



<b>PATIENT</b>	<b>PRESENTING CLINICAL SIGNS</b>
Betty Lou Dahmus	Chronically elevated ALP since 2/2022--lowest was 175, was 362 6 weeks ago. Had 1 episode ALP 1738 but was on steroids. Last BW 7/3 ALP normal at 186. ALT wavers between being normal and elevated (137-254), most recently was WNL. Currently on Denamarin. Needs a cystotomy for calculi so looking to get an AUS to evaluate liver or anything else that could cause elevated values that warrant further investigation during the laparotomy.
<b>SPECIES</b>	
Canine	
<b>BREED</b>	<b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>
Mini Schnauzer	<b>Urinary System</b>
<b>SEX</b>	Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Additionally, there are several small shadowing cystoliths as well as the largest cystolith noted measuring 0.72 cm in diameter. The wall measures 0.55 cm thick. Apical urinary bladder wall is diffusely thick. Mucosa is hyperechoic and irregular. No masses are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.
Spayed Female	
<b>AGE</b>	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 or infarcts observed. Punctate non-obstructive nephroliths are noted bilaterally. The left kidney measured 4.9 cm. The right kidney measured 5.04 cm.
11.3 Pounds	
<b>WEIGHT</b>	<b>Adrenal Glands</b>
22 Pounds	The area of the adrenal glands is examined without evident adrenal gland pathology.
<b>INTERPRETED BY</b>	<b>Spleen</b>
Beth Johnson, DVM DACVIM	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.
<b>IMAGING PERFORMED BY</b>	<b>Liver</b>
Dr. Meghan Myers	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.
<b>HOSPITAL NAME</b>	<b>Gallbladder</b>
Hershire AH	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.
<b>REFERRING VET</b>	<b>Gastrointestinal</b>
Dr. Susan Zhang	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.
<b>INVOICE</b>	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.
43934	
<b>DATE</b>	
7/12/23	



**PATIENT**

Betty Lou Dahmus

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

**SPECIES**

Canine

***Pancreas***

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**BREED**

Mini Schnauzer

***Free Abdomen***

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

**SEX**

Spayed Female

There is no apparent lymphadenopathy noted in these images.

**AGE**

11.3 Pounds

**PRIMARY FINDINGS**

- Emerging gallbladder mucocele
- 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.
- Multiple urinary bladder cystoliths are noted with the largest measuring 0.72 cm in diameter.

**WEIGHT**

22 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**SECONDARY FINDINGS**

- Age related kidney changes with punctate bilateral non-obstructive nephroliths

**IMAGING PERFORMED BY**

Dr. Meghan Myers

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If this patient had not scheduled already to have surgery to remove her urinary bladder cystoliths, I would say that her liver enzymes are most likely consistent (based on the imaging changes described above) with a benign nodular hyperplasia or perhaps reactive or idiopathic vacuolar hepatopathy in combination with cholestasis from the emerging mucocele, and recommendations would be made based on clinical signs, where hepatic nutraceuticals including Ursodiol could be considered in an asymptomatic patient versus more aggressive intervention all the way up to and including surgery for a cholecystectomy and liver biopsy in a clinical patient who suffers from decreased appetite, nausea, cranial abdominal, etc.

**HOSPITAL NAME**

Hershire AH

**REFERRING VET**

Dr. Susan Zhang

Those recommendations are appropriate for this patient. However, given her planned laparotomy, it may be elected to go ahead and proceed with evaluation of the gallbladder +/- cholecystectomy and liver biopsy at this time.

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**PATIENT**

Betty Lou Dahmus

**SPECIES**

Canine

**BREED**

Mini Schnauzer

**SEX**

Spayed Female

**AGE**

11.3 Pounds

**WEIGHT**

22 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Meghan Myers

**HOSPITAL NAME**

Hershire AH

**REFERRING VET**

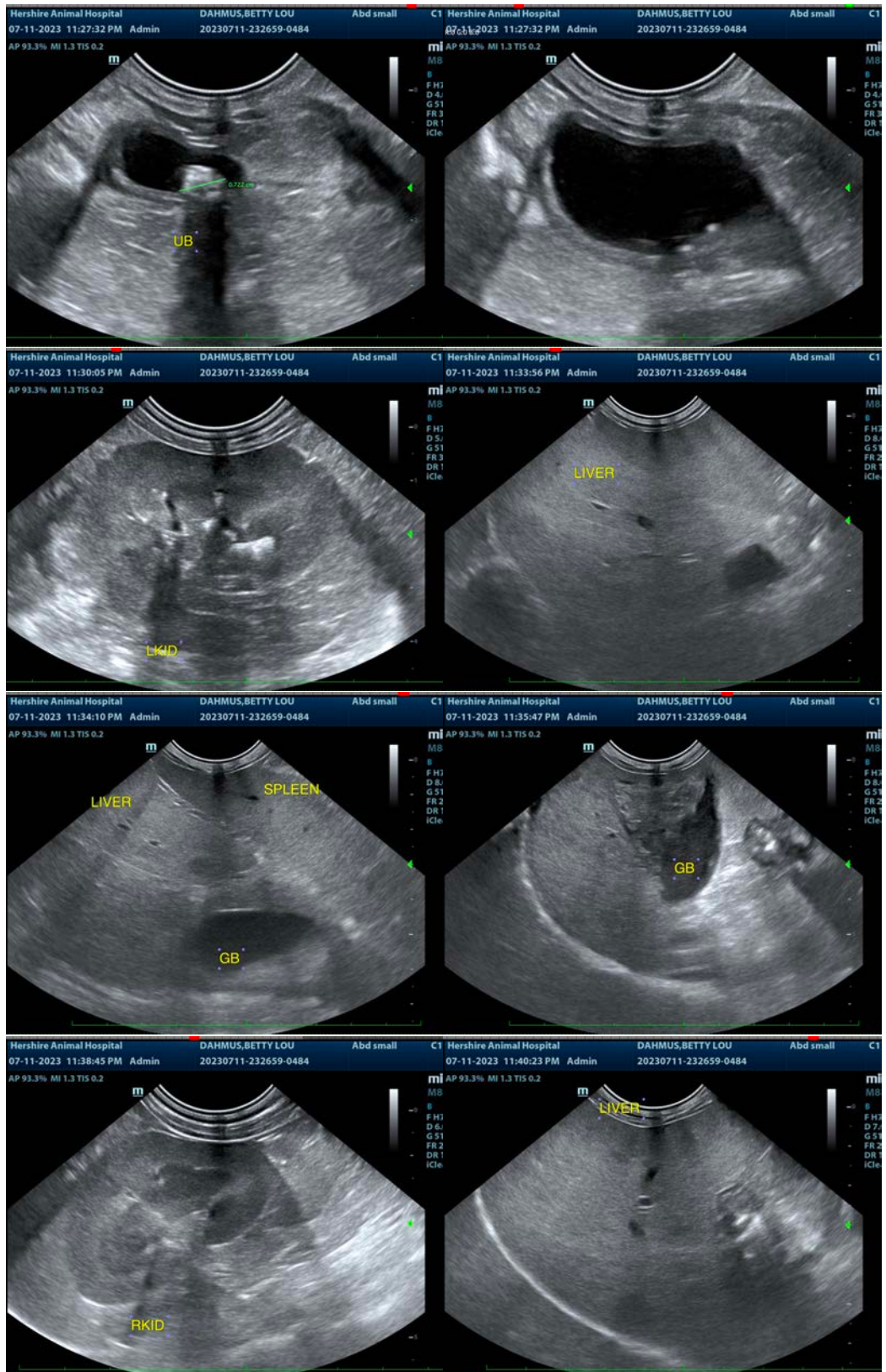
Dr. Susan Zhang

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**PATIENT**

Betty Lou Dahmus

**SPECIES**

Canine

**BREED**

Mini Schnauzer

**SEX**

Spayed Female

**AGE**

11.3 Pounds

**WEIGHT**

22 Pounds

**INTERPRETED BY**

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**IMAGING  
PERFORMED BY**

Dr. Meghan Myers

**HOSPITAL NAME**

Hershire AH

**REFERRING VET**

Dr. Susan Zhang

**INVOICE**

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**DATE**

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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.

**Beth Johnson, DVM, DACVIM**  
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