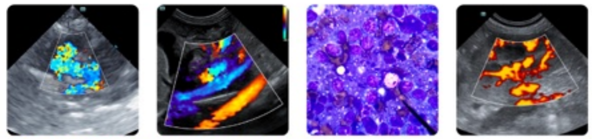


PATIENT
Margey Dybas

SPECIES
Canine

BREED
Bichon Frise

SEX
Neutered male

AGE
11 years

WEIGHT
27 lbs

INTERPRETED BY
Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY
Dr. Christensen

HOSPITAL NAME
Tranquility VC

REFERRING VET
Dr. Christensen

INVOICE
69620

DATE
12/29/25

PRESENTING CLINICAL SIGNS

History: Historic heart murmur for past year that is increasing in intensity. Started as 1/6 and now is 4/6. Dry cough since October reported by owner, worse in middle of night. Historic sensitive stomach and GURD like symptoms. Recent vomiting and diarrhea episode. Seemed to mostly resolve with Cerenia, IV fluids and probiotics.
Abnormal PE/Chem/CBC/UA Results: BNP elevated from 565 to 1969 in six months. Proteinuric(2.4). TP elevated(8.3), alk phos(860). Radiographs showed mild cardiomegaly and perihilar pulmonary edema. Rads and BW included.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder contains a mild amount of suspended echogenic debris and a single, dependent, hyperechoic shadowing urolith within the bladder apex. The rest of the urinary bladder, trigone, and pelvic urethra are unremarkable with normal wall thicknesses and normal tone. The ureters were not visualized, which is a normal finding. The ureteral papillae appear normal. There is no evidence of inflammatory, infiltrative, or neoplastic disease.

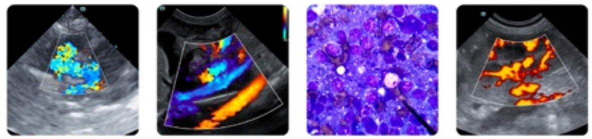
The kidneys are normal in size and structure, with appropriate corticomedullary definition. The cortices are hyperechoic with a loss of corticomedullary distinction. The cortex to medulla ratio is appropriate with no significant pyelectasia or pelvic dilation. in texture with normal echogenic relationship to liver and spleen. The medullary structure differed distinctly from the cortex and no evidence of pyelectasia is present. The capsules contour is mildly irregular bilaterally. The left kidney measured 6.01 cm. The right kidney measured 6.02 cm.

Adrenal Glands

The left adrenal gland is not definitively visualized. The right adrenal gland measured 0.6 x 2.13 cm. The right adrenal gland is visualized and have 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.

Spleen

The spleen is smooth with homogeneous parenchyma and hyperechoic to liver and renal cortical parenchyma. The capsule is without noticeable irregularity or deformation. The splenic vasculature is normal without signs of congestion, spontaneous echo contrast, or thrombosis. No evidence of acute or chronic inflammatory, neoplastic, or infarct are documented. The spleen measured 1.4 cm at the hilus.



PATIENT

Margey Dybas

SPECIES

Canine

BREED

Bichon Frise

SEX

Neutered male

AGE

11 years

WEIGHT

27 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Dr. Christensen

HOSPITAL NAME

Tranquility VC

REFERRING VET

Dr. Christensen

INVOICE

69620

DATE

12/29/25

Liver

The liver is subjectively enlarged with rounded, irregular contour. The parenchyma is diffusely mottled and heterogenous with ill-defined, hyperechoic and hypoechoic nodular changes throughout. The gallbladder contains a mild amount of suspended echogenic debris and dependent sediment. The gallbladder wall is appropriately thin with otherwise anechoic bile. There is no intrahepatic or extrahepatic biliary dilation. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach and intestines are free of stasis and peristaltic activity, with no significant dilation noted. There is normal wall thickness and acceptable curvilinear mural detail. The pyloric-duodenal junction and ileocecocolic junction are patent, and the colon contains normal shadowing feces. There is no evidence of shadowing obstructive material or overt infiltrative disease noted. No associated abnormal lymphatic activity is documented.

Pancreas

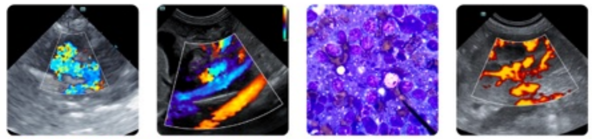
The pancreas is not discretely visualized; however, there is no overt evidence of regional hyperechoic mesentery or steatitis.

Free Abdomen

There is no significant lymphadenopathy or free fluid was noted.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The left atrium is mild to moderately enlarged. The left ventricle is normal in dimension with normal systolic function. The right atrium and ventricle are subjectively normal in dimension and systolic function. The mitral valve is thickened and redundant consistent with myxomatous changes, and there is mild prolapse. There is evidence of moderate mitral regurgitation. The tricuspid valve leaflets are minimally thickened with trivial tricuspid regurgitation and no evidence of pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, and appropriate diameter and distensibility. There is no evidence of semilunar valve insufficiency. There is no visible pericardial, pleural, or free peritoneal fluid noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.



PATIENT

Margey Dybas

SPECIES

Canine

BREED

Bichon Frise

SEX

Neutered male

AGE

11 years

WEIGHT

27 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Dr. Christensen

HOSPITAL NAME

Tranquility VC

REFERRING VET

Dr. Christensen

INVOICE

69620

DATE

12/29/25

CANINE CARDIAC PARAMETERS	Body Weight kg	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	12.27 kg	120	3.81	1.86	1.92	3.04	1.3
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	57	0.3	0.7	1.7	4.0	NM	38

ULTRASONOGRAPHIC FINDINGS

The urinary bladder contains echogenic, suspended debris contrasted with anechoic urine. This is often related to urinary tract infection but may represent exfoliated debris or sterile inflammation.

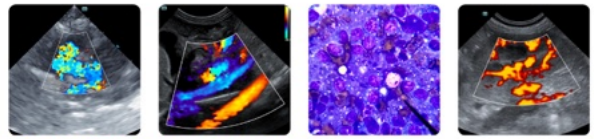
There are multiple uroliths within the urinary bladder lumen with acoustic shadowing. Depending on the nature of some stones, they may be dissolved with diet change alone. Others require surgical intervention. Many stones require analysis after cystotomy in order to ascertain the composition, as well as identify concurrent bacterial infection that can be undetected on urine culture alone.

The kidneys are relatively normal in size and structure, and cortex:medulla ratio (cortex 1/3 of medulla) is essentially maintained. There is age-related loss of the normal smooth capsular contour and C/M junction definition. The cortices are largely uniform in texture with mild hyperechogenicity expected for this patient's age. There is no evidence of pelvic dilation present.

The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory, immune-mediated, metabolic, or endocrine disease. Infiltrative neoplasia or acute hepatitis cannot be ruled out.

The gallbladder contains echogenic, suspended and dependent unorganized debris. This is not yet to the level of an organized mucocele, however early/developing mucocele cannot be ruled out. This dependent sediment is often an incidental finding, or may be associated with concurrent endocrine disease such as hyperadrenocorticism or diabetes mellitus.

These findings are consistent with degenerative/myxomatous mitral valve disease with moderate hemodynamic effects consistent with at least ACVIM Stage B1 and possibly early stage B2. Stage B2 criteria for heart enlargement that are used to identify dogs that may benefit substantially from treatment before the onset of clinical signs of heart failure include hear murmur intensity ≥3/6, echocardiographic LA/Ao in the right-sided short axis view in early diastole ≥1.6, left ventricular internal diameter in diastole, normalized for body weight (LVIDDN) ≥1.7, VLAS > 3, and breed-adjusted radiographic vertebral heart score (VHS) >10.5.



PATIENT

Margey Dybas

SPECIES

Canine

BREED

Bichon Frise

SEX

Neutered male

AGE

11 years

WEIGHT

27 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Dr. Christensen

HOSPITAL NAME

Tranquility VC

REFERRING VET

Dr. Christensen

INVOICE

69620

DATE

12/29/25

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A urinalysis and urine culture via cystocentesis are recommended to evaluate the urinary tract changes for potential urinary tract infection.

Fine needle aspirates of the liver with cytology are recommended. A coagulation profile and platelet estimate prior to sampling are indicated to ensure the absence of coagulopathy. Occasionally some tissues are poorly exfoliative, or cytology is non-specific, in which case biopsy with histopathology may be required for a definitive diagnosis.

A gastrointestinal panel (TLI, PLI, B12, folate) via Texas A&M gastrointestinal laboratory is indicated to further evaluate for potential chronic enteropathy. Ultimately, gastrointestinal biopsies may be required for a definitive diagnosis.

Consider a spec CPLI to further evaluate the pancreas for occult inflammation or pancreatitis.

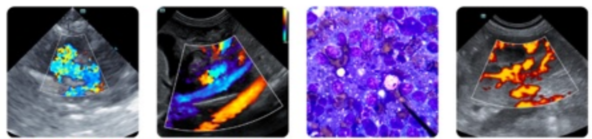
Given the degree of chamber dilation, an aggressive treatment approach would be to start cardiac therapy. Therapy would include Enalapril or benazepril (0.5 mg/kg BID assuming normotension and lack of renal insult), Vetmedin (0.25-0.35 mg/kg BID), with a cough suppressant (e.g. Hydrocodone 0.25-0.35 mg/kg BID to q6 hours PRN) as necessary based on the severity of the cough. While there is an increased risk of IV fluids, corticosteroids, or anesthesia, there is no overt objection, as the need likely outweighs the risks. If not already performed, baseline thoracic radiographs and blood pressure are recommended. A repeat chest X-rays, BP, and chemistry should be performed again in 1-2 weeks. A repeat echo, blood pressure, chemistry panel and thoracic radiographs are indicated in 6 months.

As the results are on the border between stages B1 and B2 (B2 is where therapy is typically recommended), a conservative approach is to hold off on therapy and just follow the 6 month recheck plan. Either option is acceptable and should be discussed with the owner. Regardless of approach, owners should begin monitoring the resting respiratory rate. If a progressive increase in respiratory rate is seen, then evaluation by a veterinarian is necessary.

Anesthesia considerations:
If anesthesia is necessary, then alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. Skip any ACE-inhibitor (if receiving) on morning of anesthesia. Fluid therapy during anesthesia should be considered at a reduced rate (e.g., 5 ml/kg/hour) if possible. A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is advised. Pre-medication with an opioid (i.e., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable.

Diet:
Ensure feeding a grain-inclusive diet if possible. A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition with mild dietary sodium restriction (<100 mg/100 kcal) is recommended. Consider omega-3 fatty acid supplementation.

Activity:
Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block



PATIENT
Margey Dybas

SPECIES
Canine

BREED
Bichon Frise

SEX
Neutered male

AGE
11 years

WEIGHT
27 lbs

INTERPRETED BY
Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY
Dr. Christensen

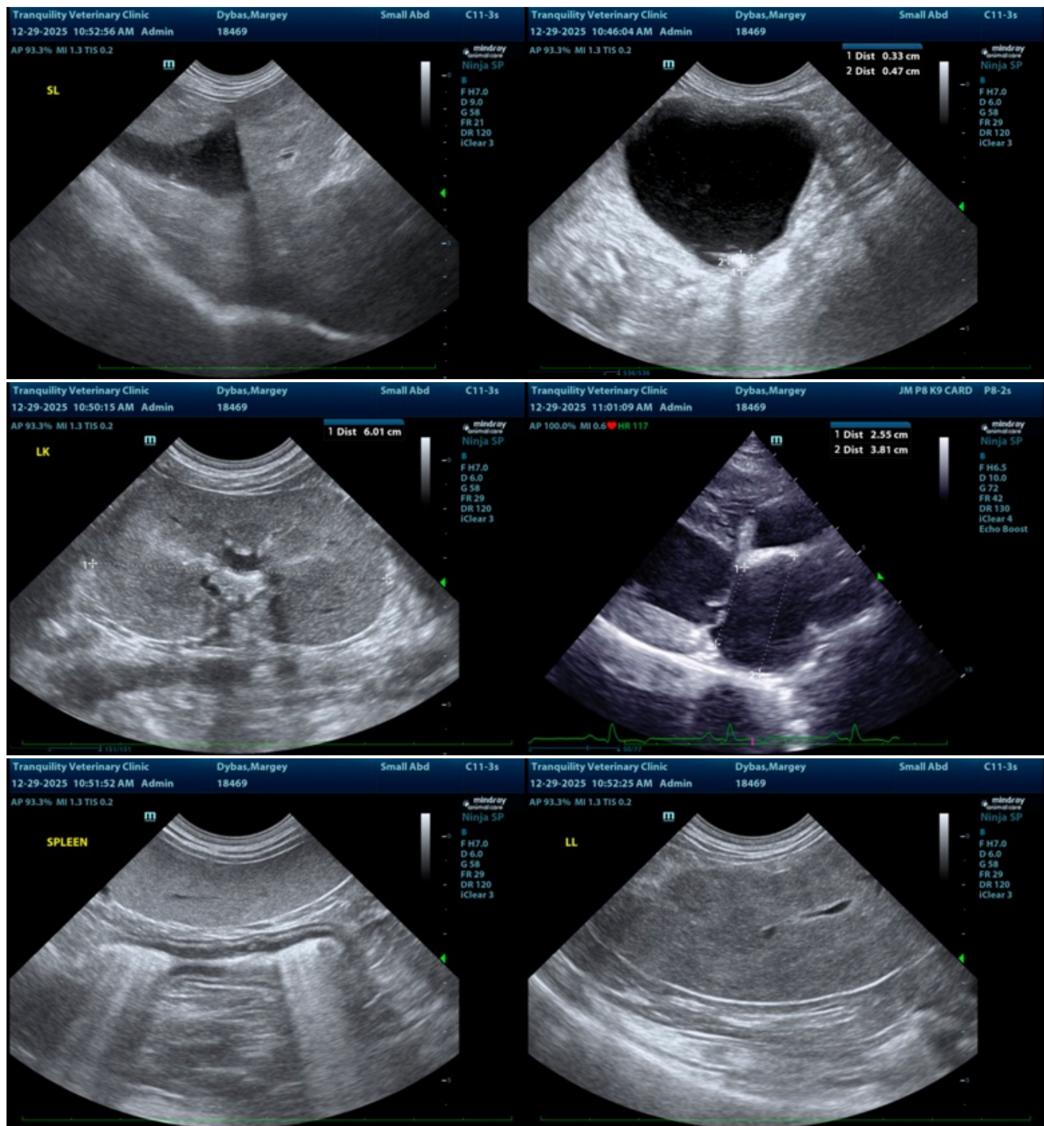
HOSPITAL NAME
Tranquility VC

REFERRING VET
Dr. Christensen

INVOICE
69620

DATE
12/29/25

walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



PATIENT

Margey Dybas

SPECIES

Canine

BREED

Bichon Frise

SEX

Neutered male

AGE

11 years

WEIGHT

27 lbs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Dr. Christensen

HOSPITAL NAME

Tranquility VC

REFERRING VET

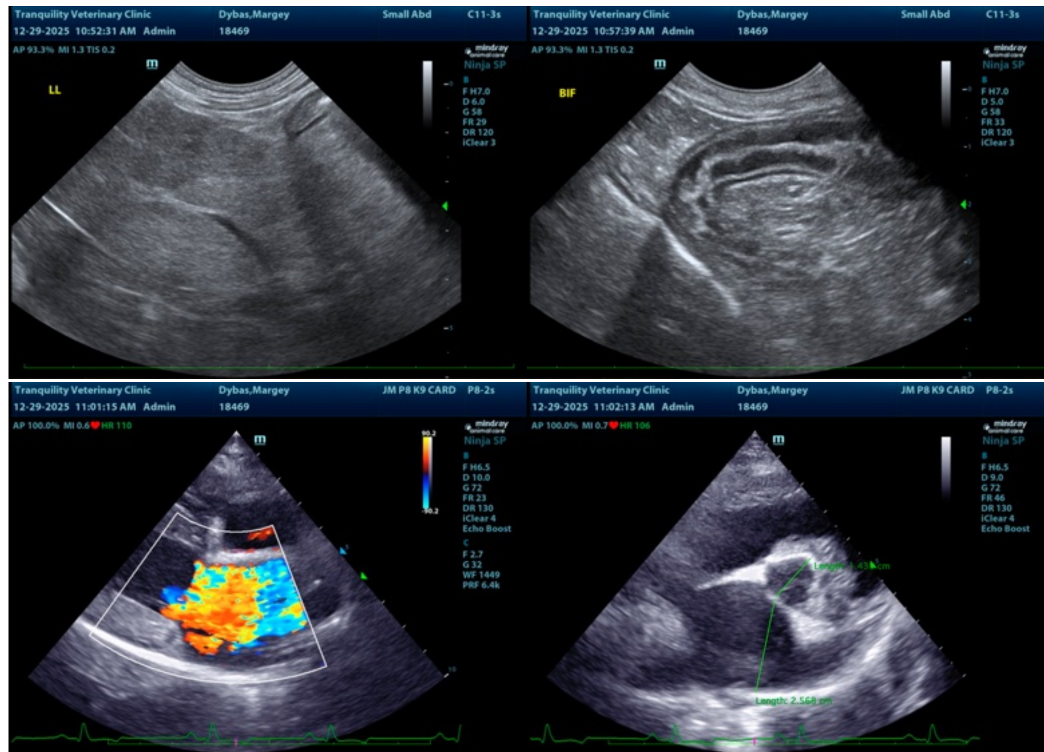
Dr. Christensen

INVOICE

69620

DATE

12/29/25



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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com