Veterinary MRI and RT Center of New Jersey

VETERINARY MRI + RADIOTHERAPY CENTER OF NEW JERSEY

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Case Report #5

CT imaging allows essential three dimensional viewing to more easily determine paths of vessels.

CT imaging should be considered to detect abdominal vascular lesions such as portosystemic shunts

CT to Characterize Vascular Disease
Discontinuation of Caudal Vena Cava

Case Summary: An 11yr FS Weimeraner was presented for CT imaging of the thorax and abdomen to determine the extent of a liver mass discovered on abdominal ultrasound and to evaluate the lungs for metastatic disease. The patient had increased liver enzymes and was azotemic. Ultrasound also suggested the presence of ureteral calculi and found an abnormal, undefined "tubular" structure near the right kidney.

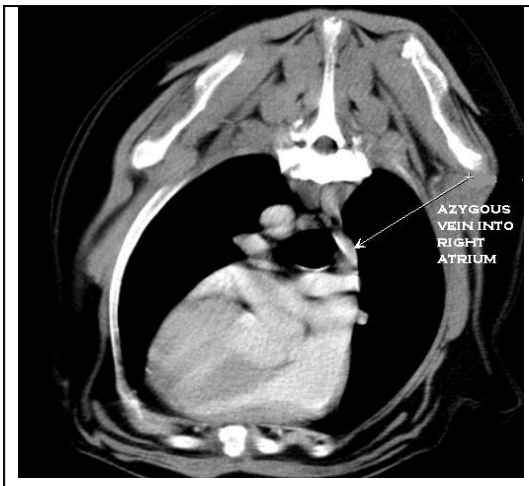

Figure 1: axial image through heart showing large azygous vein entering the right atrium

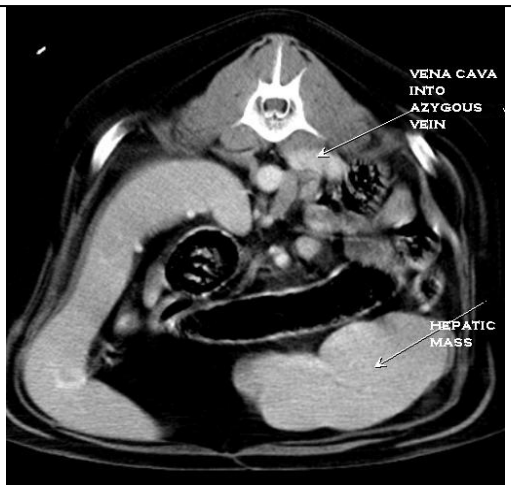

Figure 2: cranial abdomen (T13 level) showing aberrant vena cava emptying into the azygous vein

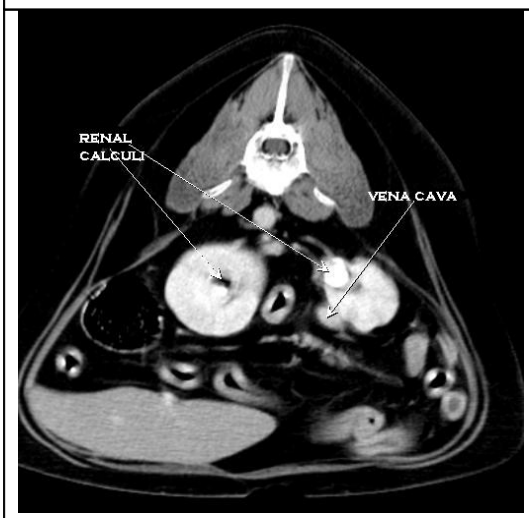

Figure 3: mid abdomen showing aberrant abdominal vena cava diving around the right kidney

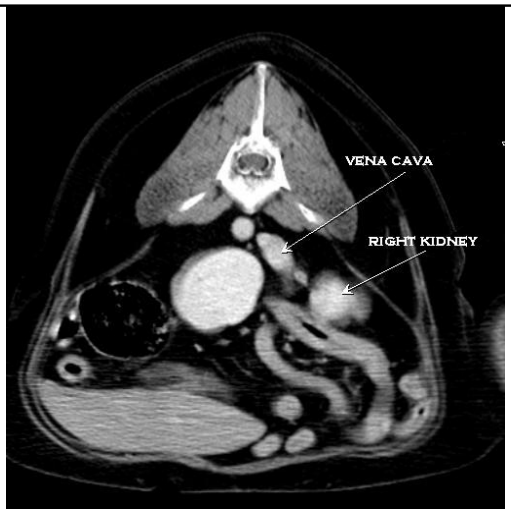

Figure 4: caudal abdomen showing initial diversion of the abdominal venal cava laterally

Findings: The CT images revealed a solitary hepatic mass in the right lateral lobe of the liver with no evidence of metastatic disease in the lungs or remainder of the abdomen. The patient also had mineral dense calculi in the right ureter, both renal pelvic regions and the neck of the urinary bladder. There was also an anomalous path of the abdominal vena cava with it diving ventral and lateral to the right kidney and connecting with the azygous vein immediately caudal to the diaphragm at the level of T13. There was no caudal vena cava adjacent to the aorta from immediately cranial to the kidneys to the liver. There was a reduced size vena cava segment from the level of the liver/hepatic veins to the right atrium.

Imaging Diagnosis: Findings were consistent with a resectable hepatic mass as well as a ureterolith, bilateral renal pelvic calculi, a cystic calculus, and chronic renal disease. Also noted, and focus of this case report, was an anomalous path and "discontinuation" of the cranial abdominal portion of the caudal vena cava, with connection of the caudal abdominal vena cava with the azygous vein.

Outcome: Patient recently had a successful surgical removal of the diseased right lateral liver lobe and bladder calculus. Patient was doing well at last report. Knowledge of the abnormal abdominal vascular anatomy prior to surgery assisted surgical planning and reduced surgery time.

Please do not hesitate to contact our facility to discuss the value of a CT or MRI study for a particular patient prior to requesting an imaging study.
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