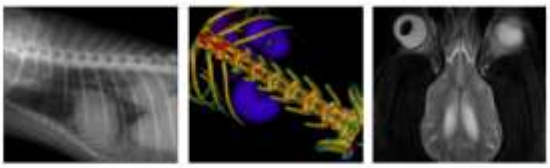

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1-800-838-4268 info@sonopath.com

PATIENT

Henry Pain

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

CM

AGE

8 Months

INTERPRETED BY

Sebastian Schaub, DVM
Dr. med. vet. DipECVDI

HOSPITAL NAME

VetMed Consultants

REFERRING VET

Nathan Stephanoff

INVOICE

49548

DATE

1-13-22

PRESENTING CLINICAL SIGNS

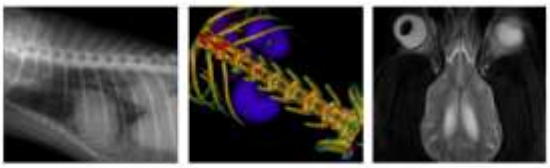
Henry presented with a 4 month history of pollakiuria and blood tinged urine. He was treated with clavamox at that time, not a significant response. He was neutered 2 months later. Then, 3 days ago Henry was unable to urinate. Henry has been catheterized twice since then to allow him to urinate/dislodge any urethral stones. Bile acids test and urinalysis were submitted. Bile acids results are still pending. Last night he was unable to urinate. The urethral stone could not be flushed back into the bladder and he is completely obstructed. He has had a decreased appetite and water intake since Sunday. He has also been nauseous (drooling without vomiting), lethargic, and shaking. He acts painful. A portosystemic shunt is suspected. The owner reports he has demonstrated abnormal behavior since they got him. Current medication: Clavamox. Abnormal PE/Chem/CBC/UA Results: PE: **Neurologic:** Abnormal: He appears confused, depressed, disoriented, head pressing (hepatic encephalopathy signs) **Urogenital:** Abnormal: The urinary bladder is fully distended, firm and painful Lab: Bloodwork is dated 1/10/22. CBC - PCV = 42.4%, WBC = 10660, neutrophils = 8310, lymphocytes = 1750, monocytes = 570. Platelets = 211,000. Chemistry - Phosphorous = 6.0, Cholesterol = 82, ALT = 162, ALP = 276, Sodium = 156, all else normal. Urinalysis - USG = 1.036, pH = 6.5, 2+ protein, WBC = ++/hpf, RBC = TNTC, 3+ bacteria, urate crystals TNTC. Bile acids - pending. Cystoscopy Findings: The lower urinary tract is imaged with a 7.8 Fr flexible video ureteroscope. A stone is found lodged in the penile urethra proximal to the os penis. The stone is tan/green in coloration and has a rough round surface. Mucosa surrounding the stone is pale and necrotic. The stone cannot be flushed or pushed retrograde. The stone is broken into fragments using Holmium laser. Stone fragments are flushed into the bladder. Urethral mucosa from the stone proximal is irregular, has areas of sloughing mucosa and mixed erythema and pale areas. Tan colored crystals are adhered is large amounts to the necrotic debris and mucosa. Multiple small stones, stone fragments and a large amount of sand/crystals are present within the bladder. Bladder walls are thickened, irregular/granular and erythematous/hemorrhagic. Sand/crystals are adhered to the inflammed bladder walls. Some bladder mucosa is sloughing from the wall. Ureteral orifices are visualized in their normal positions and pulsatile normal appearing urine observed flowing from both sides. The pelvic urethra is accessed through a temporary perineal urethrotomy. The perineum is shaved, scrubbed and draped. A 5 mm skin incision is made just ventral to the anus on the midline. A 16-gauge needle is placed into the pelvic urethra under ultrasound and endoscopic guidance. A .035” PTFE coated urological guide wire is passed through the needle into the urinary bladder. The needle is removed and the urethrotomy is dilated to 16 Fr using serial dilators. A 16 Fr peel-away vascular access catheter is placed. The bladder is imaged using a 2.7 mm cystoscope through the access catheter. All stones, debris, blood clots, sand and stone fragments are flushed from the bladder using an Ellik evacuator through the urethral access catheter. Adhered debris and sand is scraped from the bladder walls. The urethral catheter is removed. Lidocaine is infused into the urethra. A bupivacaine block is performed at the incision site. The incision is left to heal by second intention.

COMPUTED TOMOGRAPHY OF THE ABDOMEN

A high resolution pre- and post-contrast CT study of the abdomen is provided for review.

COMPUTED TOMOGRAPHIC FINDINGS

Both kidneys present a mild to moderate increased volume and are within normal limits for shape and organ architecture. The renal pelvis bilaterally is mildly dilated, measuring up to 5 mm in height. After contrast administration in the parenchyma of the left kidney, two well-defined, parenchymal filling defects are visible. The ventral urinary bladder wall is moderately swollen and



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presents an irregular mucosal lining, multiple small gas inclusions are seen along the ventral urinary bladder wall.

The adrenal glands are within normal limits for size, shape and organ architecture.

The spleen presents with normal shape, even surface, uniformly attenuating parenchyma and homogeneous contrast enhancement, unremarkable.

The hepatic volume is moderately decreased.

The segment of the portal vein cranial to the splenic vein presents a moderately decreased diameter, mildly progressively tapering in its course cranially. Originating from the left gastric vein, a short anomalous vascular loop is seen bending dorsally and medially and draining into the caudal vena cava from the left, cranial to the left renal vein. The diameter of the anomalous vessel is approximately 4 mm.

The pancreas is evenly contoured, the pancreatic parenchyma is homogeneous and presents uniform contrast enhancement.

The position, delineation, wall and content of the gastrointestinal tract are considered within normal limits throughout.

Current state post urethrostomy in the perineal region.

COMPUTED TOMOGRAPHIC DIAGNOSIS

- Single congenital extrahepatic portosystemic shunt, left gastric vein to caudal vena cava (left gastric shunt)
- Microhepatica
- Renomegaly
- Current state post perineal urethrostomy and endoscopic removal of bladder stones
- Cystitis
- Bilateral pyelectasia – due to preceding urethral obstruction
- Left sided renal cysts

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The current CT study is consistent with a congenital single extrahepatic portosystemic shunt (left gastric vein to caudal vena cava). Secondary microhepatica, renomegaly and likely ammonium-urate formation in the urinary bladder – bladder stones are completely removed.

Surgical intervention either by a slow progressive closure technique (ameroid constrictor, cellophane banding) is the therapy of choice, in the current case ligation of the shunt vessel may be feasible as well if there is no evidence of portal hypertension during digital compression of the shunting vessel. Empirical treatment until surgery along with feeding of a hepatic diet is recommended.

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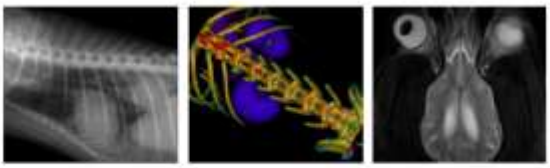

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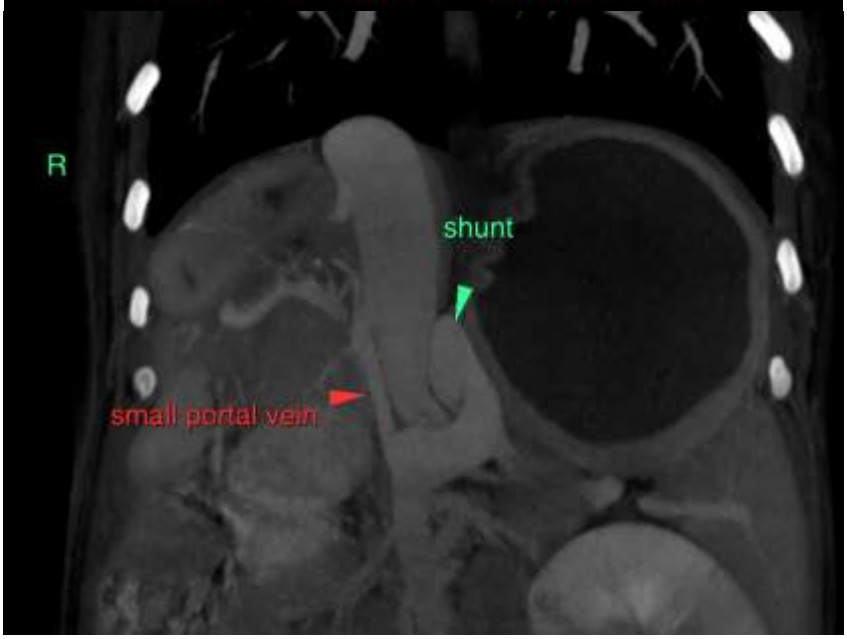

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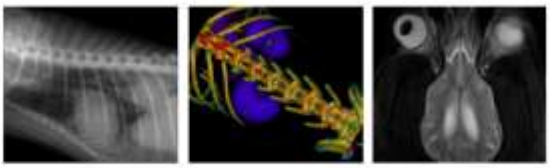

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Sebastian Schaub, Sebastian Schaub, DVM, Dr. med. vet. DipECVDI
sebast.schaub@gmail.com