



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT**  
Rainbow Petren

**SPECIES**  
Canine

**BREED**  
Border Collie

Rainbow presented with an 8 month history of neurological signs. He has a left sided head tilt and circles to the left. He sometimes acts confused, gets stuck in corners, pants and breaths rapidly at night. He eats slower than he used to. A splenic mass (small cell lymphoma) and bladder mass (leiomyoma) were removed in November 2021. Vestibular disease was suspected beginning November 2021. Rainbow also has decreased energy, mobility has decreased, sleeping has increased, not bright eyed, weak, and back legs will sometimes become stiff/seize up. Purpose of CT scan: Diagnostic Location of CT scan: Head, chest, abdomen Current medication: None Abnormal PE/Chem/CBC/UA Results: PE: **\*\*Neurologic:\*\*** Abnormal: Holds tail down; severely reduced conscious proprioception both rear legs, left > right, weak in rear legs Lab: Blood work is dated 6/14/22. CBC - PCV = 41%, WBC = 7200, neutrophils = 4672, lymphocytes = 1572, monocytes = 490. Platelets = 463,000. Chemistry - Phosphorous = 2.3, all else normal. Urinalysis - not performed.

**COMPUTED TOMOGRAPHY OF THE SKULL, THORAX AND ABDOMEN**

**SEX**  
CM

A high resolution pre- and post-contrast CT study of the skull, a plain CT study of the thorax and a post-contrast CT study of the abdomen are provided for review.

**COMPUTED TOMOGRAPHIC FINDINGS**

**AGE**  
Skull

14 Years  
The tooth elements 101-105, 202, 210, 301, 302, 305, 401, 402, 404 and 410 are absent. Fragments of the roots of triadan 401 and 402 are appreciated in their respective alveolar crest.

**INTERPRETED BY**  
Sebastian Schaub, DVM  
Dr. med. vet. DipECVDI

The nasal cavity presents the expected aerated spaces between thin & even conchae and turbinates with smooth mucosal lining.

Both temporomandibular joints present congruent joint spaces with even subchondral bone surfaces and are considered within normal limits.

Both tympanic bullae are aerated, the mucosal lining is not seen, the bony wall is smooth and thin. The external ear canals are within normal limits.

The brain presents no deviation from normal anatomy and symmetry. The brain parenchyma is homogeneous and within normal limits for attenuation and distribution of contrast enhancement. The ventricular system is non-dilated and symmetric.

The submandibular and medial retropharyngeal lymph nodes are small and elongated with a normal short-to-long-axis-ratio is < 0.5, the attenuation and contrast enhancement pattern is uniform.

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Thorax

52468  
The intervertebral disc T13/L1 & L2/L3 are mildly protruding into the vertebral canal, occupying approximately up to 15% of the cross sectional area at the same level.

**DATE**  
6-15-22  
The sternal, cranial mediastinal and tracheobronchial lymph nodes are small elongated with a normal short-to-long-axis-ratio is < 0.5, the attenuation pattern is uniform and considered within normal limits.

The cardiovascular structures including the pulmonary vasculature are within normal limits.



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The bronchial tree presents with regular branching and tapers uniformly towards the periphery as expected, the bronchial walls are thin and smooth. The bronchus-to-artery ratio is within normal limits.

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The lung parenchyma presents the expected architecture and attenuation behavior with interspersed punctuate mineralization.

Small incidental gas pockets are seen within the esophageal lumen, there is no evidence of abnormal dilation.

Abdomen

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The serosal fat presents normal attenuation behavior. There is no evidence of peritoneal effusion or peritonitis.

Both kidneys present within normal limits for size, shape and organ architecture. After contrast administration a bilaterally symmetric and uniform nephro- and pyelogram is noted.

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

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

**AGE**

14 Years

The spleen is absent.

In the lumen of the left branch of the portal vein, a filling defect is seen, occupying approximately up to 60% of the lumen of the left branch of the portal vein.

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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.

**HOSPITAL NAME**

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Level with the right anal sac, a soft tissue attenuating nodule, measuring 7.8 mm in diameter is seen.

Multiple metal attenuating pellets are seen along the abdominal wall, retroperitoneal space.

**REFERRING VET**

Nate Cox

The vertebral endplates of L3/L4 present a mild to moderate sclerosis of the subchondral bone with mild heterogeneity of the vertebral endplates and small well-defined crescent shaped defects. The subchondral bone of the vertebral endplates of L1/L2 is mildly irregular and the respective intervertebral disc space is moderately narrowed.

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**COMPUTED TOMOGRAPHIC DIAGNOSIS**

- Thrombus in left intrahepatic branch of portal vein
- Nodular lesion region of right anal sac
- Intervertebral disc protrusion T13/L1 & L2/L3 with possible dynamic myelocompression
- Chronic discopathy L1/L2 and L3/L4 with chronic osseous remodeling of the associated vertebral endplates
- Spondylosis deformans
- Multiple absent teeth
- Normal brain

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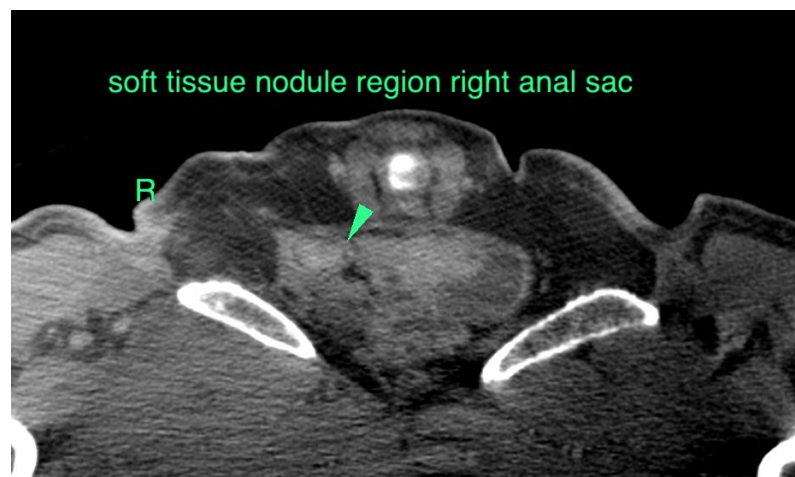
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The CT study presents without abnormalities, explaining the described neurological clinical signs, no alterations of the brain can be appreciated. However, a negative CT study does not rule out intraparenchymal lesions of the CNS entirely (e.g. infarction, diffuse parenchymal changes). If not done so yet, recommend complementing workup by a CSF tap. In case of the strong clinical suspicion of structural intraparenchymal changes an MRI may be considered.

The thrombus in the left intrahepatic branch of the portal vein is likely an incidental finding. Potential underlying causes for portal vein thrombosis include hypercoagulable state (e.g. protein losing enteropathy, renal disease, hepatitis, hyperadrenocorticism, immune mediated disease) or secondary due to neoplasia (e.g. round cell neoplasia, carcinoma).

Check the right anal sac for potential mural mass, suggestive for anal sac adenocarcinoma.





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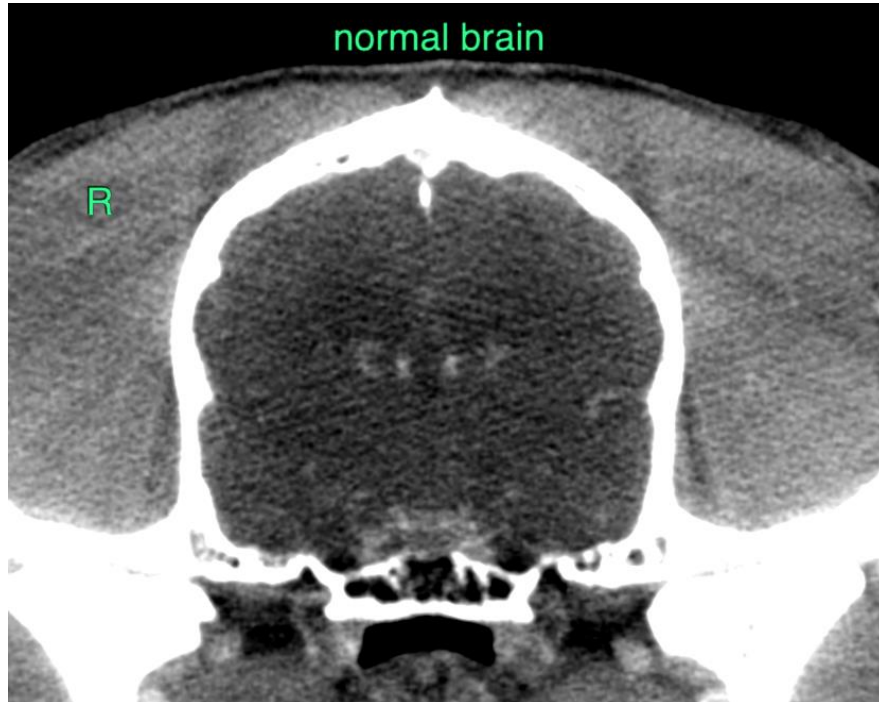
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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