



**PATIENT**

Stella Hollander

**SPECIES**

Canine

**BREED**

Springer Spaniel

**SEX**

Intact Female

**AGE**

9.24.2011

**WEIGHT**

17.4 kg

**INTERPRETED BY**

Andrea Nicastro,  
DVM, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**IMAGING PERFORMED BY**

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(Small Animal Internal  
Medicine)

**HOSPITAL NAME**

Blue Pearl Mt Pleasant

**REFERRING VET**

Dr. Danielle Fraser

**INVOICE**

11700

**DATE**

2.25.22

**PRESENTING CLINICAL SIGNS**

Clinical Exam Findings: Stella, 11Y IF Springer Spaniel presents for possible pyometra. P acutely stopped eating on Wednesday. P was taken to rDVM on Thursday. P was sent home on antibiotics for UTI. This morning, P vomited medications and refuses to eat. Gums are also not their normal pink color. P was also whimpering all night. O also notes dark gooeey discharge from vulva. P is current on vaccines and monthly prevention. No D/C/S. Increased thirst x few days. PE: Mentation: Bright, alert and responsive. Hydration: <5% dehydrated Eyes, Ears, Nose: No ocular discharge OU, lenticular sclerosis OU, sclera appear icteric; no nasal discharge and airflow present bilaterally; mild debris AU; no significant abnormalities noted Oral Cavity: Moderate dental tartar and calculus; mucous membranes are pink but yellow tinged and moist; CRT 2 sec; no evidence of petechiation or ulceration; no foreign object or mass appreciated Cardiovascular: No murmur or arrhythmia noted, pulses were strong and synchronous. Respiratory: Eupnea, normal bronchovesicular sounds on all lung fields, no cough elicited on tracheal palpation Neurologic: Appropriate mentation, normal CNN, no pain elicited on manipulation and palpation of neck and spine; no obvious neurologic deficits noted (complete neurologic exam not performed). Gastrointestinal/Urogenital: Soft and non-painful abdomen with no evidence of mass or organomegaly on palpation Rectal: Loose stool with no mass or foreign material evident; anal glands soft and small, not expressed, vulvar exam revealed palpable growth in Peripheral Lymph Nodes: Small, soft, smooth, and symmetrical Integument appears mildly icteric, Hair coat in good condition for age and breed, no ectoparasites or dermatitis noted, mild dorsal scale Musculoskeletal: BCS 4/9, noted cachexia over epaxial muscles, no evidence of weakness or lameness during ambulation; no obvious orthopedic abnormalities noted (complete orthopedic exam not performed).

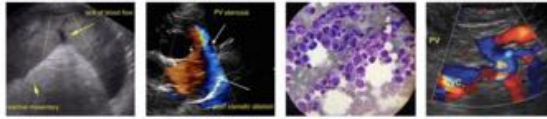
Abnormal lab-work values: CBC: WBC 73 (H), Neut 59.25 (H), Bands suspected, Lymph 6 (H), Mono 8 (H) Chem: BUN 5 (L), Glob 4.9 (H), ALT 541 (H), ALP >2000 (H), Tbili 4.8 (H), Amyl 333 (L)

Current Medications: On an antibiotic, unsure what kind

Radiographic Findings: Six radiographs of the thorax and abdomen are presented for review. Thorax: The cardiac silhouette is normal for size and shape. The lungs are within normal limits. There is no pulmonary mass, consolidation, esophageal dilation, pleural effusion or lymphadenopathy. No skeletal abnormalities are seen. Abdomen: on the lateral views, there does appear to be enlargement of the uterine body. There are fluid-filled tubular structures in the caudal abdomen that are suspect for dilated uterine horns. On the VD view, this is seen on the right. The liver is small in size. On the left lateral view, there is a soft tissue mass effect dorsal to the splenic tail. This is not seen on the other views. The stomach contains a small amount of ingesta and gas. The small bowel contains fluid and gas and is normal in diameter. The cecum is gas filled. The colon contains gas and feces. The splenic head, kidneys and urinary bladder are unremarkable. There is no free fluid or gas in the peritoneal cavity. No skeletal abnormalities are seen. Assessment: The radiographic findings are suspect for uterine enlargement. With the discharge from the vulva, a pyometra must be considered. There is a soft tissue mass effect in the cranial ventral abdomen that seems to be splenic. Hyperplasia, neoplasia and hematoma are possible. The liver is small in size. Differentials for microhepatia include: a variation of normal/relative to deep chested conformation, portosystemic shunt, congenital hypoplasia/aplasia, and hepatic cirrhosis. The icterus is concerning for hepatopathy, cholangitis, or hemolysis. Abdominal ultrasound is advised. Baseline bloodwork and urinalysis are recommended for guidance in further workup, if not recently performed. The thorax is unremarkable. There is no evidence of pulmonary metastatic disease.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*



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The **urinary bladder** wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. A scant amount of suspended, echogenic debris is observed within the lumen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The **left kidney** is normal size (6.44 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The **right kidney** is normal size (6.22 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### **Adrenal Glands**

The **left adrenal gland** is normal size (0.62 cm at cranial pole) (0.65 cm at caudal pole) (2.16 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The **right adrenal gland** is normal size (0.98 cm at cranial pole) (0.74 cm at caudal pole) (2.54 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

### **Spleen**

The **spleen** is normal in size (2.16 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

### **Liver**

The left side appears small in size overall. The right side of the liver is enlarged and irregular with a mass effect (>9.00 cm). The hepatic parenchyma is hypoechoic relative to the spleen with irregular peripheral contours and a mottled parenchyma. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

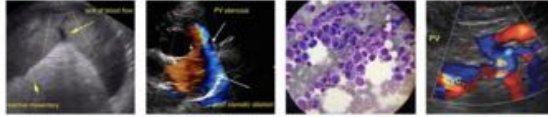
The **gall bladder** lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

### **Gastrointestinal**

The **stomach and intestine** are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

### **Pancreas**

The left limb is prominent is normal in size with slightly irregular peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated. The right limb is somewhat obscured by the hepatic pathology.



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**Free Abdomen**

A small amount of free fluid is present. The mesentery in the midabdominal region, surrounding the uterus, is mildly hyperechoic. Two prominent lymph nodes are observed at the aortic trifurcation, the larger measuring 2.21 x 1.08 cm.

**Other**

The **left ovary** is subjectively normal in size (1.42 x 0.74 cm). No obvious pathology is seen. The **right ovary** is subjectively normal in size (1.45 x 0.85 cm). No obvious pathology is seen.

The uterus is diffusely fluid-distended (mild to moderate). The wall is diffusely thickened (up to 0.47 cm) and irregular.

A **brief echocardiogram** reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- The uterine changes are most consistent with pyometra. However, mucometra and hydrometra cannot be completely excluded.
- A diffusely irregular liver with a right-sided mass effect. Differentials include neoplasia (i.e., adenoma, adenocarcinoma) versus excessive regenerative nodular hyperplasia versus inflammatory disease versus other.
- The pancreatic changes in the left limb are most consistent with mild pancreatitis.
- Mid-abdominal peritonitis is present, likely secondary to uterine and/or hepatic pathology.

**Secondary Findings**

- Bilateral degenerative renal changes
- The caudal abdominal lymphadenopathy most likely represents reactive lymphadenitis or lymphoid hyperplasia with a lower possibility of infiltrative neoplasia.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Regarding the uterine pathology, a vaginal cytology is recommended. If results confirm a pyometra, an abdominal exploratory is recommended with ovariohysterectomy as well as hepatic mass removal, debulking or biopsy. Prior to surgery, three-view thoracic radiographs are recommended as well as clotting times (i.e., PT/PTT). In the meantime, symptomatic care along with broad-spectrum antibiotic therapy is recommended.



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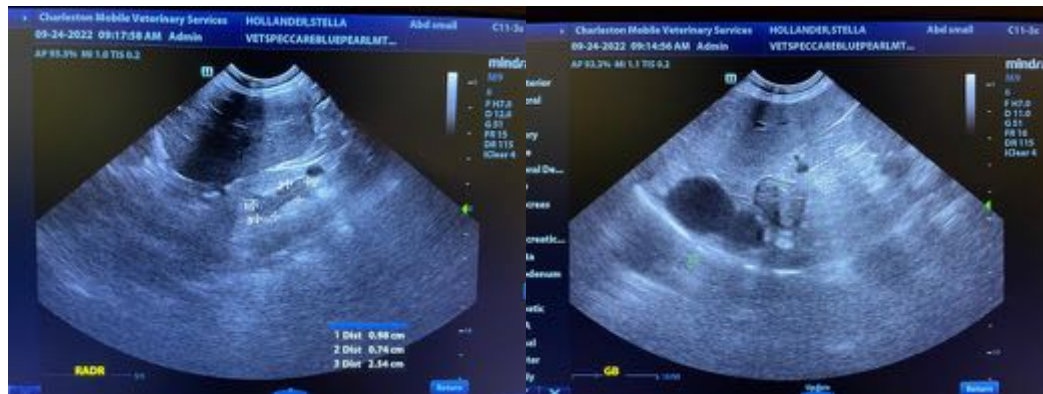
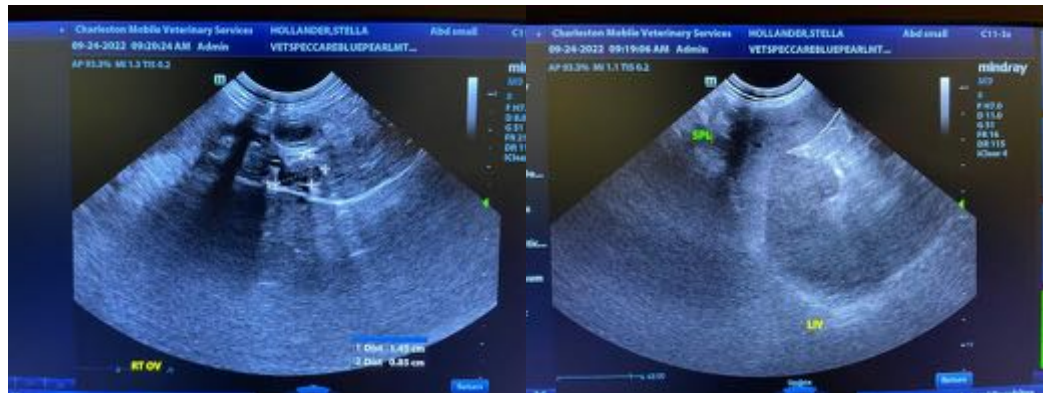
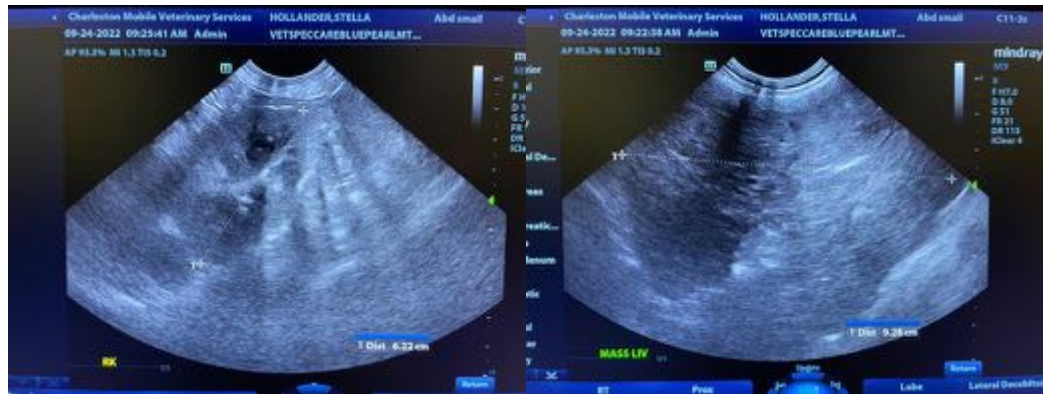
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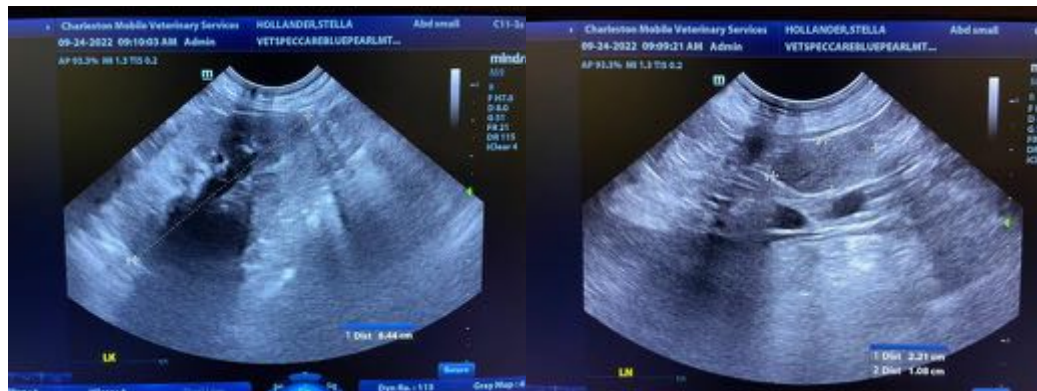
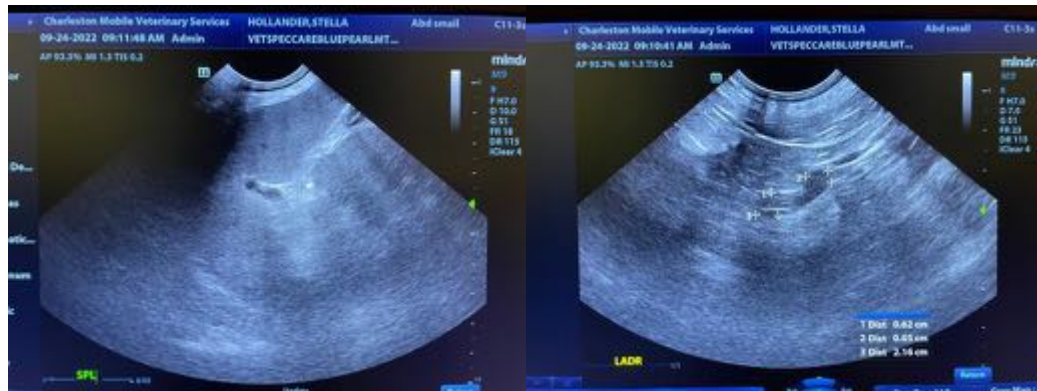
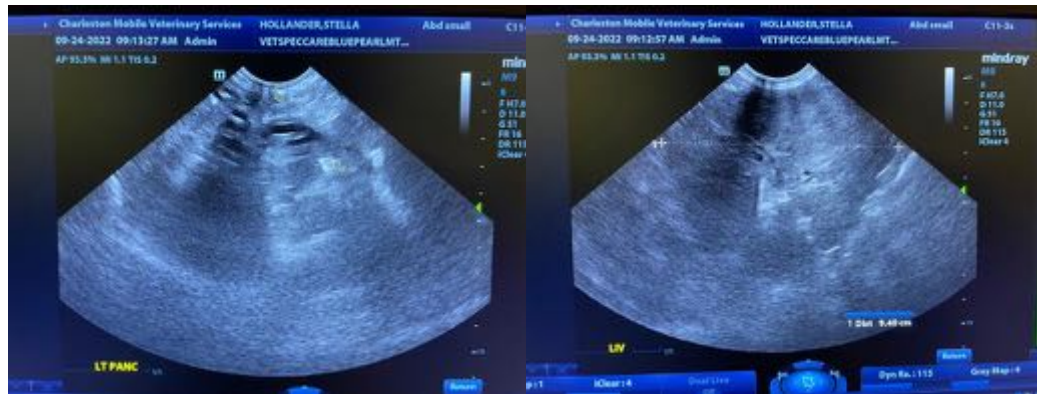
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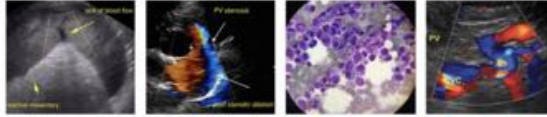
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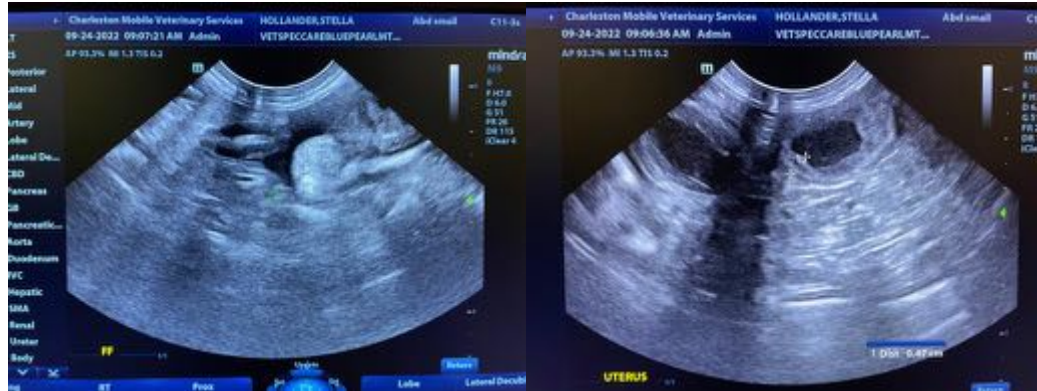
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)**  
[info@SonoPath.com](mailto:info@SonoPath.com)