

**DATE PRESENTING CLINICAL SIGNS**

12/15/22

History of elevated GGT. Ultrasound at veterinarian when P was still at a rescue group showed a thickened gallbladder with a large amount of hyperechoic material in it, was performed on 10/19/22. GGT at this exam was 56. Was seen here on nov 1 as a new patient, and the GGT had elevated to 65 at that point, and was started on actigall 30mg. BW was rechecked on 12/10 and the GGT had continued to elevated to 96 despite the liver diet and actigal. PE is otherwise WNL however P is starting to not want to eat as much.

**PATIENT**

Chico Donnelly

**SPECIES**

Canine

Current Medications: Actigall 30mg caps - 1 q 24h - started 11/10, L-thyroxine 0.1mg tabs - 1 q 12h - started 11/10, Rx Hepato Support capsules - 1 q 24h - started 11/10

Lab Results: GGT: 10/22: 56, 11/22: 65, 12/22: 96

Date of Previous IntraPet Ultrasound: No previous.

**BREED**

Chihuahua

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Neutered Male

**Urinary System**

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**AGE**

10/26/09

Prostate is normal in size, echotexture and echogenicity for a neutered male.

**WEIGHT**

6.28 Pounds

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The right kidney measures 3.61 cm. The left kidney measures 3.63 cm.

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**Adrenal Glands**

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 1.65 cm long x 0.64 cm at the cranial pole and 0.61 cm at the caudal pole. The left adrenal gland measures 1.66 cm long x 0.60 cm at the cranial pole and 0.60 cm at the caudal pole.

**IMAGING PERFORMED BY**

Rachel Brillhart RDMS

**Spleen**

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**HOSPITAL NAME**

Healing Paws VWC

**REFERRING VET**

Dr. Preston

**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

**INVOICE**

43485

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

### ***Gastrointestinal***

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

## **PRIMARY FINDINGS**

- **Bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- **Emerging mucocele** – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

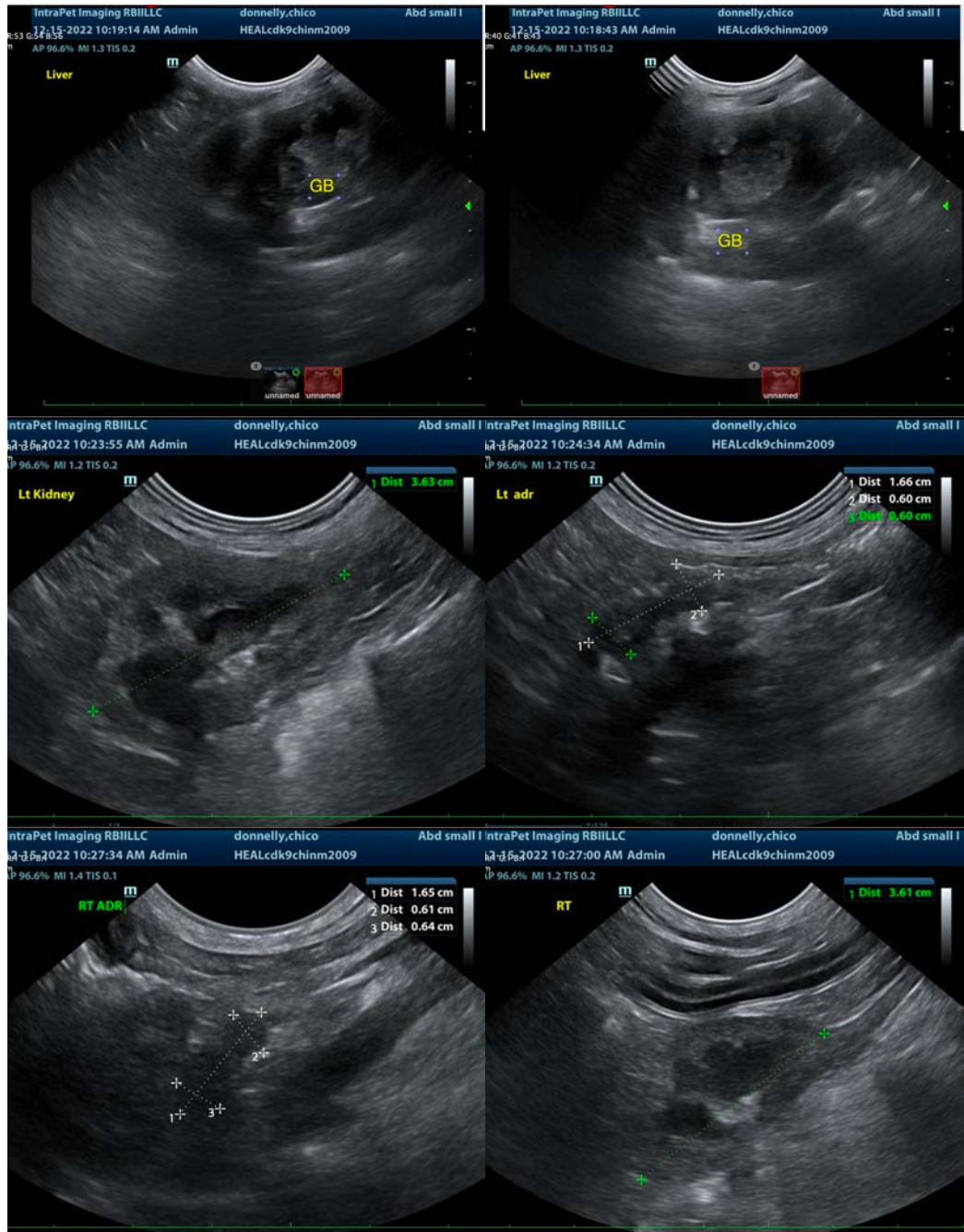
## **SECONDARY FINDINGS**

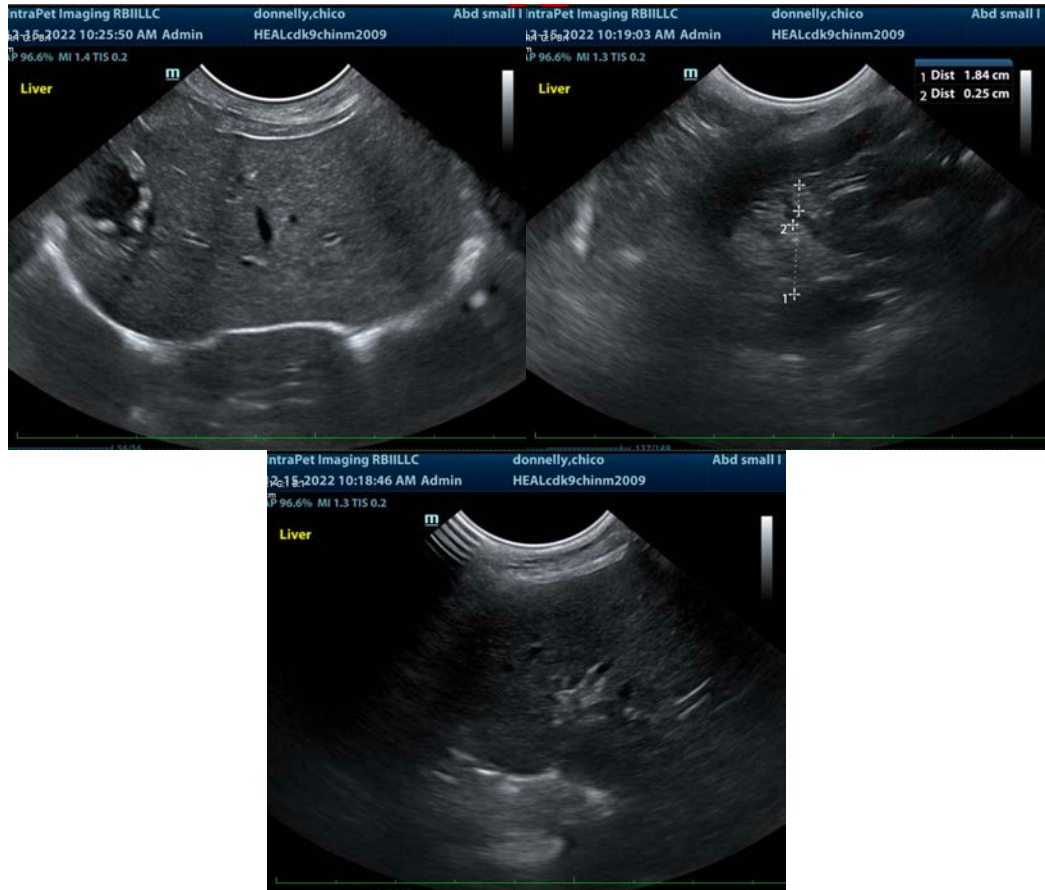
- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.
- Age related kidney changes

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the gallbladder changes observed in these images, the progressively increasing GGT is likely secondary to biliary disease. If clinical signs support biliary disease in the form of decreased appetite, nausea, and/or especially cranial abdominal pain, etc., and exploratory laparotomy for planned cholecystectomy may be indicated. However, if a relatively asymptomatic dog, monitoring at this stage is a reasonable conservative approach. Incidentally, the reported liver diet is likely not necessary with gallbladder disease alone. If there is (unknown to me) historical decreased liver function (i.e., increased bile acids, etc.), then of course the liver diet would be indicated.

Additionally, if clinical signs of hyperadrenocorticism are present including PU/PD, polyphagia, etc., testing for hyperadrenocorticism could also be evaluated as a possible contributing factor to the increased GGT. However, without supporting clinical signs, treatment, and therefore further evaluation of hyperadrenocorticism is not indicated at this stage, but could be pursued if clinical signs develop in the future.





The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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