



**PATIENT**

Tuna Waldner

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Spayed Female

**AGE**

8 Years

**WEIGHT**

4.3 kg

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Harmon

**HOSPITAL NAME**

Wilvet South

**REFERRING VET**

Dr. Alcantar

**INVOICE**

45044

**DATE**

2/10/23

**PRESENTING CLINICAL SIGNS**

Presented 2/9 ADR, lethargic, bloated abdomen, Abnormal PE/Chem/CBC/UA Results: heart murmur grade 3/6 systolic Abdomen distended and painful on palpation. CBC/Chem: bilirubin 2.1 proBNP - wnl (<500pmol/L) rads 2/9 pm

Radiology Conclusions: - Moderate to marked gastric distention compared with the remainder of the intestinal tract compatible with food bloat. Distention could also be secondary to a functional or mechanical etiology (such as gastric outflow obstruction, gastroduodenitis, or pancreatitis). - Small intestine changes are considered normal in a non-fasted patient, especially without reported gastrointestinal complaints; an enteropathy cannot be excluded. - Moderate fecal material contained in the colon. - Non-specific hepatomegaly compatible with normal variation, endocrine hepatopathy, hepatitis, congestion, or infiltrative neoplasia. - Incidental transitional vertebra T13 and stifle joint arthrosis.

1. Diffuse bronchointerstitial lung pattern with a questionable interstitial to alveolar lung pattern in the left cranial lung lobe. Differentials are broad to include an incidental age-related variant of normal, infectious bronchitis, parasitic airway disease, eosinophilic bronchopneumopathy or chronic irritant inhalation. Although the trachea is normal in appearance in this study, given the age and small size of the patient, dynamic tracheal collapse cannot be ruled out. 2. Moderate left-sided cardiomegaly with questionable right-sided cardiomegaly. No evidence of left-sided congestive heart failure is identified. Left-sided cardiomegaly is consistent chronic degenerative mitral valve disease. Right-sided cardiomegaly could be associated with pulmonary hypertension, degenerative valvular disease or heartworm disease. 3. The persistence of ingesta within the gastric lumen is of uncertain clinical significance. Primary consideration is given to normal food with delayed gastric emptying (which could be associated with pancreatitis or nonspecific gastroenteritis). Foreign material is not ruled out, however, no evidence of a pyloric outflow obstruction is identified in this study. 4. Bilateral medial patellar subluxation/luxation with degenerative joint disease.

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Occasional cortical cysts noted. The left kidney measured 4.7 cm.

**Adrenal Glands**

The **left adrenal gland** was 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 left adrenal gland measured 0.40 cm.

The **right adrenal gland** revealed a nodule at the cranial pole. Capsular expansion noted without capsular escape or vascular invasion. The right adrenal measured 1.5 cm at maximum width. Caudal pole measured 0.58 cm.



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**Spleen**

The **spleen** was normal size and relatively normal contour with multifocal hyperechoic areas of mineralization. This is a benign change; however, can be related to Cushing's disease or other endocrinopathies.

**Liver**

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

**Gastrointestinal**

There was some residual chyme and gas was noted in the **stomach**. This is consistent with end post prandial presentation. Minor pyloric hypertrophy noted, possible delayed outflow. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. 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**

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.

**Other**

Shower curtain lung sign noted.

**ULTRASONOGRAPHIC FINDINGS**

- Pyloric hypertrophy
- Right adrenal nodule/mass – adenoma, adenocarcinoma, pheochromocytoma all possible
- Moderate degenerative renal changes with cortical cysts
- Suspect alveolar disease/chest pathology

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Thoracic workup indicated with echocardiogram and chest radiographs +/- chest CT. Eventually, right adrenalectomy could be performed. Recommend reassessment of the bilirubin elevation, as this may be artifactual or lab error, as there is no justification for elevated bilirubin sonographically.



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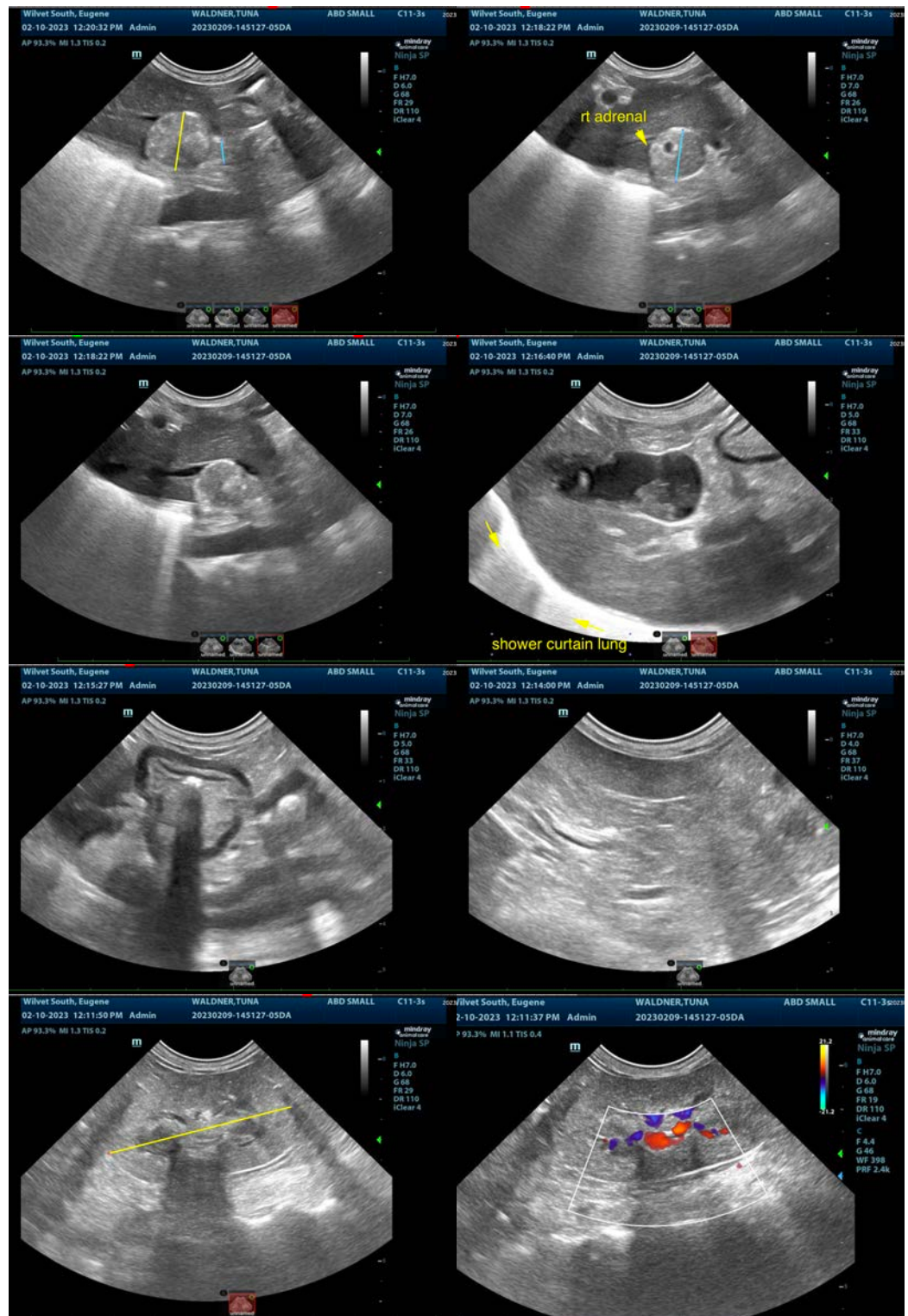
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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