

CANINE ZYGOMATIC SIALOCELE

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A 10 year old female spayed Border Col-lie mixed breed canine was referred to the Animal Specialty and Emer-gency Center (ASEC) for assessment of a Zygomatic sialocele. The patient had an unknown duration of progressive left exop-thalmus and oral swelling adjacent to the left 4th mandibular molar. Aspiration of the oral swelling with the referring veterinarian was consistent with saliva. Blood work and chest radiographs taken at that time were both unremarkable. Upon presentation to ASEC both the exophthalmus and oral swell-ing were evident. A commuted tomography (CT) scan of the skull was recommended prior to surgical intervention.

CT scan with contrast of the skull was performed prior to surgery. The CT revealed a normal right zygo-matic salivary gland which measured 2.1 cm in height and 1.0cm in width on axial images. The left zygo-matic salivary gland was laterally displaced towards the zygomatic bone and irregularly shaped, measur-ing 3.0cm in height and 0.9cm in width; no evidence of mineralization within the gland or associated sali-vary ducts were recognized (Image 1).



Image 1: The normal right zygomatic salivary gland(Z) can be seen in this axial CT image. The hypo-attenuating(darker gray than soft tissue) mucus from the left zygomatic sialocele is labeled (S).

Image 2: This coronal image shows the left zygomatic sialocele(S) pressing on the left orbit resulting in exophthalmus. The normal right globe with hyperattenuating lens can be identified in the right orbit

A fluid attenu-ating minimally contrast enhancing mass effect was identified in the left side of the head. This extended rostrally to the left orbit; caudally to the left ear canal and bulla where it dorsally displaced the horizontal ear canal resulting in narrowing; medially to mid-line, where it invaded and thickened the soft palate. Within the oral cavity the mass effect was noted to be displacing the left and dorsal walls of the oropharynx and caudal oral cavity axially. This structure was tor-tuous and irregularly margined, measuring at least 10.1cm in length, 7.1cm in width, and 7.5cm in height. The remaining salivary glands and lymph nodes were normal in appearance and in size. Based on the find-ings of the CT salivary mucocele formation without neoplasia or sialolith formation as an inciting cause was suspected.

The patient was taken to surgery where a hori-zontal incision was created over the

dorsal aspect of the left Zygomatic arch.^{1,2} The fascia on either side of the arch was incised to facilitate dissection. Dissection revealed a severely enlarged and edematous Zygomatic salivary gland (Image 3).



Image 3: Zygomatic salivary gland exposed after zygomatic arch osteotomy. Patient is in right lateral recumbancy and nose is to the left in image.

An osteotomy was performed over the mid to cranial third of the Zygomatic arch to aid with exposure to the salivary gland and associated capsule.^{1,2} Removal of the gland en bloc was not able to be performed as it proved to be extremely friable, breaking into pieces during the process. Dissection to the deep margin of the gland was achieved. Ligation using a combination of suture and hemoclips was used to complete the excision. Upon further evaluation a pocket of mucoid salivary material was identified lateral and deep to the globe, this was also removed. The area was flushed, and the osteotomized bone was replaced after pre-drilling holes with a 2.0 drill bit. #1 Novafil was used to anchor the bone fragment with a locking suture pattern. Prior to recovering the animal the oral opening to the Zygomatic gland located at the level of the maxillary 4th pre-molar was evaluated, probed, and suctioned to encourage drainage and resolution of the swelling. The salivary gland was submitted for histopathology which revealed mild, chronic-active, sialoadenitis with ductular ectasia and periglandular extracellular mucoid accumulation; consistent with a sialocele.

Small animals have a collection of major and minor salivary glands that produce secretions which are either directly deposited in the oral cavity or track along a network duct system before being deposited into the oral cavity. In the canine and feline patient these secretions mainly function to lubricate the mouth and assist in forming a food bolus for transport down the esophagus, which is contrary to humans where amylase production is an important factor initiating carbohydrate digestion.¹ Major salivary glands in the canine and feline patient are the Mandibular, Parotid, Sublingual and Zygomatic; with the feline also having a prominent Molar gland.¹ The mandibular salivary and sublingual glands are the most frequently affected followed less frequently by the parotid and zygomatic salivary glands.^{3,4}

Salivary mucoceles are a condition that can result from a number of causes. Differential diagnoses for salivary mucocele formation are trauma, foreign bodies, sialoliths, sialadenitis, sialadenosis, neoplasia, abscess, enlarged lymph nodes, cystic Rathke's pouch, and idiopathic reasons.¹⁻⁴ Trauma associated events tend to be the most common. Typically patients will present with a fluctuant non-painful swelling across the

affected area. Aspiration of the fluid can help to confirm diagnosis, but should not be thought of as permanent solution. Surgical excision is recommended for alleviation of clinical signs associated with sialocele formation. Often surgical salivary diseases result in the formation of a sialocele; however, it is possible for sialoliths and neoplasia to occur without sialocele formation. In cases of salivary mucocele surgical excision of the gland is preferred as it provides an excellent prognosis for return to normal and relief from clinical signs.

It should be noted that not all salivary disease is surgically alleviated; for instance, in the cases of sialadenosis and sialadenitis. In these conditions the clinical signs will persist despite surgical excision of the affected salivary gland. Medical management along with treating any underlying diseases is most appropriate tool for these cases.¹

References:

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