



PATIENT

Lily Seid

PRESENTING CLINICAL SIGNS

SPECIES

Canine

GB continues to be enlarged, CBD obstruction? No obvious mass, stone, or pancreatitis noted. ALT 590 (was 470) ALKP 1585 (was 1742) Tbili 3.8 (was 4.4) BUN 32 (was 22) Neuts 14K (was 13K) Improved seen in some values but ALT increasing

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED

Chihuahua

Urinary System

The urinary bladder is not fully distended. It is therefore difficult to evaluate wall thickness. The wall is mildly to moderately irregular at the apex. No abnormalities are present with the trigone or proximal urethra. A trivial amount of free floating echogenic sediment is noted. Cystoliths, are not observed. A sessile, soft tissue, mass effect is present along the ventral wall, (region near the junction of the ventral wall and apex). The structure originates from the mucosa. It measures 5.35 mm in length at its base and 5.9 mm in height, and is avascular (Doppler). It has a frond-like appearance and is most consistent with a polyp.

SEX

Spayed Female

AGE

9 Years

Kidneys

The **left** kidney measures 3.69 cm. The capsule is smooth. The cortex is mildly hyperechoic. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. Mild mineralization is noted, without signs of nephroliths. Mild pyelectasia is present (longitudinal 1.2 mm; transverse 2.6 mm). An accumulation of pelvic fat is noted. Blood flow is within normal limits. The surrounding mesentery is very mildly hyperechoic.

WEIGHT

5 Pounds

The **right** kidney measures 3.61 cm. The capsule is smooth. The cortex is mildly hyperechoic. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. Mild mineralization is noted, without signs of nephroliths. Moderate pyelectasia is present (longitudinal 1.2 mm; transverse 4.0 mm). An accumulation of pelvic fat is noted. Blood flow is within normal limits. The surrounding mesentery is mildly hyperechoic.

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

Aortic bifurcation/trifurcation

No abnormalities observed.

IMAGING BY

Loetitia Saint-Jacques,
LVT

Adrenal Glands

The **left** adrenal gland measures 0.52 cm at the cranial pole, 0.39 cm at the caudal pole. The cranial pole is mildly rounded, and "plump", however, a mass or nodule is not observed. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

HOSPITAL NAME

VCA Lakeside AH

The **right** adrenal gland 0.42 cm at the cranial pole, 0.36 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

REFERRING VET

Dr.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. Perivascular cuffing is noted surrounding a blood vessel at the head of the spleen, which is consistent with a myelolipoma. The latter is not clinically significant. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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Lily Seid **Liver**

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous, but coarse/granular. It is within normal limits in echogenicity. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels.

SPECIES

Canine

The gallbladder (GB) is moderately distended with a moderate amount of free floating and gravity dependent and inspissated echogenic material (sludge). The inspissated material has formed nodules that are adhered to the intramural wall. Strings of mucus arising from the wall and attaching to the inspissated bile are also observed. The GB wall is within normal limits in thickness and echogenicity. A scant amount of free fluid surrounds the GB. Sludge fills the cystic duct, which is dilated at 0.63 cm. The common bile duct is also dilated at 0.69 cm. The parenchyma surrounding the GB and cystic duct is hyperechoic. An obvious obstruction is not appreciated.

BREED

Chihuahua

Lily demonstrated signs of pain with pressure of the ultrasound probe in the region of the GB and bile duct as per the sonographer.

SEX

Spayed Female

Gastrointestinal

A large amount of gas is present in the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. However, the submucosa and muscularis are more prominent than usual and fogging of the muscularis is present. The mesentery surrounding the stomach is severely hyperechoic. Peristalsis is mildly decreased, i.e., a "to and fro" motion is noted.

AGE

9 Years

WEIGHT

5 Pounds

Gas is present within the lumen of the duodenum.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Ingesta is present within the small intestines.

INTERPRETED BY

Lisa Carioto, DVM,
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ACVIM

Jejunum: stippling of the mucosa is present

The colonic wall is not thickened and mural detail is considered normal. Soft stools are present within the colon.

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Loetitia Saint-Jacques,
LVT

Pancreas

A proper evaluation of the pancreas is not possible due to the large amount of gas in the surrounding gastrointestinal tract. The mesentery in the cranial left quadrant is hyperechoic, but appears to be associated with biliary tract.

Other

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Lymph nodes

No abnormalities are observed.

Abdominal effusion

A scant amount of anechoic fluid is visualized surrounding the right kidney, as well as between loops of jejunum (mid to caudal abdomen).

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Mesentery

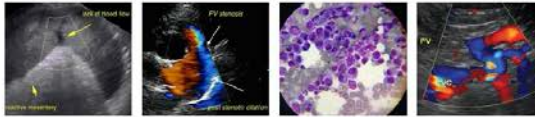
The mesentery in the left cranial quadrant is hyperechoic.

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Heart

A brief video clip of the heart was submitted. Pericardial and pleural effusion are not identified. There is no evidence of a mass in any of the cardiac chambers, including the right auricle. No obvious abnormalities with contractility or chamber size (measurements not performed).

SPECIES

Canine

ULTRASONOGRAPHIC FINDINGS

BREED

Chihuahua

- **Gallbladder (GB):** A mucocoele is suspected, despite the absence of the classical “kiwi” shape. A possible rent is suspected based on the small amount of effusion surrounding the GB, and the severe hyperechogenicity surrounding the GB. Scant amount of free fluid in the region of the right kidney and between the small intestines is also observed, but may be due to inflammation, increased permeability, rather than bile peritonitis as Lily appears bright and alert, albeit painful. *Cholecystitis* is likely, as is a suppurative component.

SEX

Spayed Female

- **Mesentery:** Diffusely hyperechoic **mesentery**, consistent with active inflammation.

AGE

9 Years

- **Kidneys:** Age-related degenerative changes observed. Pyelonephritis cannot be excluded despite the absence of classical sonographic signs.

WEIGHT

5 Pounds

- **Gastrointestinal:** A *mild ileus* of the stomach is present, as well as signs of *gastritis*. Inflammatory changes involving the small intestines are also observed; a chronic gastroenteropathy, such as *inflammatory bowel disease*, cannot be excluded. There are no obvious signs of inflammation of the colon, however, soft stools are present in the lumen.

- **Liver:** A reactive hepatopathy is suspected. However, chronic hepatitis, cholangitis/cholangiohepatitis, and cholestasis must also be considered based on the blood work results.

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- **Urinary bladder:** high index of suspicion of a polyp located along ventral wall and possible mild polypoid cystitis, i.e. mild to moderate irregularity of mucosa at apex.

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LVT

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested/recommended

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Emergency surgery to perform a cholecystectomy is strongly recommended.

If this is not possible for financial reasons, hospitalization, and medical therapy may be considered for 24-48 hours

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Intravenous fluids

Intravenous antibiotics with coverage of aerobic and anaerobic bacteria, such as a combination of ampicillin or ticarcillin with enrofloxacin.

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Lily Seid Analgesia, for example, CRIs consisting of opioids (fentanyl), with lidocaine and ketamine. Oral therapy at home should consist of methadone two to three times a day and gabapentin three times a day.

SPECIES

Canine Vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses), due to cholestasis
Monitoring axillary temperature at home

BREED

Chihuahua Evaluate abdominal circumference to ensure ascites (biliary peritonitis) not developing.
Ursodeoxycholic acid should **NOT** be administered.

SEX

Spayed Female A low fat diet that is appetizing may be used to stimulate Lily to eat
Small frequent meals
Anti-emetics, may be required, including metoclopramide

AGE

9 Years Other suggestions to consider
Fasting triglycerides are suggested to exclude hypertriglyceridemia as a predisposing cause of gallbladder sludge.

WEIGHT

5 Pounds Diet trial (veterinary prescription low fat, hypoallergenic, hydrolyzed or novel protein) due to history of pancreatitis, for example, Purina HA, is suggested if hypertriglyceridemia is identified.
Small, frequent meals

INTERPRETED BY

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Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor (0.7-1 mg/kg PO q12h)

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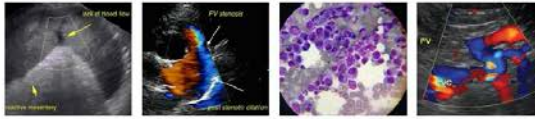
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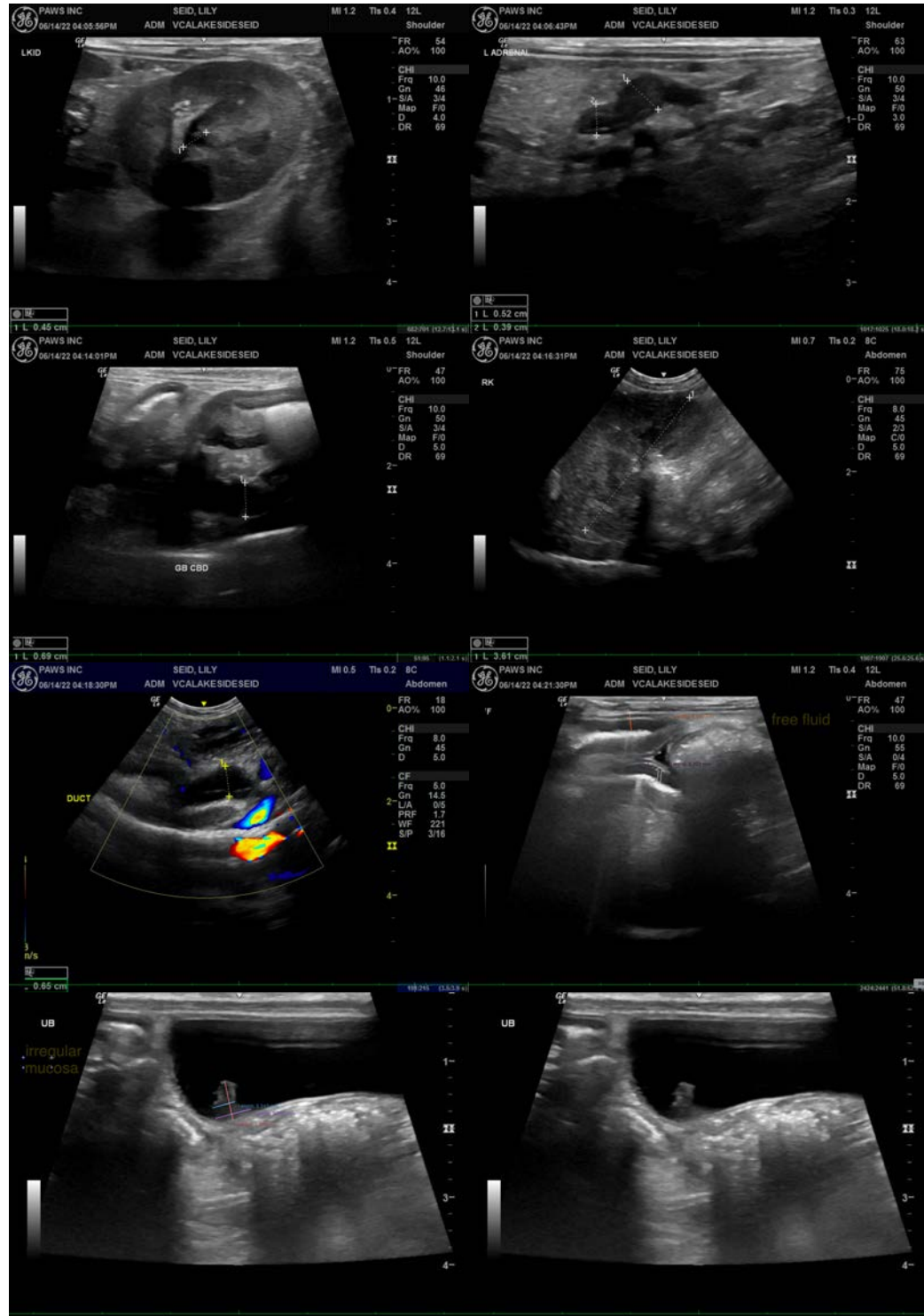
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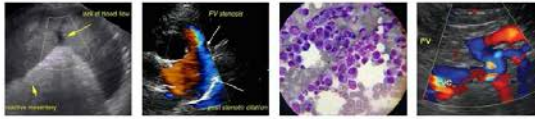
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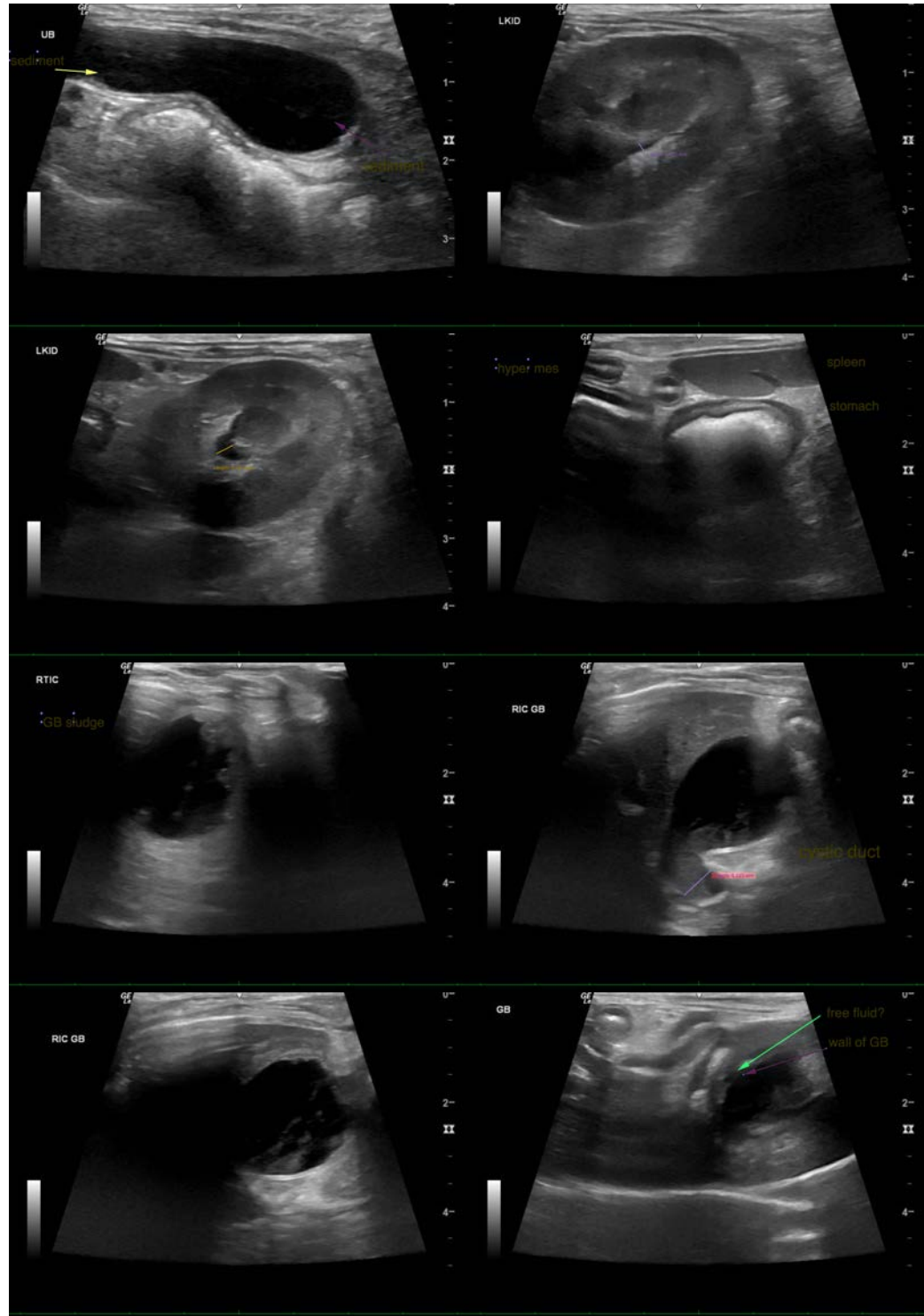
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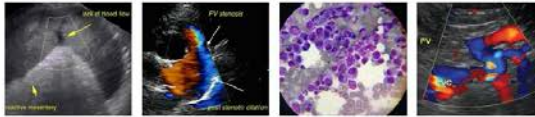
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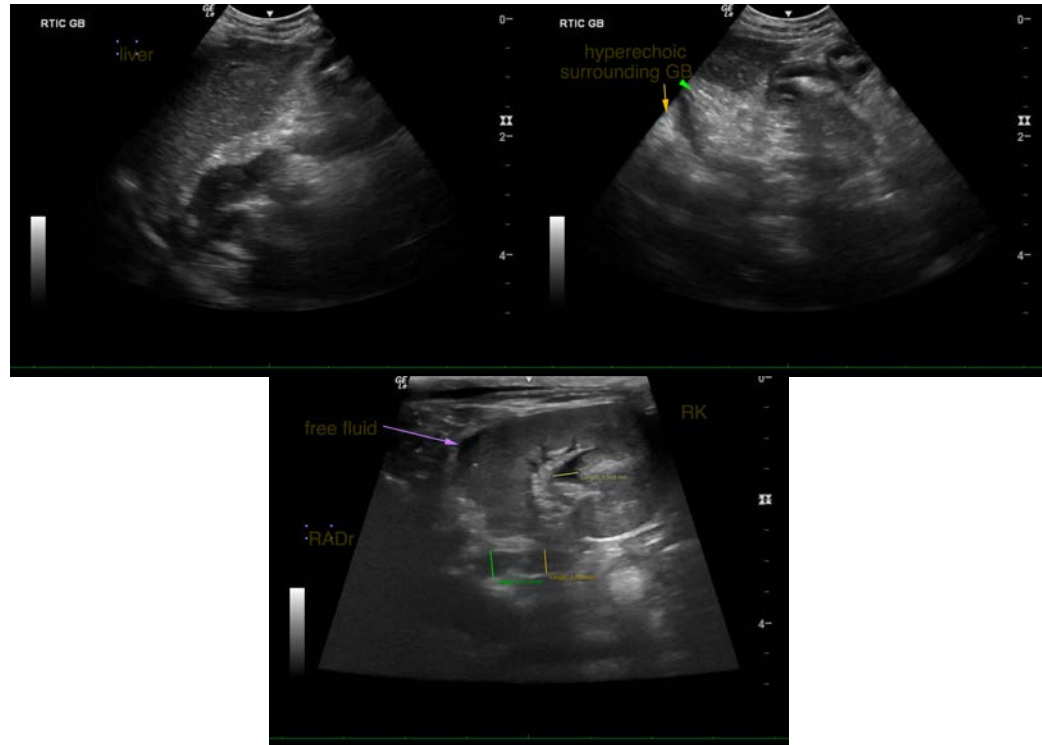
Spayed Female

AGE

9 Years

WEIGHT

5 Pounds



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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.

IMAGING BY

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