



**PATIENT**

Shadow Dalzell

**SPECIES**

Canine

**BREED**

Pomeranian Mix

**SEX**

Neutered Male

**AGE**

12

**WEIGHT**

18.4

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Susan Lincoski, VMD

**HOSPITAL NAME**

University Drive VH

**REFERRING VET**

Susan Lincoski, VMD

**INVOICE**

23737

**DATE**

7/31/23

**PRESENTING CLINICAL SIGNS**

Patient is a recently diagnosed hypothyroid; was severely obese and now doing well, getting thinner (ideal about 14#). Only issue is proteinuria, which led to ACTH stim following normal bloodwork and negative tick diseases. The ATCH stim was high/Cushing's range. Decided to pursue AUS before LDDS due to age, etc.

Abnormal PE/Chem/CBC/UA Results: Proteinuria, persistant with abnormally high UPC; elevated ACTH stimulation test.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately 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.

The area of the prostate is examined without evident prostatic pathology.

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. Left kidney measures 5.15 cm with multiple small cortical cysts and an approximately 1.0 cm cortical cyst in the cranial pole. Right kidney measures 5.21 cm.

**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. Left adrenal gland measures 0.57 cm at the cranial pole and 0.63 at the caudal pole. Right adrenal gland measures 0.82 cm at the cranial pole and 0.68 cm at the caudal pole.

**Spleen**

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. Multifocal mineral foci are noted. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately overdistended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is mildly thick, irregular and hyperechoic. There is no evidence of CBD dilation.

**Gastrointestinal**



**PATIENT**

Shadow Dalzell

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

**SPECIES**

Canine

The visible small intestines are normal in wall thickness and layering. 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.

**BREED**

Pomeranian Mix

The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

**SEX**

Neutered Male

***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

***Free Abdomen***

**AGE**

12

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Mild bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- Gallbladder mucocele
- Spleen mineralization – This is a benign change but can be associated with endocrinopathies, especially hyperadrenocorticism.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Susan Lincoski, VMD

**HOSPITAL NAME**

University Drive VH

**Secondary Findings**

- Age-related kidney changes with bilateral cortical cysts

**REFERRING VET**

Susan Lincoski, VMD

If not recently evaluated, a blood pressure is recommended.

Further recommendations regarding this patients reported proteinuria are dependent on the degree of the proteinuria, as well as patients clinical signs, as typically, treatment of suspected hyperadrenocorticism is not necessarily warranted if mild proteinuria is the only presenting complaint.

**INVOICE**

23737

Having said that, this patient has a variety of pathologies that could suggest hyperadrenocorticism or be associated with hyperadrenocorticism, including liver, spleen, adrenal and gallbladder changes.

**DATE**

7/31/23

Therefore, if clinical signs of hyperadrenocorticism are present, treatment may be appropriate. If this patient has hyperadrenocorticism, based on this ultrasound, it's likely pituitary dependent.



**PATIENT**

Shadow Dalzell

**SPECIES**

Canine

**BREED**

Pomeranian Mix

**SEX**

Neutered Male

**AGE**

12

**WEIGHT**

18.4

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Susan Lincoski, VMD

**HOSPITAL NAME**

University Drive VH

**REFERRING VET**

Susan Lincoski, VMD

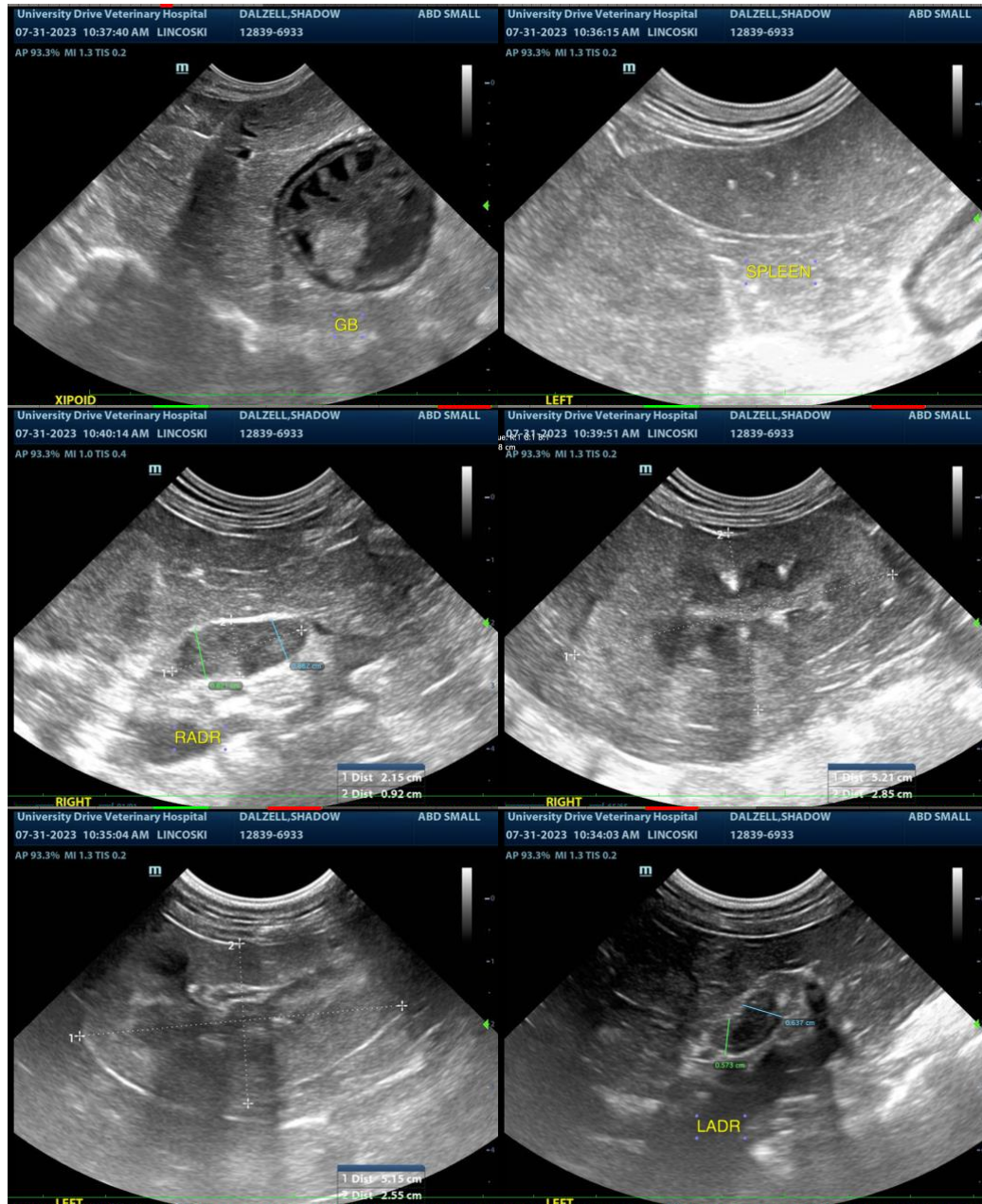
**INVOICE**

23737

**DATE**

7/31/23

In the meantime, options for the patients gallbladder mucocele include either an exploratory laparotomy for planned cholecystectomy, or if patient is asymptomatic, and a more conservative approach is elected, regardless of whether or not hyperadrenocorticism is medically managed, empirical ursodiol could be considered. However, client should be educated about potential sequelae of medically managed mucoceles.



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



**PATIENT**

Shadow Dalzell

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.

**SPECIES**

Canine

**Beth Johnson, DVM DACVIM**

info@sonopath.com

**BREED**

Pomeranian Mix

**SEX**

Neutered Male

**AGE**

12

**WEIGHT**

18.4

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING  
PERFORMED BY**

Susan Lincoski, VMD

**HOSPITAL NAME**

University Drive VH

**REFERRING VET**

Susan Lincoski, VMD

**INVOICE**

23737

**DATE**

7/31/23