

Short Communication

SUBLINGUAL SIALOCELE IN A DOMESTIC CAT AND ITS SUCCESSFUL SURGICAL MANAGEMENT

Gopal Samanta

A sialocele is an accumulation of saliva in subcutaneous tissue and consequent tissue reaction to saliva due to a tear in a salivary gland or duct. The sialocele has a nonepithelial nonsecretory lining consisting primarily of fibroblast and capillaries (Smith 2000). The cause of the salivary sialocele is rarely identified but trauma is suspected to be involved in causing this tear. Sialocele occur most often in dogs but rarely in cats. Any of the four main salivary glands (mandibular, monostomatic sublingual, parotid or zygomatic) may be involved in the creation of a sialocele. This case report describes the presentation, diagnosis and treatment of a sublingual sialocele (ranula) in a domestic cat.

One 2 years old female domestic cat (*Felis silvestris catus*) weighing 1.8 Kgs was presented with a history of large swelling located right lateral to the tongue in the sublingual tissue (Fig.1). The complaints of the owner were gradual enlargement of a soft, fluctuant and non-painful sublingual mass and abnormal prehension for about 6 months. Conservative treatment was given but the swelling recurred within 1 to 2 months.

On physical examination, the cat was bright, alert and responsive. There was a right sublingual mass measuring 4.5 x 2 x 1.5 cm which was pink, soft and fluctuant. The cat also exhibited ptyalism, which was most likely secondary to the physical presence of an oral mass. Differential diagnosis for the sublingual mass included a ranula (sublingual sialocele), abscess, foreign body with granuloma, and hematoma. The history, physical and clinical examination were suggestive of a ranula. Accordingly, surgical intervention of the mass at right mandibulo-sublingual gland complex followed by aspiration of the sialocele content was suggested.

The cat was placed under anesthesia with the combination of xylazine hydrochloride (2 mg/kg body weight IM) and ketamine hydrochloride (10 mg/kg BW, IM) keeping the animal at left lateral recumbency. By digital occlusion of the external jugular vein, the right maxillary and linguo-facial veins were identified. About 4 cm skin incision was made over the mandibular salivary gland. After the platysma muscle had been penetrated, the fibrous capsule of the mandibular salivary



Fig.1: Sublingual sialoceles right lateral to the tongue in a domestic cat.

gland was incised, and the gland separated from the capsule by using blunt dissection (Fig.2). Bleeding vessels to the gland were ligatured. Further rostral dissection revealed the monostomatic sublingual salivary glands which were dissected free along with the ducts of the glands. The digastric muscle was retracted and the caudal part of the sublingual gland transected after ligating the duct. The capsule edges, digastric muscle and subcutaneous tissues were reapposed by using 3-0 chromic catgut in continuous suture; and the skin was closed with interrupted sutures. Following resection of the glands, the sublingual sialoceles was drained by needle aspiration.

After surgical intervention, the animal was treated with broad spectrum antibiotic and analgesic daily for 5 days and she recovered.

A salivary mucocele is an accumulation of saliva in a single or multiloculated cavity lined with connective tissue, contiguous to a salivary gland or duct (Dunning 2003). In general, it is the sublingual gland that is involved; less



Fig.2: Mandibular salivary gland separated from the capsule by using blunt dissection.

frequently, the parotid and zygomatic glands (Brown 1989). The most common places in which mucoceles associated with the sublingual gland develop are the cervical, sublingual, and pharyngeal areas (Waldron and Smith 1991).

A sublingual sialoceles occurs when the saliva collects in the sublingual tissues on the floor of the mouth; it is rarely observed in felines (Waldron and Smith 1991). A sialoceles is associated with duct or gland tearing, as observed in this case. The lesion is usually associated with trauma and a foreign body, but most commonly the inciting cause is not known. Since the cranial part of the sublingual gland is polystomatic, while the caudal portion is monostomatic, the leakage may occur in various sites of the cervical region (Brown 1989).

Diagnosis of salivary mucocele is mainly based on clinical signs, history and results of paracentesis (Smith 2000). Sialography can also be used to confirm the diagnosis (Harvey 1993). Despite this, in the present case, careful observations, palpation and aspiration of the swelling were sufficient enough to identify the

mass as sublingual sialocele.

Various approaches have been used to treat the salivary mucocele, of which the definitive treatment is removal of the damaged salivary gland to prevent further accumulation of mucous and drainage of the mucocele (Harvey 1993). Repeated drainage or injection of cauterizing or anti-inflammatory agent does not eliminate mucocele (Hedlund 2002). In this case, complete resection of mandibular-sublingual gland complex was done because the sublingual gland was intimately associated with the mandibular salivary gland duct and removal of one would traumatize the other.

Traditional belief was that a mucocele is a true cyst with a secretory lining. The fact that a mucocele is not a cyst but is a reactive and encapsulating structure that has prompted surgical removal of gland-duct complex (Smith 2000). In the present case, lack of recurrence following surgical removal supports the idea that ranula is not a true cyst but a reactive structure.

It is concluded that long standing case of sublingual sialocele can be treated successfully by sialoadenectomy in cat.

ACKNOWLEDGEMENT

The author gratefully acknowledges Dr. S.Banerjee for referring this patient.

REFERENCES

Brown NO.(1989). Salivary gland diseases. *Probl. Vet. Med.* 1: 281-294.

Waldron DR and Smith MM.(1991). Salivary mucoceles. *Probl. Vet. Med.* 3: 270-276.

Harvey CE. (1993). Salivary gland disorders. In: Disease mechanisms in small animal surgery. 3rd edn. Bojrab MJ, Smeak DD and Bloomberg MS, eds. Lea & Febiger. Philadelphia. p.197-199.

Smith MM. (2000). Oral and salivary gland disorder. In: Textbook of veterinary internal medicine. 5th edn. S J Ettinger and E C Feldman, eds. W B Saunders Co. Philadelphia. p.1119-1121.

Hedlund CS.(2002). Surgery of the digestive system. In: Small Animal Surgery. 2nd edn. T W Fossum, eds. Mosby Inc. St Luis. p.302-307.

Dunning D.(2003). Oral cavity. In: Textbook of small animal surgery. 3rd edn. Slatter D, eds. W B Saunders Co. Philadelphia. p.553-572.