectious Agents

- *Giardia, Salmonella, Campylobacter*, and normal resident gastrointestinal bacteria have been implicated in causing lymphocytic-plasmacytic gastroenteritis, but not proven

Dietary Agents

- Meat proteins, food additives, artificial coloring, preservatives, milk proteins, and gluten (wheat) have been proposed as causes

Genetic Factors

- Certain forms of inflammatory bowel disease (IBD) are more common in some breeds of dogs
- Certain genes may make an individual susceptible to development of IBD

TREATMENT

HEALTH CARE

- Outpatient, unless the patient is debilitated from dehydration, has low levels of protein in the blood (known as "hypoproteinemia"), or has extreme weight loss with muscle wasting (cachexia)
- If the patient is dehydrated or must have food and water withheld because of severe vomiting, fluid therapy (such as lactated Ringer's solution) should be administered; additional supplementation of certain compounds (known as 'electrolytes," such as potassium chloride, magnesium sulfate) may be necessary if abnormalities in levels in the blood are detected
- Colloids (dextrans or hetastarch) should be given if severely low levels of albumin (a protein) are present in the blood (known as "hypoalbuminemia") from protein-losing enteropathy (condition in which proteins are lost from the body through the intestines) is present; colloids are fluids that contain larger molecules that stay within the circulating blood to help maintain circulating blood volume

ACTIVITY

- No restrictions

DIET

- Dietary therapy is an essential component of patient management
- Patients with severe intestinal involvement and protein-losing enteropathy (condition in which proteins are lost from the body through the intestines) may require intravenous feeding (known as "total parenteral nutrition" or "TPN") until stable
- Highly digestible, antigen-restricted (so-called "low-allergy") diets, containing a single protein source, should be fed to eliminate the possibility of food allergy
- Highly digestible diets decrease the intestinal antigenic load, thus helping to reduce inflammation of the lining of the intestines; appropriate diet therapy can contribute to remission of signs and can be used as a maintenance diet
- Modification of the n-3 to n-6 fatty-acid ratio may help to modulate the inflammatory response
- Injectable cobalamin (vitamin B12) supplementation is essential if serum levels are subnormal, as deficiencies can contribute to clinical signs and limit the effectiveness of dietary and medical therapy
- Numerous commercial elimination diets (diets that eliminates or excludes the food ingredient(s) to which the animal is allergic or intolerant) are available for dogs and cats; home-cooked diets also are an excellent option, but are more time consuming for owners

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.

- Corticosteroids—mainstay of treatment for lymphocytic-plasmacytic inflammation of the intestines of unknown cause (known as "idiopathic lymphocytic-plasmacytic enteritis"); prednisone used most frequently in dogs and cats; cats may require higher dosages to control their disease and may respond better to prednisolone than to prednisone
- Budesonide, a locally active steroid, may be used in patients that cannot tolerate the systemic side effects of prednisone, such as excessive thirst (known as "polydipsia") and excessive urination (known as "polyuria")
- Injectable steroids may be needed in severe cases, in which absorption of the drug following dosage by mouth may be limited
- Gradually taper dose of corticosteroids, following your pet's veterinarian's recommendations; relapses are more common in patients that are taken off corticosteroids too quickly; maintenance dosages of steroids, administered every 48 to 72 hours may be necessary in some patients
- Occasionally other drugs that suppress or decrease the immune response (known as "immunosuppressive drugs") can be used to allow a reduction in corticosteroid dose and avoid some of the adverse effects of steroid therapy
- Azathioprine—an immunosuppressive drug that can be used to allow a reduction in corticosteroid dose; delayed onset of activity (up to three weeks) limits effectiveness in sudden (acute) disease
- Chlorambucil is an effective alternative to azathioprine
- Metronidazole—has antibacterial and antiprotozoal properties; some evidence that it also has immune-modulating effects
- Cyclosporine—may be useful in the therapy of animals that do not respond or respond poorly to dietary modification and other medications; using Neoral® or Atopica®; dosage is very individualized, so monitoring is recommended; cost prohibits routine use of this drug

• Sulfasalazine—a sulfa analog that is broken down by intestinal bacteria into sulfapyridine and 5-aminosalicylic acid, the later of which provides anti-inflammatory effects in the colon or large bowel

FOLLOW-UP CARE

PATIENT MONITORING

• Severely affected patients on bone-marrow suppressive medications require frequent monitoring; adjust medications during these visits based on blood work and clinical signs
• Patients receiving azathioprine or chlorambucil—complete blood count (CBC) should be performed every 10 to 14 days after the start of treatment, with rechecks monthly and then bimonthly thereafter for the entire treatment period; bone-marrow suppression, leading to low red-blood cell and low white-blood cell counts, can be seen at any time during treatment and generally is reversible with drug discontinuation
• Check patients with less severe disease 2 to 3 weeks after their initial evaluation, and then monthly to bimonthly until medications are tapered and clinical signs are resolved

PREVENTIONS AND AVOIDANCE

• If a food allergy or intolerance is suspected or documented, avoid feeding that particular nutrient and adhere strictly to dietary changes recommended by your pet's veterinarian

POSSIBLE COMPLICATIONS

• Weight loss and debilitation in cases that do not respond or respond poorly to dietary manipulation or medication
• Excessive levels of medication-related steroids in the body lead to signs of hyperadrenocorticism or Cushing's disease; when these signs are caused by medication, the disease is known as "iatrogenic hyperadrenocorticism"
• Steroid side-effects, such as excessive thirst (known as "polydipsia") and excessive urination (known as "polyuria")
• Bone-marrow suppression (leading to low red-blood cell and low white-blood cell counts); inflammation of the pancreas (known as "pancreatitis"); inflammation of the liver (known as "hepatitis"); or lack of appetite (anorexia) caused by azathioprine and/or chlorambucil
• Vomiting, diarrhea, and lack of appetite (anorexia) with cyclosporine; temporarily decreasing the dosage typically will result in resolution of gastrointestinal signs
• "Dry eye" (known as "keratoconjunctivitis sicca" or "KCS") with sulfasalazine

EXPECTED COURSE AND PROGNOSIS

• Dogs and cats with mild-to-moderate inflammation have a good-to-excellent prognosis for full recovery
• Patients with severe disease, particularly if other portions of the gastrointestinal tract are involved, have a more-guarded prognosis
• Often the initial response to therapy sets the tone for a given individual's ability to recover

KEY POINTS

• Inflammatory bowel disease (IBD) is more likely to be controlled, rather than cured, as relapses are common
• Patience is required during the various food and medication trials that often are necessary