



PATIENT PRESENTING CLINICAL SIGNS

PATIENT
Charlie Miller

SPECIES
Canine

BREED
Yorkie Mix

SEX
Male

AGE
3 Years

Charlie is a 3y MN Yorkie presenting as a HBC. The owner found the patient across the road not moving but crying. Historically healthy per O. Conclusion of rad report Conclusion 1-Acute traumatic segmental fracture, left zygomatic arch with moderate medial displacement and surrounding soft-tissue swelling 2-Acute traumatic depression fracture, frontal bone 3-Soft-tissue swelling and edema, dorsal aspect of nasal and skull 4-Minimally cardiomegaly and left atrial enlargement 5-Mild diffuse bronchial lung pattern 6-Narrowed intervertebral disk space, C3-4 with possible herniated/bulging mineralized intervertebral disk material 7-Narrowed thoracolumbar intervertebral disk spaces Recommendations The fractures in the left zygomatic arch and surrounding soft-tissue swelling and emphysema in the skull region are due to the reported vehicular trauma. No pulmonary contusions are identified. The cardiomegaly left atrial enlargement is consistent with acquired heart disease and if a heart murmur is noted echocardiography would be ideal. The differential diagnosis for the mild diffuse bronchial lung pattern includes bronchitis/airway disease or age related pulmonary changes. The narrowed intervertebral disk space in the cervical region and suspect mineralized herniated or bulging intervertebral disk material but likely indicate chronic degenerative intervertebral disk disease. The narrowed thoracolumbar intervertebral disk spaces are consistent with chronic degenerative intervertebral disk disease. If further evaluation of the skull/head is needed CT would be suggested. Read By: Graham Burns, DVM, DACVR

COMPUTED TOMOGRAPHY OF THE SKULL

A high resolution plain CT study of the skull including the neck is provided for review.

INTERPRETED BY COMPUTED TOMOGRAPHIC FINDINGS

Sebastian Schaub, DVM
Dr. med. vet. DipECVDI

A moderate bradygnathia superior is noted. The tooth elements 105, 205, 305, 306, 405 and 411 are absent.

Running through the left aspect of the calvarium, from the dorsal aspect of the right parietal bone caudoventrally up to the occipital bone, a non-displaced fissure line is seen.

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The dorsal osseous lamella of the frontal bone bilaterally presents with multiple fracture lines. A moderate soft tissue swelling with multiple gas inclusions is seen along the dorsal aspect of the nose and the frontal sinus.

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In the nasal cavity, a mild to moderate amount of soft tissue material is attached to the nasal conchal & turbinate structures. The frontal sinuses are filled with soft tissue material.

The left zygomatic arch presents with a double segmental fracture with medial displacement of the osseous fragments.

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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.

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At the tip of the odontoid peg of C1, irregular mineralized, well-defined material is seen, partially encompassing the tip of the odontoid peg.

The subchondral bone of the cranial vertebral endplate of C4 presents with multiple crescent shaped defects, demarcated by thin sclerotic rim. The intervertebral disc space C3/C4 is narrowed. At the proximal aspect of the vertebral endplate of C4, a small isolated mineralized



PATIENT body is seen, very mildly pointing onto the vertebral canal.

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COMPUTED TOMOGRAPHIC DIAGNOSIS

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- Acute traumatic fracture of the left aspect of the calvarium – including the parietal and occipital bone – without displacement
- Acute traumatic double segmental fracture left zygomatic arch
- Comminuted fracture dorsal osseous lining of the frontal sinus with secondary soft tissue swelling and mild emphysema
- Suspect hematoma in frontal sinuses and the nasal cavity
- Brachygnathia superior
- Schmorl's nodules cranial vertebral endplate C4
- Mineral deposits surrounding the tip of the odontoid peg
- Multiple absent teeth, see above

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

In addition to the multiple fractures of the viscerocranium, appreciated by radiography, there is a non-displaced fracture line running through the left aspect of the calvarium. Depending on the neurological status, intracranial hemorrhage can be present.

Consider surgical management of the fracture zygomatic arch as the medially displaced fragments can interact with the ramus of the left mandible, causing pain or jaw-lock. Conservative management of the remaining fractures is considered as the therapy of choice.

The mineralization encompassing the odontoid peg is likely an incidental finding with calcium salt deposits, it may be associated with pain if the volume is increasing and causing compressive myelopathy.

The changes of the subchondral bone of the cranial vertebral endplate C4 are chronic and likely represent Schmorl's nodules – small herniations of disc material into the subchondral bone due to disturbed ossification. The small, mineralized body at the proximal aspect of the cranial vertebral endplate of C4 can be a sequela to disturbed ossification of the cranial vertebral endplate of C4 as well and there is no sign for fragment bed supporting the diagnosis of small chip fracture of the endplate.

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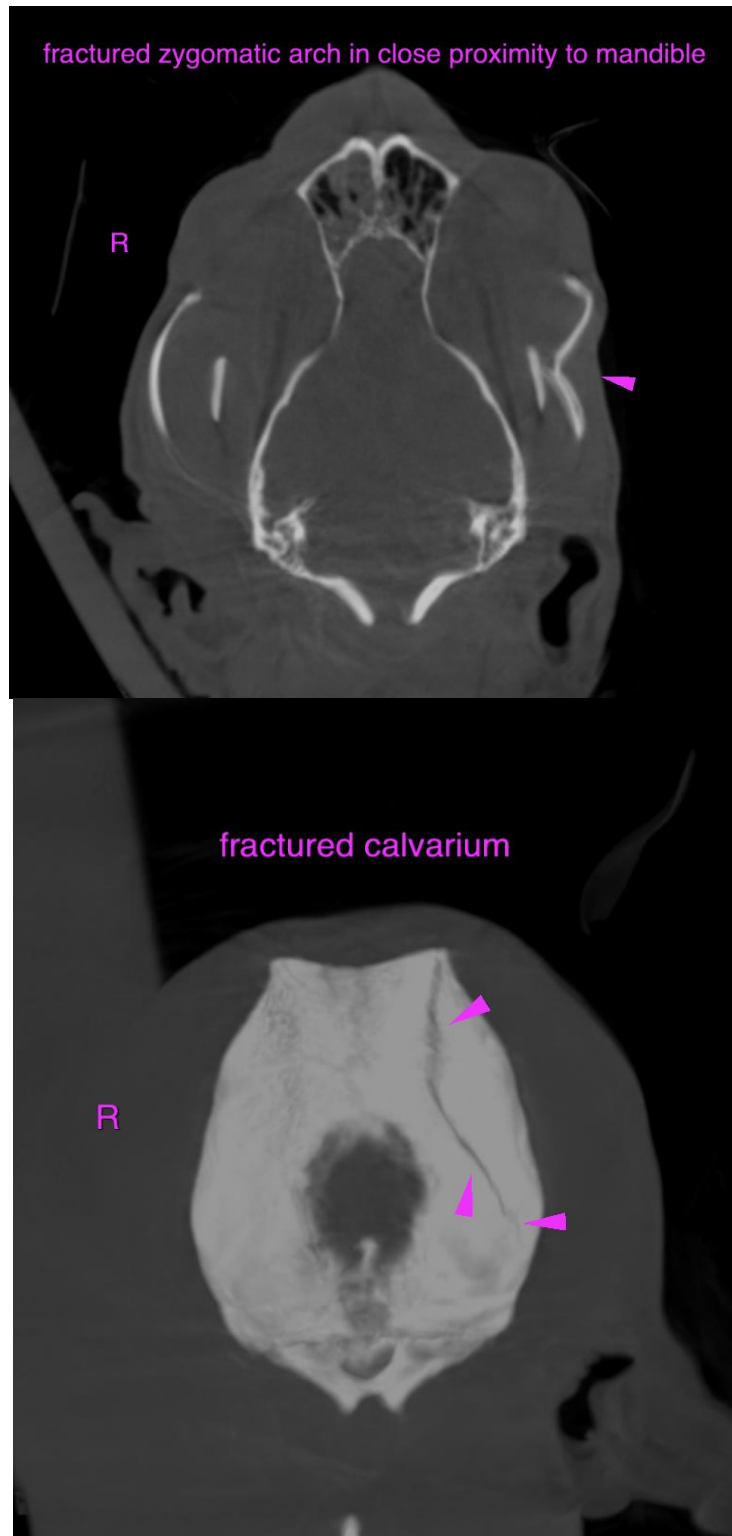
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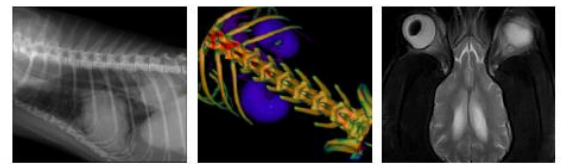
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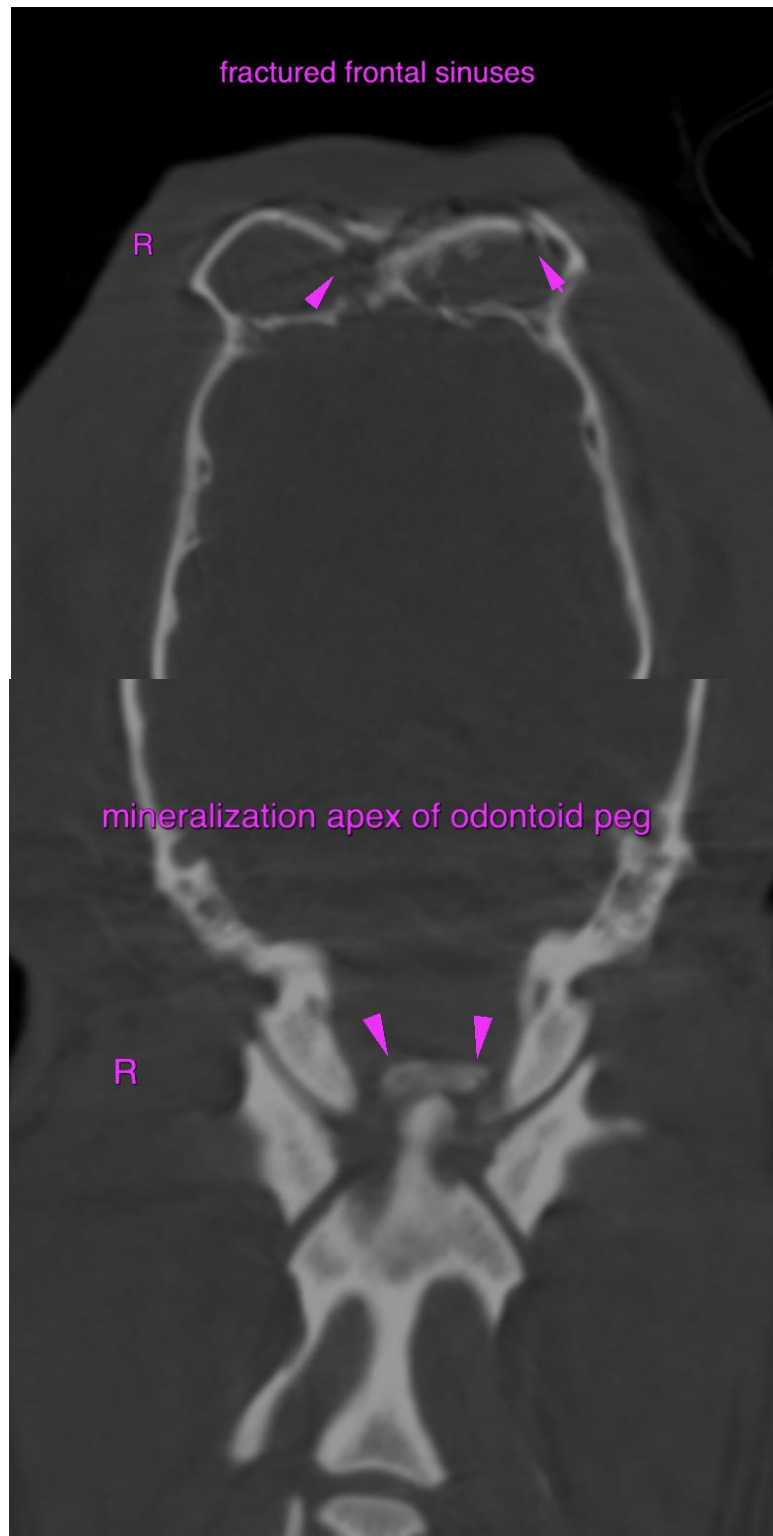
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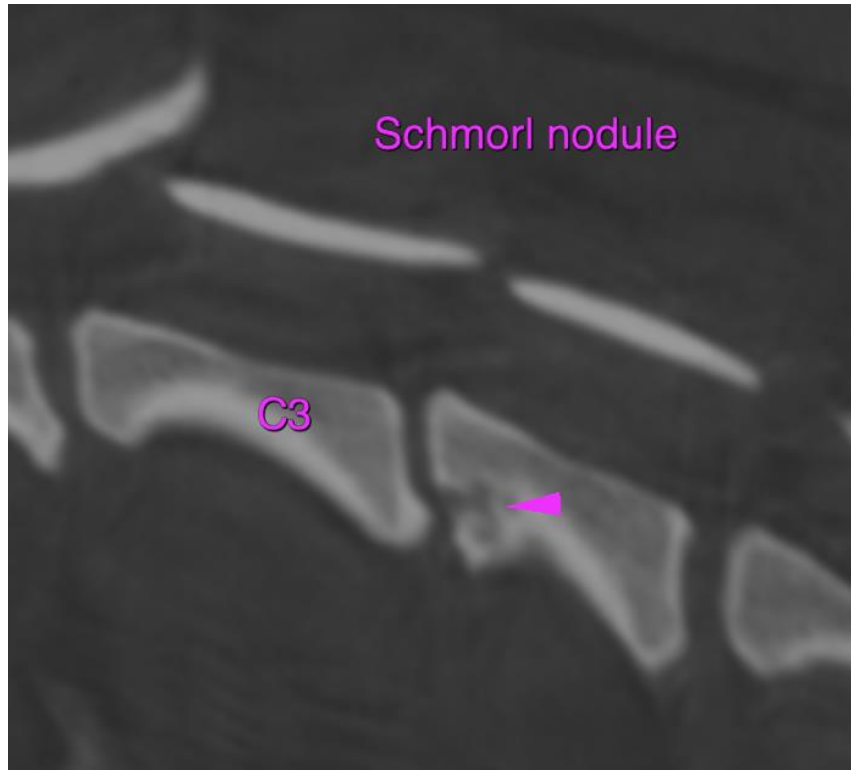
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Sebastian Schaub, Sebastian Schaub, DVM, Dr. med. vet. DipECVDI
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