



PATIENT PRESENTING CLINICAL SIGNS

Meeko Goldberg Patient presents for PU/PD, lethargy, recent LDDS not suspect for Cushing's. Current meds: Cefpodoxime for UTI.
SPECIES Abnormal PE/Chem/CBC/UA Results: ALP 586, T5 0.8, TSH normal in 2021. U/A: pH 8.0, 2+ protein, moderate rods, USG 1.010.

Canine **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

BREED *Urinary System*

Beagle The **urinary bladder** is not fully distended, but its contents are anechoic. The wall is mildly to moderately irregular circumferentially. Although the bladder is not completely filled, it is evident that the wall is thickened (measurement falsely thickened: 0.42-0.44 cm). A component of the thickening and the irregularity of the mucosa is likely due to the bladder not being well distended. No abnormalities are noted with the trigone or proximal urethra. There is no evidence of sediment, cystoliths, polyps or a mass.

SEX **Kidneys**

Neutered Male

AGE

8 Years

The **left kidney** measures 6.33 cm. The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Very mild mineralization of the diverticulae and pelvis are visualized, without evidence of nephroliths. Very mild pyelectasia (0.14 cm) is present. An accumulation of pelvic fat is noted. Blood flow is within normal limits and possibly increased. The surrounding mesentery is not hyperechoic.

WEIGHT

N/A

The **right kidney** measures 6.76 cm. The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. Very mild mineralization of the diverticulae and pelvis are visualized, without evidence of nephroliths. Very mild pyelectasia (0.12 cm) is noted. An accumulation of pelvic fat is present. Blood flow is within normal limits. Although it appears mildly increased, it is not as "exaggerated" as with the left. The surrounding mesentery is not hyperechoic.

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

Aortic bifurcation/trifurcation No abnormalities observed.

IMAGING PERFORMED BY

Kelly Vazquez

Adrenal Glands

The **left adrenal gland** measures 0.52 cm at the cranial pole, 0.40 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.

HOSPITAL NAME

Ringwood AH

The **right adrenal gland** measures 0.54 cm at the cranial pole, 0.63 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. Wilkes

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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Liver

There are no obvious signs of hepatomegaly, but it is likely at the high end of the normal reference range for a beagle (10 cm depth). Its borders are smooth and sharp. The liver's echotexture is very mildly granular, but it is homogeneous and is within normal limits in echogenicity. Focal lesions are not

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PATIENT	observed. The portal veins are mildly prominent due to hyperechogenicity of the walls. No abnormalities are observed with the hepatic vessels.
Meeko Goldberg	
SPECIES	The gallbladder (GB) is severely distended with a large amount of echogenic material (sludge) within the lumen. A very large portion of the sludge is inspissated and remains immobile, in addition to free floating and gravity dependent sludge. Nodules of sludge are also noted, some of which are adhered to the intraluminal wall. A large number of thick strings of mucus are observed arising from the luminal wall and attaching to the inspissated debris circumferentially, yielding a “stellate effect”. The GB wall is thickened at 0.26 cm within and is hyperechoic. There is no evidence of edema or hyperechoic parenchyma surrounding it. The neck of the GB is filled with sediment. The proximal aspect of the cystic duct is very mildly dilated at 0.32 cm. A portion of the cystic duct and the common bile duct cannot be followed due to the large amount of gas in the stomach, however there are no obvious signs of an obstruction or a rent in the GB wall.
Canine	
BREED	
Beagle	
SEX	Gastrointestinal
Neutered Male	Gas is present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No abnormalities are observed with peristalsis.
AGE	The duodenum is within normal limits. No abnormalities are noted with the definition of the wall layers. A moderate amount of gas and liquid are present within the lumen.
8 Years	The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved. No abnormalities are observed with the ileocecal colic junction. Abnormally dilated loops of bowel are not observed.
WEIGHT	The colonic wall is not thickened and mural detail is considered normal. Gas and solid stool are present within the colon.
N/A	
INTERPRETED BY	There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	Pancreas
IMAGING PERFORMED BY	No abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.
Kelly Vazquez	Other
HOSPITAL NAME	Lymph nodes No abnormalities are observed; iliac: no abnormalities noted.
Ringwood AH	Abdominal effusion is not visualized.
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr. Wilkes	<ul style="list-style-type: none"> Gallbladder: Gallbladder (GB) <i>sludge</i>. Although the appearance of Meeko’s GB is not “classical”, a mucocoele is suspected. There is no evidence of a rupture. <p>Although the presence of gallbladder (GB) sludge may not be clinically significant, a large portion of the sludge in Meeko’s GB is inspissated and immobile and strings of mucus are noted, thereby increasing the suspicion of a mucocoele and its clinical significance. The sonographer mentioned that Meeko demonstrated signs of pain when pressure of the probe was placed in the affected region.</p>
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PATIENT	Some dogs may show clinical signs of gastroesophageal reflux disease (GERD) as a result of GB sludge, therefore, obtaining a history regarding signs of GERD from the client is suggested. Treatment with ursodeoxycholic acid is suggested, with or without an anti-acid or proton pump inhibitor, depending on Meeko's history. Subclinical cholecystitis cannot be excluded despite the absence of classical sonographic signs.
Meeko Goldberg	
SPECIES	
Canine	<ul style="list-style-type: none"> Liver: very subtle "granular", but homogeneous echotexture, which may be an age related change, or may be due to a reactive hepatopathy. There are no signs of neoplasia.
BREED	
Beagle	<ul style="list-style-type: none"> Kidneys: Very mild age-related changes. The amount of pyelectasia is not considered clinically significant, but may occur with polydipsia and polyuria. Obvious signs of pyelonephritis are not noted. Subjectively, the blood flow to Meeko's kidneys is increased, the left being more exaggerated compared to the right. This may occur with hypertension.
SEX	
Neutered Male	<ul style="list-style-type: none"> Urinary bladder: The bladder wall mildly to moderately irregular circumferentially, which is attributed to a cystitis, in light of the urinalysis results. A component of the irregularity and thickened wall is most due to the bladder not being well distended.
AGE	<u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u>
8 Years	An arterial blood pressure in the presence of the client is suggested. A few readings at different appointments may be required. A fundic exam may also be considered.
WEIGHT	
N/A	The use of ursodeoxycholic acid (Ursodiol) is suggested, however, it may cause GI signs, particularly with antibiotics. It may therefore be best not to start it immediately. It should be administered judiciously, at a very low dose, and slowly up-titrate to decrease the risk of GB rupture and GI side effects. For example, 3 mg/kg PO once a day for 5-7 days, then 5 mg/kg PO once a day for 5-7 days, then 7.5 mg/kg PO once a day for 5-7 days, then 10 mg/kg PO once a day for 5-7 days. She may not be able to tolerate the 15 mg/kg/day dose. Also, the dose should be divided BID and given with a meal to decrease the risk of nausea, cramps, vomiting and diarrhea.
INTERPRETED BY	
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	A reevaluation of the hepatic enzymes, including a GGT, is suggested 4 to 6 weeks after achieving the maximum dose of Ursodiol.
IMAGING PERFORMED BY	Her current antibiotics may also treat a subclinical suppurative cholecystitis.
Kelly Vazquez	Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required depending on Meeko's history; 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h)
HOSPITAL NAME	
Ringwood AH	Small, frequent meals, with one before bedtime
REFERRING VET	Recheck ultrasound 3-4 months following initiation of Ursodiol to assess response to therapy.
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PATIENT

Meeko Goldberg

SPECIES

Canine

BREED

Beagle

SEX

Neutered Male

AGE

8 Years

WEIGHT

N/A

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Kelly Vazquez

HOSPITAL NAME

Ringwood AH

REFERRING VET

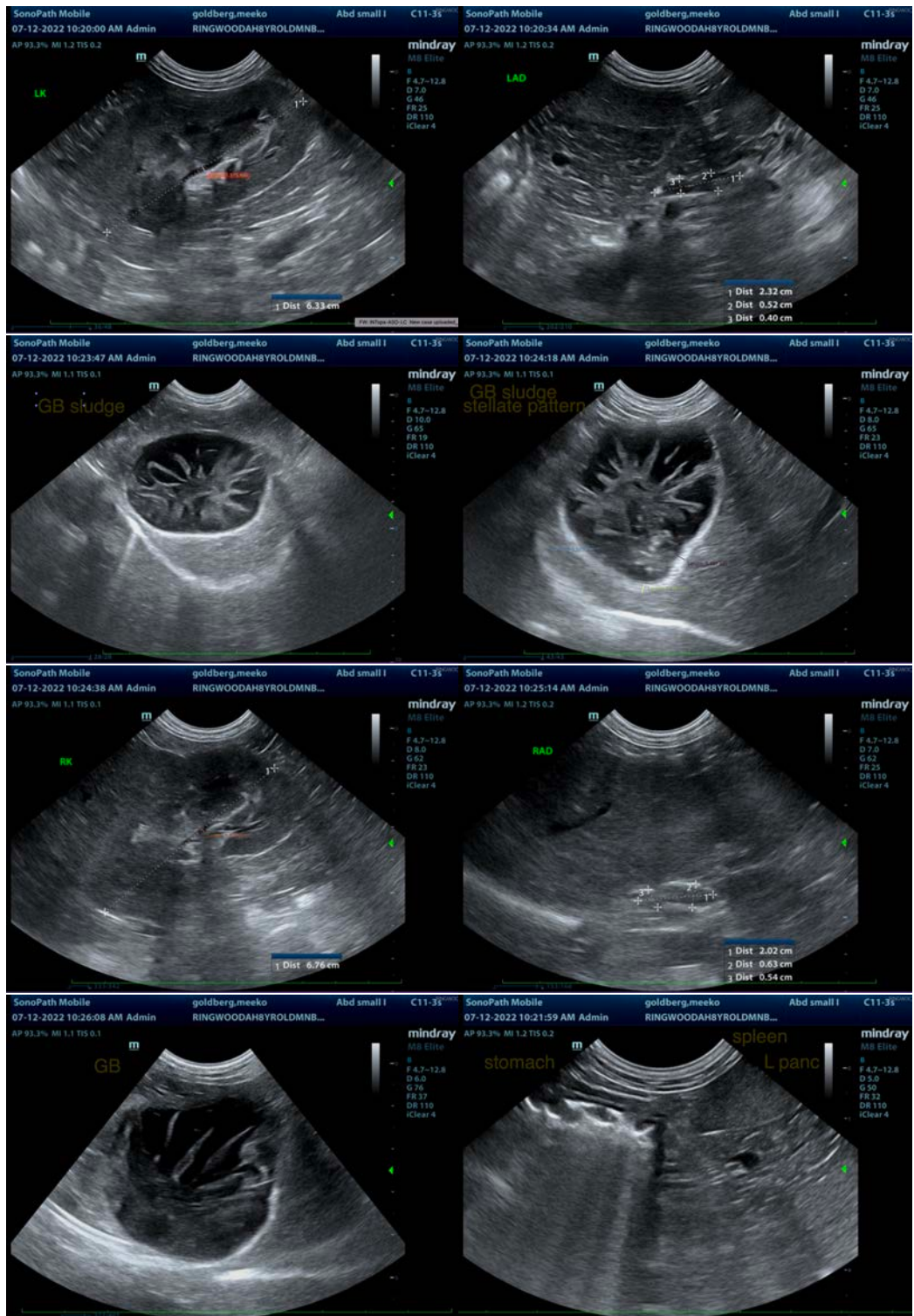
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HOSPITAL NAME

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REFERRING VET

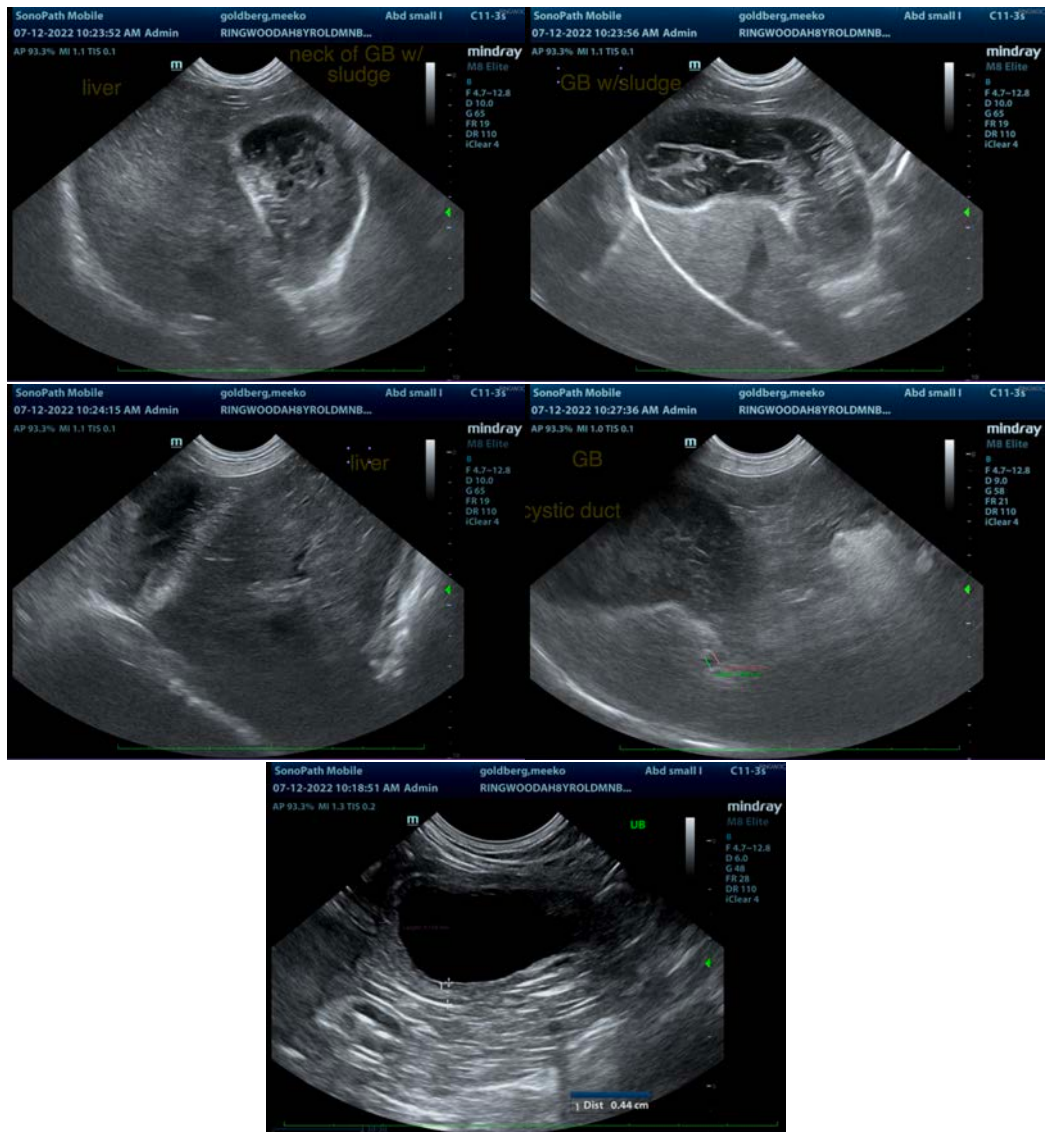
Dr. Wilkes

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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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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