Feline Weight Loss

Don’t write off that thin old cat

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Weight loss is a very common presenting complaint in both cats and dogs. Weight loss as a presenting sign can initially seem more than a little daunting to investigate, because practically every disease listed in medical textbooks is capable of producing weight loss. However, using a structured diagnostic approach, it is usually possible to rapidly and relatively cheaply narrow down the causes of weight loss at least to either a single organ (for example, ‘liver disease’) or a single disease process (for example, ‘cancer’) or, ideally, to a very specific etiology (hepatocellular carcinoma, for example). A work-up for weight loss should initially be targeted at what is cheap and easy to diagnose (diseases that can be found by history, physical examination, routine bloodwork and radiographs) and what is common (horses rather than zebras). In my experience, there are about a dozen or so relatively common causes of weight loss in cats, and these will be emphasized in this presentation. Some causes of weight loss, however, can be remarkably difficult to diagnose: over the past few decades, I have met many hundreds of different (and sometimes remarkably obscure) causes of feline weight loss.

History

Weight loss is often reported by owners as a primary concern during a clinic visit. Occasionally, however, weight loss is not noticed by the owner (especially in fat or long-haired cats), and is first noted by the veterinarian during a routine visit. Good clinic records are very helpful here: even subtle drops in weight will be noticed if the cat’s weight is recorded at every clinic visit. Except in cats on diets or in cats that have had a marked increase in physical activity, any drop in weight of more than 5% to 10% should be considered to be a potentially important early clue to significant disease, and should be investigated.

Obtaining a thorough history, in my opinion, is the single most important diagnostic test performed in working up a weight loss cat. Obviously, history-taking should be comprehensive, and may reveal clear-cut clues such as vomiting or coughing, but the first priority of history taking should be to divide weight loss cats into three main categories based on the owner’s perception of appetite:

1. Decreased appetite with decreased food intake
2. Normal to increased appetite with normal to increased food intake
3. Normal to increased appetite with decreased food intake due to an inability to eat

The diagnostic approach to each of these three categories of weight loss is very different, and each category will therefore be considered separately. Weight loss due to decreased appetite is by far and away the hardest form of weight loss to investigate, which is unfortunate, because it is also easily the most common.
1. Weight Loss with Decreased Appetite

Practically any disease or condition that a cat can get can lead to decreased appetite and subsequent weight loss. Fortunately, most causes of weight loss with a decreased appetite can be determined by history, physical examination, routine bloodwork and whole cat radiographs.

History:

I commonly use a ‘problem-orientated approach’ to making diagnoses in challenging medical cases. One of the key tenets of a problem-orientated approach is to try to get away from ‘problems’ are minimally helpful because they are caused by a myriad of different diseases (problems such as anorexia, weight loss or fever), and instead identify problems that have a limited range of causes and a simple, structured diagnostic approach (dyspnea, for example). Basically, I take a very thorough history in the hope that I can find one or more specific clues that will make my diagnostic approach more clear-cut, including:

- Regurgitation, vomiting or diarrhea
- Coughing, sneezing or dyspnea
- Polyuria and polydipsia
- Difficulty urinating or defecating
- Neurologic signs, syncope or seizures

Each of the above problems, when identified, will lead to a focused diagnostic approach. Coughing, for example, will lead to thoracic radiographs and a respiratory work-up.

Duration of inappetance (decreased appetite) and anorexia (complete loss of appetite) should be determined, as should any potential triggers. Owners very commonly associated loss of appetite and weight loss with a behavioral trigger, such a death in the family, loss of companion pets, addition of new animals, or a change in address. Although such behavioral triggers of decreased appetite in cats certainly do occur, and should not be ignored, I am at first reluctant to assume that inappetance is behavioral, because there is a good chance that if I do a genuine disease process that is causing inappetance will be overlooked. In my opinion, behavioral causes of inappetance are best pursued after a simple diagnostic work-up has excluded most common diseases that can cause anorexia and weight loss.

Physical Examination:

Physical examination in cats with weight loss should be very thorough and, as well as a standard examination (including temperature), should include:

- A through oral examination (look under the tongue for string or thread)
- Thyroid palpation (up to 10% of hyperthyroid cats have decreased appetites)
- Respiratory and cardiac auscultation
- Abdominal and lymph node palpation
- Palpation of the spinal column, muscles, bones and joints, looking for painful foci
- Cursory ophthalmologic and neurologic examination
Often, a physical examination will offer clues that suggest a very clear-cut diagnostic direction, such as a palpable abdominal mass, fever or jaundice. As with history-taking, any useful clues should be aggressively investigated.

**Routine Bloodwork:**

Routine blood work (and urine and fecal analysis) is very valuable in cats with weight loss, as it offers a reasonably cost-effective means of casting a wide net, and detecting most of the important diseases that will be missed on history and physical examination. My standard work-up in cats with weight loss includes:

a. Hematology (complete blood count, including examination of a blood smear)
b. Serum biochemistry, including electrolytes (sodium and potassium), calcium and creatine phosphokinase (CK or CPK), but not including measurement of amylase and lipase (which have not been well-validated in the cat)
c. Urinalysis
d. Fecal flotation
e. T4 (cats over 6 to 8 years old)
f. FeLV and FIV

The above testing is, in my opinion, a very good investment, because it identifies many important causes of anorexia and weight loss in cats, both common and uncommon, including:

- Chronic renal failure
- Liver diseases
- Some gastrointestinal disorders (protein-losing enteropathies, for example)
- Hypercalcemia (most commonly paraneoplastic, but also idiopathic and secondary to hyperparathyroidism)
- Diabetic ketoacidosis
- Hyperthyroidism
- Hypoadrenocorticism
- Severe anemia
- Leukemia
- FeLV and FIV
- Blood parasites
- Inflammatory diseases (a marked inflammatory leukogram)
- Urinary tract infection
- Intestinal parasites

Each of the above findings often will provide a specific diagnosis, such as hyperthyroidism, chronic renal failure or diabetic ketoacidosis, or at the very least suggest a structured diagnostic approach: elevated liver enzymes and hyperbilirubinemia, for example, suggest that the liver should be investigated by imaging and aspirates and biopsies.
Routine blood screening tests, however, should be interpreted with caution, because a number of non-specific findings that do not suggest a specific disease process are often found in unwell cats, including:

- **Stress leukogram**
  
  A mild mature neutrophilia, eosinopenia and lymphopenia are common in cats with practically any chronic disease, and do not help localize the process.

- **Mild anemia**
  
  Anemia of chronic disease (hematocrit of 20 to 25%, with minimal regeneration) is very uncommon, and diagnostically non-specific, in unwell cats.

- **Mild hypoalbuminemia**
  
  Similarly, albumin (a ‘negative acute phase protein’) is commonly mildly decreased in cats that are chronically unwell for any reason.

- **Mild to moderate hyperglobulinemia**
  
  Any chronic disease (infectious, inflammatory or neoplastic) can lead to an increase in globulins, since globulins are composed of both immunoglobulins and acute phase proteins, which both tend to be stimulated in chronic diseases. Certainly, hyperglobulinemia, in the absence of other consistent clinical findings, does not indicate a specific disease process such as FIP.

- **Mild to marked hyperglycemia**
  
  Acutely stressed cats, either due to illness or psychological stress, can have marked increases in blood glucose (and some glucose spillover into the urine) due to stress alone. Without accompanying clinical signs, this should not be automatically assumed to indicate diabetes mellitus.

- **Mild to moderate azotemia**
  
  Unwell cats commonly will become dehydrated, and mild azotemia with concentrated urine is an expected and non-specific consequence. Azotemia in the presence of poorly concentrated, on the other hand, suggests more specific disease processes such as renal failure, hyperthyroidism or hypercalcemia.

**Radiography:**

Whole cat radiographs are particularly useful in cats with weight loss to detect abnormalities not detected by blood work, such as abdominal or thoracic neoplasia, pleural effusions, or pneumonia.
Problem Cases:

Uncommonly, the above thorough and structured work-up will provide no useful clues in the inappetant cat with weight loss. In my experience, in these problem cases, four possible causes are most likely:

i. **Neoplasia**

Undiagnosed cancer is probably the most important and common cause of weight loss in cats that provide no diagnostic clues on first examination. Cancer cachexia (weight loss associated with neoplasia) is a paraneoplastic disease that can sometimes be triggered by very small neoplasms. A very thorough search for cancer is indicated in problem weight loss cats, including repeating a complete physical examination, re-examining radiographs carefully, and performing abdominal ultrasonography.

ii. **Gastrointestinal Disease**

Sometimes, gastrointestinal diseases in cats can be remarkably hidden, and can cause anorexia and weight loss without vomiting, nausea or diarrhea. Gastrointestinal diseases that I have seen cause chronic weight loss in the absence of obvious gastrointestinal signs include inflammatory bowel disease, chronic partial intestinal obstructions (such as ‘string gut’), gastrointestinal neoplasia (especially lymphosarcoma), and chronic pancreatitis. Most of these will provide useful clues with abdominal ultrasonography performed by an experienced ultrasonographer. On occasions, I have made a diagnosis with further gastrointestinal testing, including feline pancreas-specific lipase, barium series, endoscopy of the upper gastrointestinal tract, and exploratory laparotomy.

iii. **Brain Disease**

Intuitively, cats with brain disease severe enough to cause anorexia would be expected to show obvious neurologic disease such as altered mentation, seizures, stupor or blindness. Usually, this is the case, although signs of brain disease can occasionally be subtle. Rarely, however, a small lesion near the hypothalamus or midbrain has the potential to affect the appetite center, and cause anorexia in the absence of neurologic signs. A thorough neurologic examination, including a retinal examination, should be performed in all problem weight loss cats. As a diagnostic test of ‘last resort’, brain imaging (CT scan or MRI) may be warranted.

iv. **Behavioral Disorders**

Behavioral disorders are most likely in anorectic cats in which no other cause for anorexia has been found. In my experience, behavioral disturbances usually cause only transient or mild anorexia. If inappetence is severe and persistent, a severe underlying disorder such as hepatic lipidosis should be suspected.
2. Weight Loss with Normal to Increased Appetite

In contrast to weight loss with a decreased appetite, causes of weight loss with a normal to increased appetite are few. A historical finding of a good appetite in a cat with increased appetite is therefore to be greeted with relief, since the list of possible causes is short and relatively easy to investigate:

- **Hyperthyroidism**

  In my experience, hyperthyroidism is the most common cause of weight loss with an increased appetite in older cats. Usually, history and physical examination reveal many more clues to hyperthyroidism, including polydipsia/polyuria, hyperactivity, cold-seeking behavior, excessive grooming, weakness, a palpable thyroid nodule, and tachycardia (often with a heart murmur or a gallop rhythm). Bloodwork may reveal mild polycythemia and elevated liver enzymes, and urinalysis may reveal dilute urine.

  Resting total T4 is usually elevated in hyperthyroid cats, making diagnosis easy. Generally, T4 is low or low normal in cats with weight loss, so even a high normal T4 in a cat with weight loss should make the clinician suspect hyperthyroidism. Often, when T4 is repeated (a day or two or a week or two later) in weight loss with high normal T4s, the repeat T4 will be elevated, confirming a diagnosis of hyperthyroidism. Uncommonly, more specialized tests such as free T4, T3 suppression of thyroid scintigraphy will be needed to confirm the diagnosis.

- **Diabetes Mellitus**

  Like hyperthyroidism, diabetes mellitus is one of the few feline diseases that combines weight loss with polyphagia and polyuria/polydipsia. Diagnosis of diabetes is usually not a challenge, since the findings of a combination of hyperglycemia and glucosuria (and, often, ketonuria) in a cat with consistent clinical signs establish the diagnosis. Marked stress hyperglycemia and resultant glucosuria can occasionally be mistaken for diabetes: in instances when the diagnosis is at doubt, further tests such as serial testing of blood glucose to establish persistent hyperglycemia or measurement of either serum fructosamine or glycosylated hemoglobin will confirm a diagnosis of diabetes mellitus.

- **Malassimilation**

  Gastrointestinal diseases causing malassimilation (maldigestion or malabsorption) lead to inefficient utilization of nutrients, and can lead to weight loss in the face of an increased appetite. Such disease usually cause obvious gastrointestinal signs such as vomiting or diarrhea, and are often associated with hypoalbuminemia. Gastrointestinal diseases that I have seen cause weight loss despite a healthy appetite include exocrine pancreatic insufficiency, inflammatory bowel disease, intestinal lymphoma, intestinal parasitism, and intestinal microbial infections with organisms such as *Salmonella*, *Giardia*, *Cryptosporidium* and *Tritrichomonas fetus*. Indicated
diagnostic tests include trypsin-like immunoreactivity (the preferred test for EPI),
fecal flotation, fecal culture for specific fecal pathogens, direct fluorescent assay for
Giardia and Cryptosporidium, in pouch culture or PCR for Tritrichomonas,
abdominal ultrasonography and gastrointestinal endoscopy.

• Cancer Cachexia

Cancer cachexia usually causes weight loss associated with a decreased appetite.
Uncommonly, however, cancer can lead to an efficient utilization of nutrients and
weight loss despite a good appetite. Once more common disorders such as
hyperthyroidism and diabetes have been ruled out, a thorough search for cancer is
indicated in thin cats with good appetites.

• Changes in Management Practice

Although more common in cats than dogs, occasionally major changes in owner
management practice (especially, changes in diet or exercise) can lead to unexpected
weight loss. Owners should be carefully questioned for major changes in
management of their cats: for example, surrounding an older cat with new and active
playmates, moving indoor cats outdoors (especially in winter), restricting food intake,
or switching to a more energy-restricted diet.

Thin cats with increased appetites are typically very rewarding to investigate because, with the
uncommon exception of some cancers, most causative diseases are very treatable.

3. Inability to Eat Despite a Good Appetite

Occasionally, cats with weight loss have decreased food intake despite a ravenous desire to eat.
Affected cats have a disease that does not affect their appetite, but impairs their ability to
prehend or swallow food. Such disorders are usually obvious based on careful history-taking
and physical examination. Often it helps to watch the cat attempt to eat food. Difficulties with
food prehension or swallowing due to oral, jaw, pharyngeal or esophageal pain or dysfunction
are usually obvious. Often, a definitive diagnosis can then be made simply by a thorough oral
(sedation or light anesthesia is often needed in painful or fractious cats) or neuromuscular
examination. Disorders that can restrict a cat’s ability to prehend and swallow food, despite the
persistence of hunger, include:

• Oral pain
  – Severe dental or periodontal disease, including tooth root abscessation
  – Gingivitis or stomatitis
  – Mandibular or maxillary fractures
  – Oral ulceration or eosinophilic granuloma complex
  – Oral neoplasia
• **Pharyngeal or esophageal dysphagia**
  - Pharyngeal paralysis
  - Megaesophagus
  - Esophagitis
  - Esophageal strictures
  - Oropharyngeal or esophageal foreign bodies or tumors

• **Masticatory Muscle Dysfunction**
  - Masticatory muscle myositis
  - Polymyositis
  - Trigeminal nerve paralysis

• **Temporomandibular disorders**
  - Temporomandibular joint luxation, fracture or arthritis
  - Mandibular tumors

• **Neuromuscular disorders**
  - Peripheral neuropathies
  - Neuromuscular disorders such as botulism, tick paralysis and tetanus
  - Myopathies

**Supporting the Cat with Weight Loss**

The most effective means of treating a cat with weight loss is to diagnose and treat the underlying disease that is causing the weight loss, and this should always be a high priority. However, other supportive measures that can be considered include:

1. **Hand Feeding**

   Cats can sometimes be tempted to eat with gentle stroking and hand feeding. Hand feeding should never be overdone to the point of force feeding. Cats vigorously resist force feeding, and often develop lifelong aversions to food that they were forcibly fed.

2. **Palatable Foods**

   Sometimes, trying more palatable food options, such as very mildly warming food (but only to body temperature), trying canned food instead of dry food, trying fishy foods, or supplementing with tempting flavors (avoid garlic, which can cause hemolytic anemia) can get a cat to eat. Cats with a poor sense of smell (cats with nasal disease, for example) may respond favorably to more smelly foods.
3. Appetite Stimulants

Medical appetite stimulants include diazepam (Valium) and cyproheptadine (Periactin). Such drugs are often at least temporarily effective, but should be used with caution, especially long-term, since nasty drug side effects such as hepatopathies are sometimes reported.

Unfortunately, less intensive treatments such as hand feeding, palatable foods and medical appetite stimulants are usually only highly effective in cats with either behavioral problems or ‘mild’ diseases that should be well on the road to recovery. I usually reserve relying on such treatments to cats with problems in which I think they should be well enough to eat, but for some reason appetite is still down. If inappetance persists, either a serious illness is being missed, or more aggressive feeding methods are needed.

4. Nutritional Support

Aggressive nutritional support is indicated in cats that have lost more than 5% of their body weight acutely, more than 10% of their weight chronically, or that have not eaten for more than 3 to 5 days. Many nutritional supportive modalities are available, but ones commonly used in our hospital include:

- Nasoesophageal tube feeding
- Esophagostomy tube feeding
- Gastrostomy tube feeding (usually placed via endoscope)
- Total or parenteral intravenous nutrition

While such supportive modalities are often temporary (2 to 5 days), on occasion esophagostomy or gastrostomy tubes can be used to maintain thin cats for weeks or even months.