



**PATIENT**

Brutus Mickle

**SPECIES**

Canine

**BREED**

Toy Poodle

**SEX**

Neutered Male

**AGE**

12 Years

**WEIGHT**

3.4 kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Callihan

**HOSPITAL NAME**

Animal Emergency  
Care

**REFERRING VET**

Dr. Drummond

**INVOICE**

16485

**DATE**

7/23/22

**PRESENTING CLINICAL SIGNS**

History: Brutus, a 13-year old MN Toy PoodleX, presented as a transfer from Whatcom Vet Hospital. Brutus established care with WVH on July 11 2022 for an approximate 2-week history of hyporexia and darkened stools. Brutus had previously been managed since roughly Spring 2020 on furosemide (3.5 mg/kg Q 12) and enalapril (0.74 mg/kg Q 12) for collapsing trachea and heart murmur. Admitting labs at WVH on 7/11 showed azotemia (SDMA: 39, BUN: 103, Cr: 2.3) - remainder of chem17 + CBC were WNL. A fecal was negative for parasites, stool non-melanic. Brutus was dispensed cerenia, pimobendan (1.25 mg Q 12 - compounded rx so not yet started), and continued on lasix and enalapril. Brutus rechecked on July 21 2022 as hyporexia had progressed to anorexia and had discontinued drinking (o syringing water), he had developed dark diarrhea and lethargy over prior 48-hours. He was treated with SQF, cerenia inj, B complex inj, famotidine inj, and reduced furosemide dose (unknown what reduced to). He followed up on 7/22 as no improvement in clinical signs. Recheck labs showed worsened azotemia (BUN: 247, Cr: 4.7), hyperphosphatemia (10.2) and lymphopenia (0.69k). He was admitted for daytime hospitalization and was started on IVF (LRS + B complex @ 13 mL/hr), cerenia inj, discontinued on lasix, continued on enalapril, and his pimobendan finally arrived so he was started on that as well. He is transferred for continued supportive care as indicated by exam, recheck renal values at 24-hour, and possible echocardiogram +/- AUS pending AEC sonography availability. Review of previous medical records from Northwest Vet show presence of mild azotemia at pre-dental lab screenings - Dec 2020 (BUN: 53, Cr: 1.7) and January 2022 (BUN: 74, Cr: 1.3). He has been mostly at the same medication dosing since diagnosis in April 2020 when he had what sounds like a mild congestive episode. Radiographic findings reported as severe collapsing trachea, cardiomegaly, and moderate congestion (rads not available for review). His doses of lasix and enalapril were titrated up over following 2 weeks and have been well tolerated since. Brutus has been with his current family for the last 4-years after his previous owner passed away. Family reports he has been PU/PD since starting the lasix. He is presently still urinating but lost interest in drinking 7/19. He has had no episodes of vomiting/regurgitation. He has had no further diarrhea since an "explosive" episode on 7/19. He eats a combination of Purina wet and dry foods, has never been a ravenous eater, but also an appetite, since the hyporexia began he has been eating small amounts of cooked chicken and a little scrambled egg. He has not had severe or notable coughing episodes, but does seem tired and more easily winded. Brutus is up to date on vaccinations and not presently taking any medications aside from the furosemide (discontinued on 7/21), enalapril (2.5 mg Q 12), and the newly started pimobendan (1.25 mg Q 12).

Abnormal PE/Chem/CBC/UA Results: Chem 17/lytes normal other than azotemia and hyperphosphatemia Recheck labs today show improvement in BUN from 247 yesterday to 138 today, Cr was 4.7 yesterday, 2.9 today.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**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** presented subnormal size with pyelectasia and diffuse hyperechoic cortical changes with corticomedullary mineralization and minor cysts. The pelvic mineralization noted in the left kidney was



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nonobstructive at the time of the sonogram. The right kidney measured 0.67 cm. Pyelectasia in the left kidney measured 0.24 cm. The left kidney measured 3.82 cm.

Brutus Mickle

**Adrenal Glands**

**SPECIES**

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 left adrenal gland measured 0.43 cm. The right adrenal gland measured 0.51 cm.

Canine

**BREED**

**Spleen**

Toy Poodle

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.

**SEX**

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**AGE**

**Liver**

12 Years

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.

**WEIGHT**

3.4 kg

**Gastrointestinal**

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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.

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**Pancreas**

Dr. Callihan

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.

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**ULTRASONOGRAPHIC FINDINGS**

Animal Emergency  
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- Subjectively end stage renal disease, acute on chronic disease is likely given the patient history

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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72-hour IV fluid protocol is warranted. If non-responsive, then the prognosis is poor.

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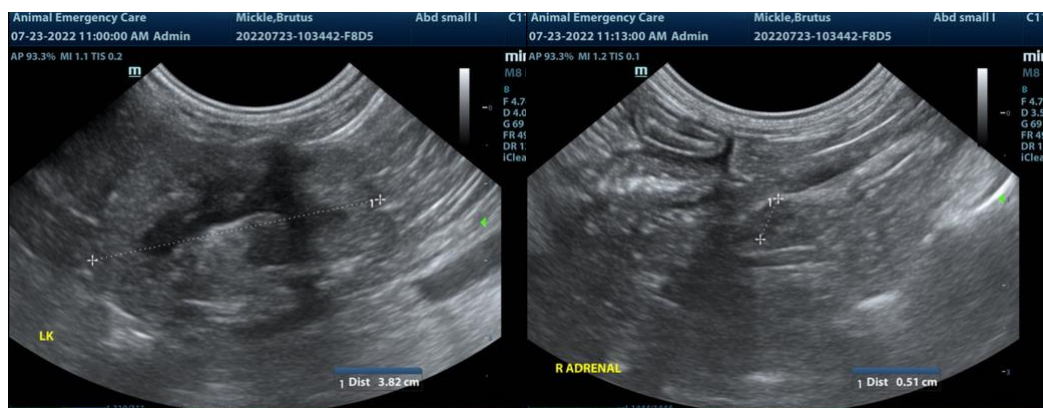
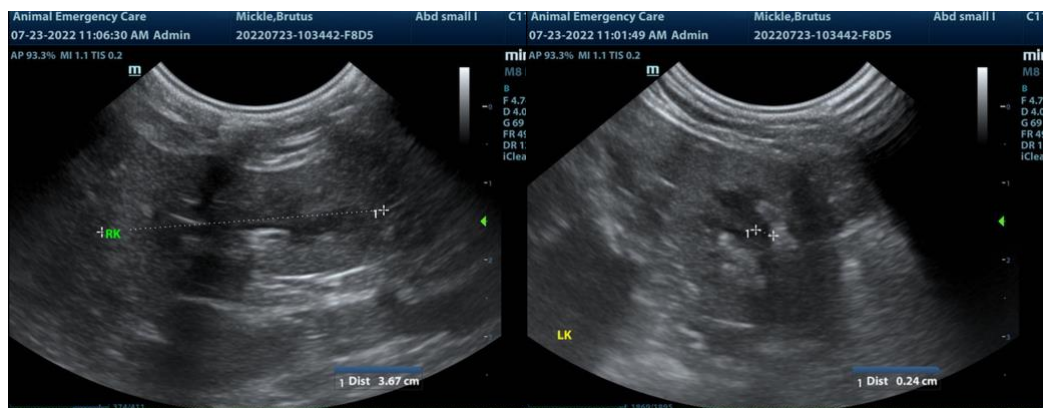
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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Toy Poodle

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

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