



## PATIENT

Moo Advirson

## SPECIES

Canine

## BREED

Medium Mixed Breed

## SEX

SF

## AGE

10Y

## WEIGHT

34.1lbs

## INTERPRETED BY

Tilde Rodrigues Froes,  
DMV, MSc., Dr. Med  
Vet., Dipl. CBraRVet

## IMAGING PERFORMED BY

José L. Alvarado Bruno,  
CVT - CT Scan Technician

## HOSPITAL NAME

Veterinary Image Center

## REFERRING VET

Chelsea Bickerstaff-Dost,  
DVM

## INVOICE

74873

## DATE

5-4-26

## PRESENTING CLINICAL SIGNS

Request advanced diagnostic imaging with contrast (CT or MRI) for a canine patient with a significant oncologic history and concerning new neurologic findings. This patient has a prior history of neoplasia (suspected salivary carcinoma in 2016) involving the right maxilla and previously underwent a partial maxillectomy. The surgical history raises concern for the possibility of incomplete excision and risk of local recurrence. The patient is now presenting with bilateral facial nerve deficits. Given the distribution of neurologic signs, differential diagnoses include, but are not limited to:

- Recurrence or progression of neoplastic disease with possible perineural invasion
- Residual tumor from incomplete surgical margins
- Middle ear disease
- Central neurologic involvement affecting cranial nerve VII bilaterally

Advanced imaging with contrast is recommended to further evaluate the maxillofacial region, tympanic bullae, and intracranial structures. Contrast-enhanced imaging may be helpful for identifying soft tissue changes, detecting tumor recurrence, assessing surgical margins, and differentiating between neoplastic and inflammatory or infectious processes.

Abnormal PE/Chem/CBC/UA Results: CBC --- unremarkable CHEM --- CREA mild increased (2.2)

## COMPUTED TOMOGRAPHIC STUDY OF THE HEAD

A pre- and post-contrast CT study of the head are provided for review totaling 2 series. One pre-contrast series of the head bone algorithm. One post-contrast series of the head, soft tissue algorithm.

## COMPUTED TOMOGRAPHIC FINDINGS

A large, expansile soft tissue mass is centered within the ventral aspect of the right retrobulbar space. The lesion is poorly marginated, heterogeneous, and characterized by a predominantly hypoattenuating center with multiple cavitory areas and irregular peripheral contrast enhancement.

The mass demonstrates aggressive behavior with invasion of adjacent osseous structures, including the zygomatic process of the maxilla, perpendicular plate of the palatine bone, mid-caudal portion of the maxilla, palatine bone, pterygoid bone, and the body of the presphenoid bone. Subtle hypoattenuation is noted along the adjacent cranial floor, which may reflect early infiltration or artifact

Caudally, the lesion extends into adjacent fascial and subcutaneous tissues, involving the region of the ophthalmic plexus bilaterally. There is marked involvement of the right periorbital fat, with mild contralateral extension toward the left side, adjacent to the left ophthalmic plexus and left pterygoid musculature. The right pterygoid muscle is poorly defined.

Further extension is noted into the pharyngeal region adjacent to the pterygoid bone. Rostral extension involves the maxillary region with areas of bone lysis and communication with the oral cavity and nasal cavity, including involvement of the hard palate.

The lesion results in right-sided exophthalmos. The right globe remains morphologically preserved despite close association with the mass. The lesion measures at least 4.7 × 3.6 × 3.3 cm.

Within the right nasal cavity, adjacent to the lesion, there is mild to moderate loss of turbinate detail, because of the concurrent invasion. The left nasal cavity is unremarkable.

The right parotid salivary gland is not identified (possible prior surgical removal). The right zygomatic salivary gland is also absent, although the described mass occupies this region. The left zygomatic, parotid, and bilateral mandibular salivary glands are within normal limits.



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The medial retropharyngeal and mandibular lymph nodes are within normal limits.

The tympanic bullae and external ear canals are unremarkable.

No additional intracranial mass effect or lesions are identified.

Multiple teeth are absent (Triadan 106, 107, 108, 109, 110, and 208), with associated right maxillary bone loss.

The temporomandibular joints are unremarkable.

## COMPUTED TOMOGRAPHIC DIAGNOSIS

- Large, aggressive, infiltrative right retrobulbar and maxillofacial mass with extensive osseous destruction and regional soft tissue invasion. Primary differential diagnoses include recurrent or residual neoplastic disease (e.g., salivary gland carcinoma), with possible perineural and soft tissue spread.
- Extension into the pharyngeal region, contralateral soft tissues, and possible early intracranial involvement (discrete lesion, consider artifact).
- Mild to moderate turbinate loss in the right nasal cavity, likely secondary to adjacent invasive process.
- Possible post-surgical changes include absence of right parotid and zygomatic salivary glands.
- Multiple missing teeth, and right maxillary bone loss.
- No evidence of regional lymphadenopathy.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The imaging findings are highly concerning for recurrence or progression of the previously diagnosed malignant neoplasm, most consistent with aggressive salivary gland carcinoma. The infiltrative growth pattern, osseous destruction, and cross-compartment soft tissue extension likely represent advanced local disease.

Although no definitive intracranial mass is identified, subtle hypoattenuation along the cranial floor warrants caution, as early skull base infiltration cannot be excluded based on CT alone.

No significant lymph node enlargement is identified.

Histopathological confirmation via biopsy or fine-needle aspiration is recommended. Contrast-enhanced MRI of the head is advised for improved evaluation of perineural spread, cranial nerve involvement, and potential intracranial extension.

Oncologic consultation is recommended for comprehensive staging and treatment planning.



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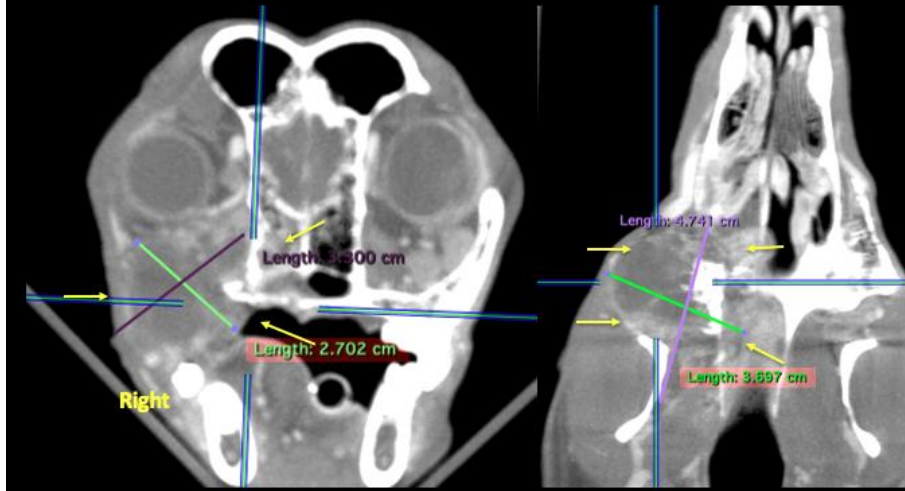
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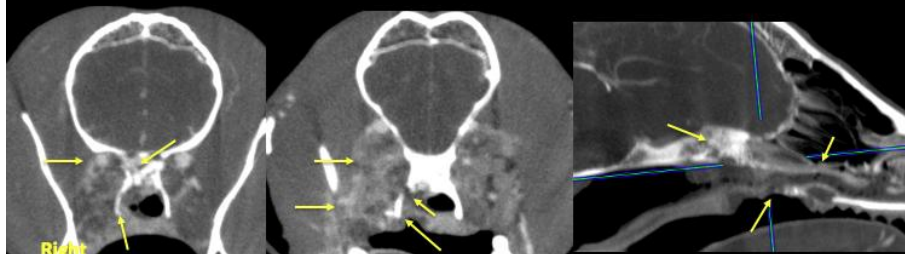
## DATE

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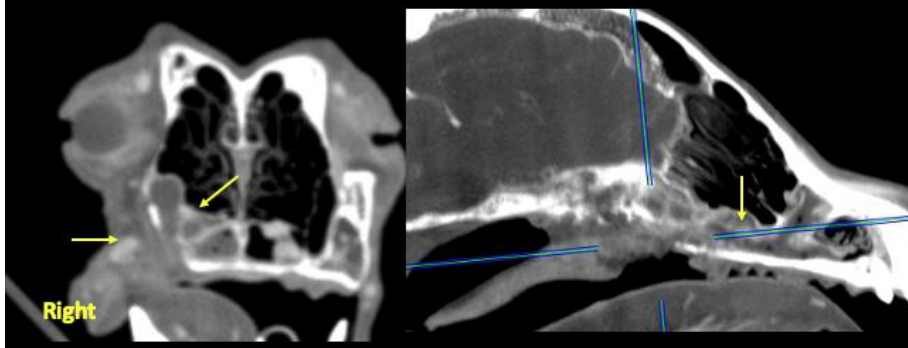
**Fig. 1.** Large, heterogeneous, poorly marginated mass centered in the right retrobulbar space with cavitory areas and peripheral contrast enhancement.



**Fig. 2.** Osseous Invasion  
Extensive bone lysis involving the pterygoid and presphenoid bones consistent with aggressive behavior.



**Fig. 3.** Loss of turbinate detail in the right nasal cavity adjacent to the lesion.





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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.

**Tilde Rodrigues Froes, DMV, MSc., Dr. Med.Vet., Dipl.CBraRVet**  
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