Ultrasound and the post-hepatic icteric cat.

When faced with an icteric cat, the clinical sonographer’s task is to rule out intra-hepatic and post-hepatic causes of jaundice that may require biopsy, aspirate, or surgical intervention.

The following images demonstrate different case study examples of post-hepatic pathology in clinically icteric cats.

**Case 1: Katie**

**HISTORY:** A 10-year-old female spayed domestic longhair fe-line presented for progressive anorexia, weight loss and vomiting over the previous 10 days.

**PHYSICAL EXAM:** Moderate icterus, confirmed weight loss, poor body score. The CBC was normal. Blood chemistry analysis: moderate elevations in BUN, ALT, total bilirubin, mild AST elevation, and a subnormal Tbil value. Urinalysis: pH 6.5, USG 1.047, protein 2+, and bilirubin 3+, moderate bilirubin crystals.

**CLINICAL DIFFERENTIAL DIAGNOSIS:** Hepatic lipidosis, cholangitis, pancreatitis, hepatic or post hepatic neoplasia, biliary calculi/plug.

**SONOGRAPHIC INTERPRETATION:** Image 2: Abrupt termination of a markedly dilated common bile duct. A homogeneous soft tissue mass is present. Lack of narrowing or tapering of the common bile duct prior to the obstruction supports an intraluminal location.

**IMAGE 1**

**IMAGE 2**

**IMAGE 3**

**COMMENTS:** The patient thrived post surgery.

**Case 2: Sergio**

**HISTORY:** An 11-year-old male neutered Balinese cat presented for anorexia, lethargy and jaundice seven days post Biliroth I surgery for resection of a gastro-duodenal granuloma.

**PHYSICAL EXAM:** Dehydration, mild icterus, and focal cranial abdominal pain. The CBC and blood chemistry analysis showed moderate leukocytosis with a left shift, moderate total bilirubin and ALT elevations with slight elevations in SAP and cholesterol. A recent urinalysis had not been performed.

**CLINICAL DIFFERENTIAL DIAGNOSIS:** Post operative complications due to intestinal dehiscence, post-hepatic obstruction, pancreatitis, GI ulceration, neoplasia.

**SONOGRAPHIC INTERPRETATION:** Image 4: demonstrates generalized pancreatic enlargement with a markedly hypoechoic parenchyma. The bordering mesenteric and omental fat are markedly echogenic:

**IMAGE 4**

**IMAGE 5**

**IMAGE 6**

**IMAGE 7**

**Which one is the gall bladder? A 6-year-old male neutered domestic short-haired cat presented for progressive anorexia with moderate elevations in SAP, ALT and total bilirubin. Note a dilated viscous ventral oesophagus on the screen to the gall bladder with suspended debris. This was surgically removed and found to be a mucocoele derived from a second gall bladder remnant. The patient thrived post surgery.

**Case 3: Missy**

**HISTORY:** A 14-year-old female spayed DSH presented for lethargy and vomiting.

**PHYSICAL EXAM:** Icterus, dehydration and emaciation with thickened bowel loops and irregularly shaped kidneys on palpation. The CBC revealed only elevated absolute monocyte count while blood chemistry results revealed a marked elevation in ALT, lipase and total bilirubin, moderate azotemia, hyperglycemia and subnormal Tbil. Urinalysis revealed 3+ bilirubinuria, spec gravity 1.032, cocci bacteria.

**CLINICAL DIFFERENTIAL DIAGNOSIS:** Cholangitis/primary hepatic disease, pancreatitis with extrahepatic biliary obstruction, neoplasia, primary bile duct obstruction, IBD, infectious disease.

**SONOGRAPHIC INTERPRETATION:** Image 8: An irregularly shaped, discretely margined, hypoechoic mass with evidence of septation is visible within the pancreas.

**OUTCOME:** The patient was euthanized due to poor response to therapy.

These case studies represent an exemplary case format to be found in the upcoming textbook, “Clinical Approach to Veterinary Sonographic Pathology; Small Animal and Exotics,” Lindquist, Yanik and Frank, offered by SonoPath.com.

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