CASE REPORT

Surgical Management of Sublingual Mucocele (Ranula) in a Crossbreed Dog: A Case Study

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A mucocele is an accumulation of mucoid saliva in the submucosal or subcutaneous tissue due to a tear in a salivary gland capsule or duct (Bellenger and Simpson, 1992). The mucocele has a nonepithelial non-secretory linning, mainly consisting of connective tissues and capillaries (Karbe and Nielsen, 2008; William *et al.,* 2008). The etiology of salivary mucocele is rarely identified (Boydell et al., 2000). Mucoceles are the most common salivary gland disorder of dogs but rarely occur in cats as well as in other species (Dunning, 2003). The most frequently involved salivary glands are the ducts of sublingual and mandibular glands. The present case report describes ranula's diagnosis and surgical management in a two years old male crossbred dog.

Case History and Observation

An intact male crossbreed dog with age 2 years was presented to the Teaching Veterinary Clinical Complex of the College in Selesih, Mizoram, with a chief complaint of slowly enlarging swollen mass in the oral cavity. The dog was bright, alert, and active. On clinical examination, all hematological and serobiochemical parameters were found within the normal physiological range (Table 1).

Physical examination of the oral cavity revealed soft, fluctuant mass on the buccal floor located left lateral to the base of the tongue, and it was painless on careful palpation (Fig. 1). Based on history, physical examination and result of exploratory fine needle aspiration the case was diagnosed as salivary mucocele.

Treatment and Discussion

After overnight fasting and light general anesthesia induced by the combination of diazepam (0.5 mg/ kg b.wt., i/v) and ketamine hydrochloride (10 mg/kg b.wt. i/v), the dog was placed on right lateral recumbency. About 1.5 cm blunt incision was made aseptically over the center of the cyst. Following excision, the sublingual mucocele was drained spontaneously, and the cavity was irrigated with physiological saline solution (Figs. 2 and 3). Once recovered from anesthesia, the patient was discharged to home. A course of broad-spectrum antibiotic (Inj. Intacef Tazo^{TM}) @ 25 mg SID for 5 days along with NSAID (Inj. Melonex^{TM}) @ 0.1 mg SID for three days, Fibrinolytic agent (Tab. Serra-D) @ 10 mg OD for 5 days and multivitamin (Zipvit^{TM}) @ 5 ml BID was given as necessary post-operative care.

The post-surgical recovery was uneventful and further reassessment was done at weekly intervals for the first month.

Table 1: Haemato-biochemical examination of the dog

Parameters	*Values*	*Reference range**
Hb (g/dL)	12.1	11.9-18.9
TEC (x10^6/mm^3)	5.42	4.95-7.87
TLC (x10^3/mm^3)	11.51	5.0-14.1
Platelets (x10^3/mm^3)	318	211-621
AST (U/L)	16	13-15
ALT (U/L)	97	10-109
Creatinine (mg/dL)	1.09	0.5-1.7
BUN (mg/dL)	16.7	8-28
Albumin (g/dL)	2.94	2.3-3.1
Globumin (g/dL)	3.03	2.7-4.4

(***Source*:** Haematological and serum biochemical reference ranges, 11th edn. The Merck Veterinary Manual)

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Fig. 1: Sublingual mucocele left lateral to the tongue

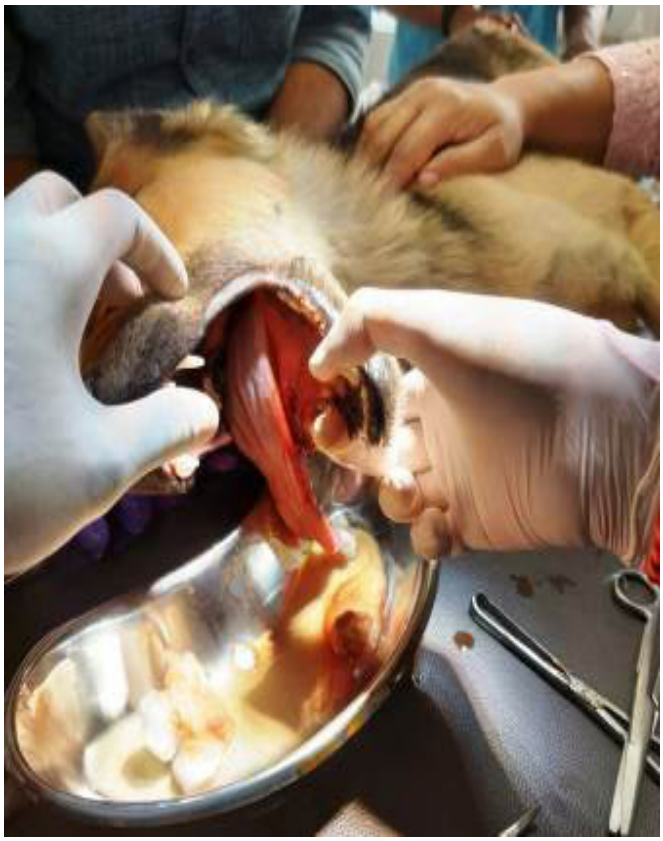

Fig. 2: Drainage of mucoid saliva from mucocele

No further swelling was recorded during the examination, and the dog remains healthy and active.

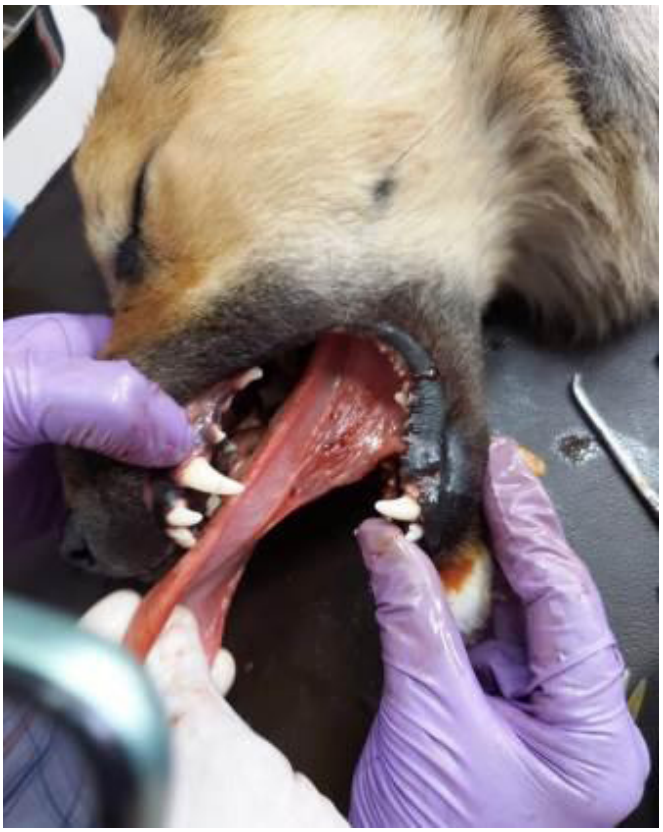

Fig. 3: Post-operative view of tongue.

Salivary mucocele is an accumulation of mucoid saliva which occurs due to the damage of salivary glands. Most frequently, the sublingual gland is affected and mucoceles are commonly developed at cervical, sublingual and pharyngeal areas (Waldron and Smith, 1991; Harvey, 1993). It is most commonly seen in the dogs of age group between 2 to 4 years and usually German Shepherds and Miniature Poodles mostly suffer (Smith, 2000) and sometimes in cats (Rahal et al., 2003). Despite the exact cause is difficult to determine: blunt trauma, foreign bodies and obstructive sialoliths may be regarded as aetiological agents of salivary mucocele (Hedlund, 2002). However, in the present case, the actual cause of the mucocele was not ascertained. Diagnosis of salivary sialocele was made mainly based on history, physical examination, and results of paracentesis (Smith, 2000). Sialography can also be used as a confirmatory diagnostic tool (Harvey, 1993). Among the various available treatment approaches, gland-duct removal is considered as the definitive treatment to prevent the recurrence (Smith, 2000). In this case complete drainage was done as removal of the sublingual gland might traumatize the mandibular salivary gland due to their close anatomical association with each other.

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References

Bellenger, C.R., & Simpson, D.J. (1992). Canine sialocoeles - A record of 60 clinical cases. *Journal of Small Animal Practice*, *33*(8), 376-380.

Boydell, P., Pike, R, Crossley, D. and Whitebread, T. (2000). Sialoadenosis in dogs. *J. Am. Vet. Med. Assoc.,* 216. 872-875.

Dunning, D. (2003). *Textbook of Amall Animal Surgery*, 3rd ed. Philadelphia: WB Saunders Co., USA, pp. 558.

Harvey, C.E. (1993). Oral Cavity. In: *Textbook of Small Animal Surgery*. 2nd Edn. by Slatter, W.B. Saunders Co., Philadelphia, USA, pp. 515-520.

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

Kareb, E., & Nielsen, S.W. (2008). Canine renula: Salivary mucoceles and branchuial cysts. *Journal of Small Animal Practice*, ***7,*** 625-30.

Rahal, S.C., Nunes, A.L.V, Teixeira, C.R. and Cruz, M.L. (2003). Salivary mucocele in a wild cat. *Can. Vet. J.,* 44. 933-34.

Smith, M.M. (2000). Oral and salivary gland disorders. In: *Textbook of Veterinary Internal Medicine*. 5th edn. S J Ettinger and E C Feldman, eds. W.B. Saunders Co. Philadelphia, USA, pp. 1119-1121.

Waldron, D.R. and Smith, M.M. (1991). Salivary mucoceles. *Probl. Vet. Med.,* 3. 270-76.

William, J.W., Hobson, H.P. and Wilson, S.R. (2008). Pharyngeal mucocele in dogs. *Veterinary Surgery, 15*. 5-8.