Feline chronic pancreatitis- what is the significance?

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Chronic pancreatitis (CP) in cats is an underrecognized but potentially significant clinical entity that has garnered increasing attention in recent years. Unlike the acute form, which often prompts immediate clinical concern due to overt systemic illness, CP typically presents more insidiously and is frequently identified incidentally or during evaluation for comorbid conditions such as inflammatory bowel disease (IBD), cholangitis, or diabetes mellitus. The clinical significance of CP lies in its potential to contribute to progressive organ dysfunction, chronic pain, and long-term metabolic consequences.

Clinical Significance of Chronic Pancreatitis

The true prevalence of CP in cats is difficult to establish due to nonspecific clinical signs and limited routine use of confirmatory diagnostics. However, necropsy and histopathology studies suggest that subclinical CP is common, particularly in older cats. A retrospective study indicated that histologic evidence of pancreatic inflammation was present in up to 45% of cats with nonspecific gastrointestinal signs, underscoring its potential clinical importance.

Chronic pancreatitis in cats is more than just a histological curiosity. Persistent pancreatic inflammation may lead to progressive fibrosis, atrophy, and eventual exocrine pancreatic insufficiency (EPI) and/or endocrine dysfunction (e.g., diabetes mellitus). Additionally, low-grade but chronic abdominal pain and altered appetite may reduce quality of life. Importantly, CP in cats frequently coexists with hepatobiliary disease and IBD, commonly referred to as feline triaditis. In this context, CP can both exacerbate and be exacerbated by disease in adjacent organs.

Aetiopathogenesis

The pathogenesis of feline CP is not fully understood. Contributing factors may include:

- **Previous episodes of acute pancreatitis**
- **Autoimmune mechanisms** (suggested but unproven in cats)
- **Chronic inflammatory or infectious conditions** affecting the gastrointestinal or hepatobiliary systems
- **Nutritional and metabolic disorders**
- **Ductal obstruction** or anatomic abnormalities

In many cases, CP is idiopathic. Regardless of cause, histopathologically it is characterized by lymphoplasmacytic inflammation, fibrosis, and acinar atrophy.

Clinical Presentation

Chronic pancreatitis rarely presents with dramatic clinical signs. Instead, signs are often vague, fluctuating, and easily attributed to other causes. Common presenting complaints include:

- Chronic or intermittent anorexia

- Lethargy
- Weight loss
- Vomiting (intermittent)
- Diarrhea (particularly if concurrent IBD or EPI exists)

Abdominal pain is often subtle or not detected in cats. In advanced cases, signs of EPI or diabetes mellitus may become evident. Because of the overlap with other gastrointestinal and hepatic diseases, suspicion for CP requires a broad differential and a high index of clinical suspicion.

Diagnosis

A definitive diagnosis of CP is challenging and often relies on a combination of clinical, laboratory, and imaging findings. Histopathology remains the gold standard but is seldom performed solely for the purposes of biopsying the pancreas.

1. **Laboratory Tests**
    - **Serum feline pancreas-specific lipase (fPLI)**: The utility of fPLI in CP is less clear than in acute disease. Mild to moderate elevations may be seen, but normal values do not exclude CP. Serial measurements may be more informative than a single test.
    - **Serum amylase and lipase**: These are not considered reliable in cats and are generally not used.
    - **Total T4, cobalamin, folate**: Should be evaluated to assess for comorbid conditions such as hyperthyroidism, small intestinal disease, or EPI.
    - **Serum trypsin-like immunoreactivity (TLI)**: May be reduced in advanced CP due to exocrine atrophy. The true incidence of EPI in cats is not known, but is likely higher than currently accepted, due to lack of testing in susceptible populations.
2. **Diagnostic Imaging**
    - **Ultrasound**: May reveal an irregular, hypoechoic or heterogenous pancreas, surrounding fat inflammation, and ductal dilation. However, findings are often subtle or absent, particularly in early disease. The sensitivity is operator-dependent and improves with high-frequency transducers and experienced sonographers.
    - **CT or MRI**: Rarely used in routine practice but may provide superior imaging in equivocal cases.
3. **Histopathology**
    - Obtaining a pancreatic biopsy in cats is invasive and carries risk. Biopsy is generally reserved for cases undergoing exploratory laparotomy for other reasons (e.g., mass removal, liver biopsy, full-thickness intestinal biopsy). Biopsy may confirm lymphoplasmacytic inflammation, fibrosis, or acinar atrophy.
4. **Indirect Evidence**

- Identification of concurrent diseases (IBD, cholangitis) contribute to a presumptive diagnosis.
- Brittle or unstable diabetic patients that seem to have episodes when insulin resistance is present, along with inappetence should be considered possible cases.

Management of Chronic Pancreatitis

Treatment of CP in cats is multifaceted and generally symptomatic, aiming to reduce inflammation, support pancreatic function, and manage complications. No curative therapies currently exist.

1. **Dietary Management**
    - Unlike dogs, where low-fat diets are standard in pancreatitis management, cats do not appear to benefit from fat restriction unless concurrent conditions (e.g., hepatic lipidosis) warrant it.
    - A highly digestible, moderate-fat, and moderate-protein diet is commonly used.
    - Hydrolysed or novel protein diets may be considered if concurrent food-responsive enteropathy is suspected.
    - Feeding tubes (e.g., esophagostomy) may be required in cats with chronic inappetence or those at risk of hepatic lipidosis.
2. **Analgesia**
    - Chronic abdominal pain, although often underappreciated in cats, can negatively impact welfare.
    - Buprenorphine is a preferred opioid due to its safety and efficacy, and transmucosal formulations may be useful for owners to use during potential flare ups.
    - Gabapentin, at 5–10 mg/kg BID, may provide adjunctive benefit for visceral or neuropathic pain and may be beneficial longer term.
3. **Anti-inflammatory and Immunomodulatory Therapies**
    - Corticosteroids (e.g., prednisolone at 1–2 mg/kg/day tapering to minimal effective dosage) may be considered if autoimmune mechanisms are suspected or if concurrent IBD is present, however care should be taken to avoid insulin resistance.
    - Anecdotal reports support the use of cyclosporine in clinically affected cats that are unable to tolerate prednisolone may be effective in reducing clinical signs.
    - It is not known whether use of immunomodulatory medications will prevent or prolong onset of metabolic or functional consequences of CP.
4. **Antiemetics and Appetite Stimulants**
    - Maropitant and ondansetron may be used as needed if nausea or vomiting is present.
    - Mirtazapine (oral or transdermal) may be employed to support appetite.

5. **Pancreatic Enzyme Supplementation**
    - In cats with suspected or confirmed EPI secondary to CP, pancreatic enzyme supplements (powdered porcine extracts) are indicated. These should be given with food, and response monitored clinically.
    - In children, reduced recurrence of CP after the initial bout has been documented with use of pancreatic enzymes. It is unclear whether this would be the case in cats, but is an interesting concept.
6. **Cobalamin Supplementation**
    - Oral or parenteral formulations are considered equally effective.
7. **Management of Comorbidities**
    - **Diabetes mellitus**: Insulin therapy (e.g., glargine or lente) is required; monitoring is complicated by overlapping signs with pancreatitis.
    - **IBD**: May necessitate immunosuppressive therapy and dietary management.
    - **Cholangitis**: Ursodeoxycholic acid and SAMe may provide hepatoprotective effects.
8. **Potential Role of Emerging Therapies**
    - Anti-inflammatory agents such as fuzapladib (Panoquell-CA1), currently approved for canine AP, are unlikely to have applications for feline CP as the agent predominantly acts against neutrophils.
    - Probiotic and microbiome-modulating therapies remain speculative but are under investigation.

Monitoring and Prognosis

Chronic pancreatitis in cats is usually managed on an outpatient basis, with periodic reassessment of clinical signs, weight, and laboratory values (e.g., fPLI, cobalamin, glucose). Prognosis is variable. Some cats maintain stable or slowly progressive disease for years with minimal intervention, while others develop significant complications such as diabetes mellitus or EPI.

Owners should be educated about the chronic, often waxing-and-waning nature of the disease and the need for long-term management. Quality of life assessments are particularly important in guiding therapy adjustments.

Conclusion

Chronic pancreatitis in cats is a clinically important condition that can contribute to chronic gastrointestinal signs, pain, and metabolic disease. While diagnosis can be challenging due to nonspecific signs and limited antemortem confirmatory tools, a combination of clinical suspicion, imaging, and targeted laboratory tests can support a presumptive diagnosis. Management is supportive and tailored to the individual, focusing on diet, pain control, anti-inflammatory therapy, and management of comorbidities. Continued research into the pathogenesis and treatment of feline CP is needed.