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Case Report

Feline Hepatic Lipidosis (Fatty Liver Syndrome in Cats): A Case Report

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Abstract

FHL is also called fatty liver syndrome is unique and most common occur in obesity cat especially after sudden reduction in food intake. Or stress cat such as sudden change in diet. move to a new house, also found in young, toy-breed puppies. Or anorexia puppies after development of hypoglycemia. Or systemic illness which make cat anorexia such as common causes include pancreatitis, acute, chronic kidney disease, Cancer, GIT disease, diabetes mellitus, medication, heart failure. Cat show complete anorexia, vomiting, diarrhea, weight loss and jaundice, by physical examination. Ultrasound. Hepatic cytology shows of fat globules in the liver cells. This cat will recover to normal function after the long treatment which include feeding tube, fluid therapy in case dehydration, giving antiemetic drugs and symptomatic treatment.

Keywords: *Hepatic Lipidosis; Fatty Liver Syndrome in Cat*

Introduction

Feline hepatic lipidosis (fatty liver disease): It is one of the most common form of hepatic disorders of cats which characterized by accumulation of fat in hepatocyte resulting in hepatic failure and associated with a very high mortality rate. Most often reported in middle-aged cats (median age, 7 years). Females seem to be overrepresented. Rarely encountered in young dogs, especially toy breeds. However, prognosis of cats with hepatic lipidosis varies depend on stage of disorder most cases with high recovery in early stage of disorder, due to early use of tube feeding which help in complete recovery of many cats. Also, high mortality rate in late stage. High incidence in North America, Great Britain, Japan and Western Europe; associated with the prevalence of obesity in cats from these regions [1-10].

Case Report

An 8 years old cat was presented with complete anorexia with a duration of 6 days, depression, jaundice, icterus, weight loss, and muscle wasting vomiting and diarrhea. Neurological signs (muscle wasting, depression, ataxia, seizures), ptyalism is common in cat.

Figure 1A: *Cat with noticeable jaundice from late-stage hepatic lipidosis. Note the ears and eye-membrane.*

Figure 1B: *Icterus of the hard and soft palate in a cat with hepatic lipidosis.*

Diagnosis

Diagnosis is depending on clinical signs, patient presentation, clinical examination, a history including diet and medications, CBC, serum biochemical profile and hepatic ultrasound. The diagnosis is confirmed by (Hepatic cytology) which show of fat globules in the liver cells. It can be done by needle aspiration. Confirmation is important because inflammatory or neoplastic hepatic disease can have a similar presentation.

CBC: Show non regenerative anemia, leukocytosis, thrombocytopenia, neutrophilia left shift.

Serum biochemical profile: Increase (ALP), hyperbilirubinemia is common. Electrolyte abnormalities, hyperglycemia due to hepatic failure (insulin resistance).

Urinalysis: Bilirubinuria is common.

Hepatic cytology most cost-effective, small sample size accuracy for many liver diseases often adequate for FHL. Expect abnormal retention of lipids in > 80% of the hepatocytes.

Can rule out some neoplastic and infectious causes of hepatopathy.

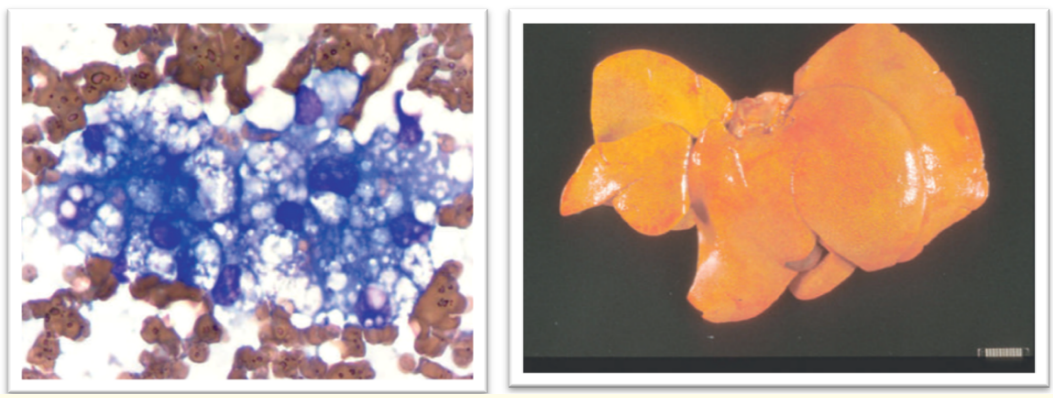

Figure 2: *Hepatic lipidosis. Photomicrograph (100× magnification) for a cat with hepatic lipidosis shows microvesicular steatosis. Gross image of severe hepatic lipidosis shows enlarged, yellow liver (also had a greasy feel on palpation).*

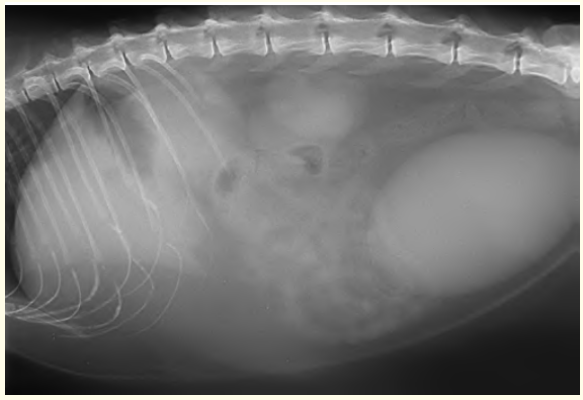

Figure 3: *Lateral abdominal radiograph of a domestic short-haired cat with hepatic lipidosis secondary to prolonged fasting because of a diet change.*

Treatment

Treatment of FHL is (feeding tube) is the treatment of choice due to provide an accurate measure of the pet's caloric intake.

Fluid therapy is important, especially in hypovolemic and hypotensive patients. Balanced isotonic crystalloid infusion (0.9% NaCl or Plasmalyte-A) is recommended. Avoid lactated Ringer's solution because it contains lactate as a buffer, which requires hepatic metabolism and may worsen hyperlactatemia. Start with small-volume resuscitation (5 - 10 mL/kg IV bolus given over 30 minutes) in hypovolemic cats with serial assessment of hydration and perfusion electrolyte abnormalities should be corrected before starting nutritional therapy. Antiemetic's often indicated. The following can be used alone or in combination.

Drug	Dosage
Chlorpromazine	0.5 mg/kg IV or IM q8h
Prochlorperazine	0.1 mg/kg IM q6h
Metoclopramide	1 - 2 mg/kg IV CRI over 24 hours
Ondansetron	0.1 - 0.3 mg/kg IV (slow push) q6-12h
Dolasetron	0.6 mg/kg PO, SC, IV q12-24h

Maintain tube feeding until appetite normalizes.

Nutrition/diet: Ideally, initiate a nutrition plan the day of admission as soon as severe electrolyte abnormalities and hypo perfusion are addressed. If no clinical signs of HE, provide a diet that is high in protein (30% - 40% of the metabolizable energy [ME]), moderate in lipids (approximately 50% of the ME) and reduced in carbohydrates (approximately 20% of the ME). Most feline veterinary recovery diets meet these requirements. Providing a diet with lower protein content (25% of the ME) was shown to attenuate but not ameliorate HL.

Figure 4: *Nasoesophageal tube in place in a cat being fed a liquid enteral diet.*

Discussion

FHL is unique disease in obesity cat, usually come with anorexia and weight loss, vomiting. diarrhea and jaundice. The hepatic cytology is differential diagnosis of hepatic diseases which include hepatitis, neoplastic hepatic diseases.

85% of cases will recovery, feeding tube is the best choice of treatment.

Conclusion

To achieve successful treatment for this case should educate the owner to be patient and give him instruction to follow it to help you. due to treatment may require weeks or months by using feeding tube, high percentage of cases can have a full recovery after successful treatment.

Disorders associated with secondary feline hepatic lipidosis syndrome

Other liver disorders	Small intestinal diseases
Cholangiohepatitis	Eosinophilic enteritis
Choledochitis	Lymphocytic /plasmacytic enteritis
Extrahepatic bile duct obstruction	Chronic bowel obstruction
Chronic suppurative hepatitis	*Salmonella enteritis*
Portosystemic vascular anomaly	
Bile duct adenocarcinoma	**Renal disorders**
Hepatic lymph sarcoma	Chronic FUS
Neoplasia (non-hepatic):	Pyelonephritis
Urinary bladder	Chronic interstitial nephritis
Transitional cell carcinoma	Hyperthyroidism
Metastatic carcinoma	Severe Anemia
Intestinal adenocarcinoma	Pyometra
Intestinal lymph sarcoma	Cardiomyopathy
Pancreatitis	Central neurologic disease
Diabetes mellitus	

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