



**PATIENT**

Bella Gnau

**SPECIES**

Canine

**BREED**

Pug

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

34 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Griffin

**HOSPITAL NAME**

Northside VC

**REFERRING VET**

Griffin

**INVOICE**

16837

**DATE**

8/12/22

**PRESENTING CLINICAL SIGNS**

History: Patient presented for straining to urinate, increased panting and vomiting

Abnormal PE/Chem/CBC/UA Results: PE: BCS 8/9 Rads: old dog lung changes, enlarged liver, bladder stones CBC: Neut 13.05 CHEM: Lipase 3253, ALKP 1848 SDMA: 15 T4: 0.7 U/A: USG 1.012

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder** present multiple calculi, a grouping of which measured approximately 3.0 cm. The calculi were nonobstructive at the time of the sonogram. The urinary bladder itself was unremarkable. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 5.0 cm. The right kidney measured 6.0 cm.

**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.6 cm. The left adrenal gland measured 0.6 cm.

**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**Liver**

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is a moderate change and consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. Micronodular changes were noted in the liver with occasional parenchymal cysts.

**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**Pancreas**



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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**SPECIES**

Canine

**ULTRASONOGRAPHIC FINDINGS**

- Subjectively benign hepatopathy with nodular changes
- Urinary bladder calculi

**BREED**

Pug

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

FNA warranted to ensure more significant disease is not present. Bile acid profile is warranted prior to cystotomy surgery. Stone analysis and culture is indicated.

**SEX**

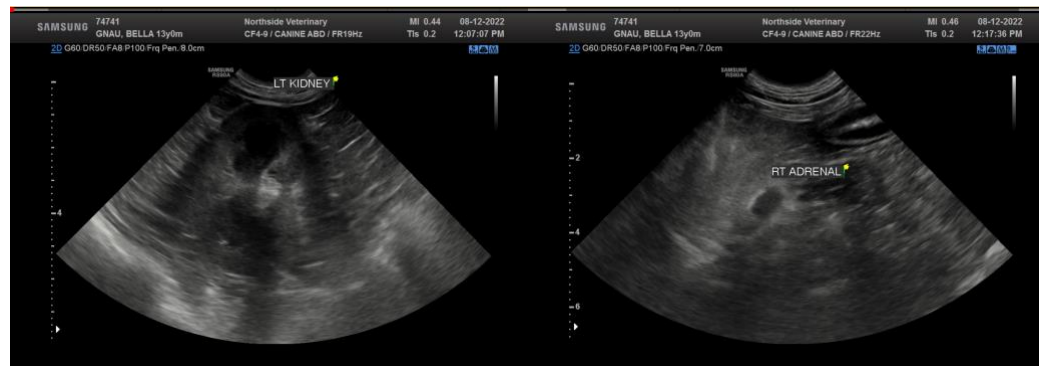
Spayed Female

**AGE**

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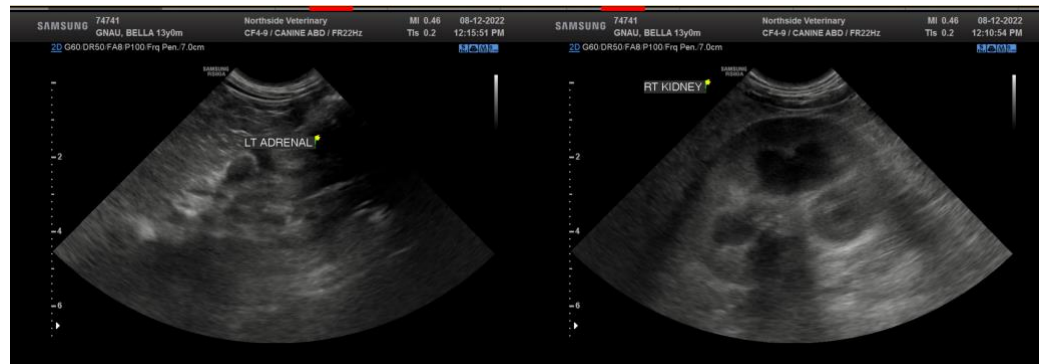
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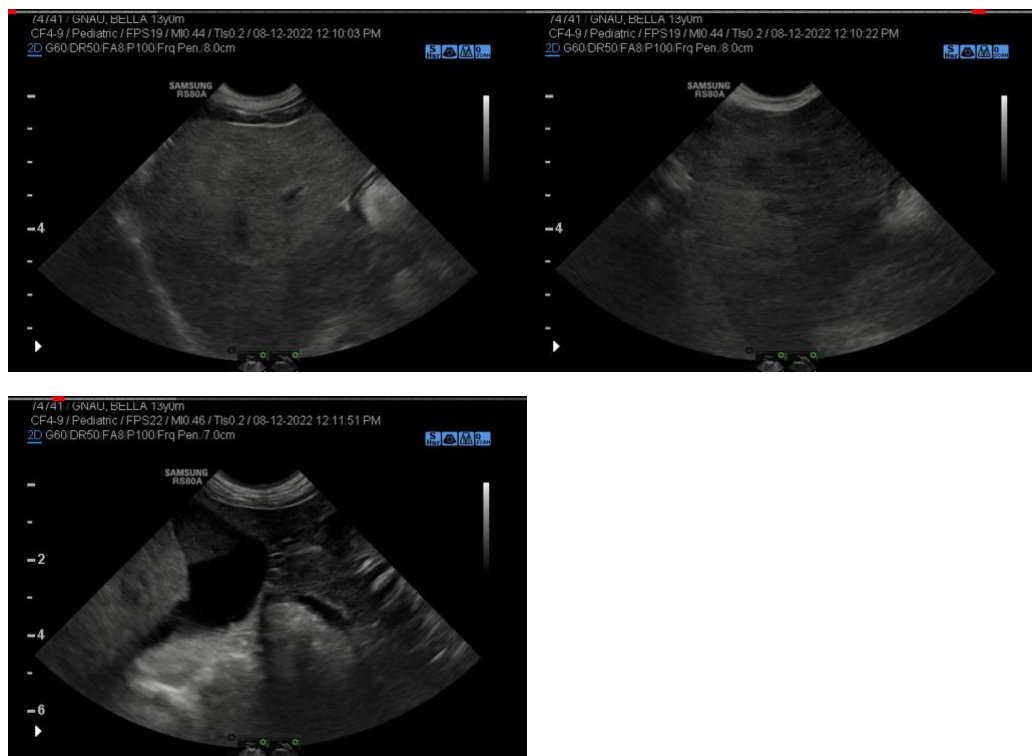
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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com