Nutritional Support of Intestinal Diseases in Cats

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**Introduction**

There are a number of gastrointestinal disorders in cats for which diet and nutrition can play a role in the cause, diagnosis, treatment, and/or prevention. This presentation will focus on common syndromes and review clinical nutrition concepts as they relate to GI disease specifically in the cat.

**Background**

Both physicians and veterinarians frequently recommend a “bland” diet for nonspecific GI upset. When asked “What is the definition of bland diet?” veterinarians often respond “chicken and rice” or “hamburger and rice” or “baby food” or they name a veterinary therapeutic diet. Interestingly, when pressed for a definition, the most common answer is “easily (or highly) digestible” and the second most common answer is “low fat”. The concept of bland seems to come directly from human diet practices such as avoiding spicy foods or roughage. However, the term does not have a definition or significance in veterinary clinical nutrition. Most nutritionists prefer “GI” or “intestinal” or “low-residue” as diet descriptors although “easily digestible” is also common. Within this category of diets, there is much variation in nutrient profiles and ingredients and there is no exact formulation or prototype.

The average macronutrient profile of feline intestinal veterinary diets (Hill’s, Iams, Purina, Royal Canin) is 35% protein, 42% fat, and 24% carbohydrate (metabolizable energy basis). The average diet would be considered moderate protein, moderately high fat, and moderately low carbohydrate. Looked at separately, the dry diets average 37/38/25% and the wet diets 33/44/22% protein/fat/carbohydrate. These diets are typically low in fiber which helps make them highly digestible. The protein sources and other ingredients are also selected to be digestible by cats although feeding studies are rarely conducted with individual ingredients, only complete diets. Some pet food companies and researchers use *in vitro* methods to estimate digestibility. Actual digestibility varies from cat to cat and can change over time.

**Acute Vomiting and Diarrhea**

A traditional approach to acute GI upset in cats (and dogs) is to “rest” the GI tract by withholding food and sometimes water for some length of time, often 24-48 hours. The rationale for NPO therapy is to decrease stimulation of the stomach, pancreas, and other organs and reduce
release of acids, enzymes, bile, etc. Most cats with acute vomiting (and sometimes diarrhea) are inappetent and refuse to eat, which makes NPO seem logical. However, research studies and changes in protocols in human medicine have led to a reassessment of NPO or “rest” therapy. We now know there are adverse consequences with short- and long-term fasting. Catabolism, or mobilization and breakdown of lean body mass (muscle), occurs to supply energy and amino acids in the fasted animal (or human). The immune system becomes less efficient with short-term malnutrition and the infection-fighting response is reduced. Also, the enterocytes that line the intestines rely on food in the GI tract for nutrition, so fasting leads to death and sloughing of these important cells which can increase intestinal permeability and the risk of bacterial translocation.

Instead of NPO a better approach is to select an appropriate diet and encourage voluntary food intake. Assisted feeding (enteral nutrition) may also be necessary after about 72 hours of anorexia. The ideal diet for most types of acute GI upset would be highly digestible, energy-dense (high in calories), and highly palatable to encourage eating. Depending on the cat’s preference, either a dry or wet intestinal diet (e.g. Hill’s i/d, Purina EN, Iams Intestinal Plus, Royal Canin Gastrointestinal High Energy) can be offered initially. If these diets are refused despite medical treatment of the underlying cause or clinical signs, then the cat’s original diet (if appropriate) can be offered. Continued food refusal should trigger a more comprehensive diagnostic evaluation and/or the placement of a feeding tube for enteral nutritional support. Because acute GI disease can change the intestinal microbiome and have other detrimental effects, it is best for recovering cats to stay on the therapeutic diet for 7-10 days past clinical resolution (or even longer) followed by a gradual transition over 5-7 days back to the original diet. Sending home a few cans to be given over 2-3 days is not sufficient to restore GI health, so consider dispensing a full bag of dry or a case of canned intestinal diet.

**Chronic Vomiting and Diarrhea**

GI upset that lasts longer than 2 weeks or is relapsing or intermittent is considered chronic. Typically cats with chronic vomiting and diarrhea require comprehensive workups and often drug and other medical/surgical therapies. In those cases where a cause can be identified and managed, there may be a specific diet or nutritional strategy to address the issue. In other cases, the cause is unknown or suspected and so diet may be used as a diagnostic aid or as trial-and-error therapy. The effect of diet on inflammatory bowel disease in cats has not been widely researched. However, several studies have shown a benefit and are summarized below.

An early study investigated 55 cats diagnosed with IBD based on history, clinical signs, labwork, and intestinal biopsy. They were offered either a chicken/rice or venison/rice limited ingredient veterinary diet based on their diet history (i.e. cats that had eating chicken-based diets were given venison and vice-versa). The results showed that 29/55 cats had clinical resolution on the diets
based on rapid improvement (within 2-3 days) and recurrence when challenged with the previous diet (within 3-4 days). Another study found that 17/23 cats referred for workup and treatment of chronic enteropathy responded to 1 of 3 limited ingredient diets. All of these cats had clinical resolution within 10 days of starting the diet. One paper reported the use of a hydrolyzed soy protein dry diet (Royal Canin Hydrolyzed) in 8 cats diagnosed with based on history, clinical signs, labwork, and intestinal biopsy. These cats were young (median 2.4 years) and had chronic vomiting and diarrhea for a median of 6 months (range 4-36 months). All cats had a rapid response to the hydrolyzed diet, with 6 cats resolved within 4 days and 2 cats within 8 days. Finally, a study at a research cattery evaluated two different canned intestinal diets in cats with chronic diarrhea (one year or longer duration). Fifteen cats were used in a crossover design where they were fed one diet for 4 weeks and then the other diet for 4 weeks. The fecal scores improved in 40% of the cats on Hill’s i/d canned and in 67% of the cats on Purina EN canned. Normal stools resulted in 13.3% and 46.7% of the cats, respectively.

Based on these findings, it is highly recommended to perform a dietary trial in cats with chronic GI disease before using drugs such as antibiotics or immunosuppressive drugs (although empirical treatment for intestinal worms and protozoa is a routine first step). A hydrolyzed soy diet may be preferable to a limited-ingredient diet based on published and unpublished research conducted in dogs and cats. In most cases, results will be obvious within a few days, although up to 3 weeks of exclusive feeding may be necessary for complete resolution.

**Colitis**

Cats with acute or chronic large-bowel diarrhea may have increased frequency of defecation, mucus or bright red blood in the feces, and signs of straining or discomfort. In dogs, a high-fiber diet is often recommended. Likewise, cats sometimes respond well to diets that have higher amounts and/or different types of fiber than found in typical maintenance diets. For initial treatment of acute colitis, one of the veterinary intestinal diets can be used for 1-2 weeks or several days past clinical resolution. If there is no response or if the colitis is chronic, intermittent, or relapsing, an elimination dietary trial can be done with a hydrolyzed or limited ingredient product as described above. Another option is to do a trial with a high-fiber diet. There are several therapeutic diets available such as Hill’s w/d (cellulose) or Royal Canin Fiber Response (psyllium). Some of the weight-loss diets are increased in fiber as well. These diets are not identical and differ in palatability, macronutrient profiles, ingredients, and functional additives as well as the fiber type and amount. It is difficult to predict in advance which diet, single or multiple sources of fiber, or amounts will work the best in a cat with colitis or other fiber-responsive condition. Canned pumpkin is sometimes recommended as a supplement for cats, but this product is actually low in fiber. One ounce contains only 1 gram of fiber (and 1 gram of sugar). Therefore, trial and error may be necessary with either dry or wet or mixed feeding for optimal response.
**Constipation**

Cats seem to be more likely than dogs to suffer from constipation. Over time, untreated constipation can lead to chronic obstipation (inability to defecate without assistance) and eventually megacolon (distended, nonfunctional colon and rectum). Recommendations for dietary management vary but are often based on fiber considerations. Some clinicians prefer ultra-low fiber (low-residue), highly-digestible diets for constipation animals on the theory that the animals do not need more bulk to add to the feces that are difficult to pass. Others prefer higher-fiber diets to stimulate motility and retain water to make the feces softer. There is good evidence that constipated cats respond well to psyllium (Meta mucil or similar products) and two clinical trials using a diet with added psyllium (Royal Canin Fiber Response) have shown excellent results even in some cats with megacolon that were scheduled for surgical management or even euthanasia. Fibers, types, and amounts vary widely in pet foods, so it is not possible to simplify a recommendation for a “high-fiber” diet. While canned (wet) diets are often suggested to increase water intake, dry diets are often successful as long as drinking water is freely available and the patients do not become dehydrated.

**Pancreatitis**

Pancreatitis is difficult to diagnose in cats and there are no well-researched treatment protocols. Most practitioners use supportive care such as fluid therapy, antiemetics, and analgesics. Unlike in dogs, diet does not seem to be a direct cause. If affected cats have other disorders such as hyperlipidemia or obesity, then dietary fat restriction is warranted. Some cats have concurrent inflammatory bowel disease and/or cholangitis (“triaditis”), and dietary therapy as for IBD (e.g. hydrolyzed protein) may be helpful. Research has shown that high-fat diets (>50% ME) can stimulate excessive pancreatic release of digestive enzymes, so it might be helpful to offer a moderate-fat highly digestible diet (30-40% ME) to cats recovering from acute or chronic pancreatitis. Otherwise, a nutritional plan may involve assisted feeding (NE- or E-tubes) or coaxing voluntary intake with highly palatable commercial diets. There is no indication for fasting or “resting” the GI tract in cats, so voluntary intake should be carefully monitored and if not sufficient, assisted feeding is indicated.
References


