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# Surgical management of ranula in a dog

## SP Nayak and SS Behera

**Abstract**
A Spitz dog of three years old was presented with a history of soft mass below the base of the tongue and feeling difficulty during feeding. Physical examination revealed a soft fluctuant painless mass in the left side of sublingual tissue below tongue. The case was diagnosed as sublingual salivary mucocele or ranula. Under general anaesthesia surgical intervention was done and the dog recovered well.

**Keywords:** Dog, ranula, surgical management

## Introduction
Ranula is formed by abnormal accumulation of saliva in sublingual tissue caudal to the openings of sub lingual and mandibular ducts (Hedlund, 2002) [1]. This may be formed due to trauma with the resultant swelling causing occlusion of the duct. Ranula is more commonly observed in dogs than cats. The actual etiology was not identified. It may be due to blunt trauma, foreign body and sialolith have been suspected as principal causes of salivary mucocele (Yasuno *et al.*, 2011) [2]. Saliva generally leaks from the shattered portion and accumulates in the surrounding tissue. Marsupialization is the method for surgical correction of ranula.

## Case History and Diagnosis
A three-year aged Spitz dog was presented to the dispensary with a history of soft mass below the base of the tongue with hindrance in prehension while feeding. The mass was gradually increasing in size since three week. The patient was found bright and alert. Rectal temperature, respiratory rate and heart rate were measured as normal. On digital palpation a soft fluctuant painless mass was found in the left side of sublingual tissue below tongue (Fig.1). A blood-tinged ropy mucoid fluid was drained with the help of needle aspiration resembling the saliva. On clinical observation, the diagnosis was confirmed as sublingual salivary mucocele or ranula. The case was decided for surgical treatment through marsupialization.

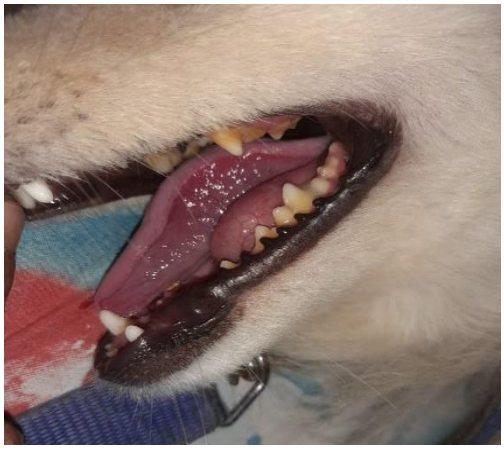

**Fig 1:** Gross examination of the sublingual salivary mucocele

## Treatment
The animal was kept for twelve hours fasting and six hours withhold water before surgery. The patient was given general anaesthesia with a cocktail of atropine sulphate @ 0.04 mg/kg body weight, xylazine Hcl @ 1 mg/kg body weight and ketamine Hcl @ 5 mg/kg body weight

intramuscularly. Maintenance of general anaesthesia was achieved by ketamine Hcl through fluid therapy during surgery. Then a 5 ml syringe was used as mouth gag for smooth conduction of surgery. A 2.5 cm long elliptical incision was given on the sublingual salivary cyst and part of the wall of ranula was excised by using scissors. Then the cavity was irrigated with normal saline. The ranula wall having granulation tissue lining was everted and sutured with the vestibular mucosa in an interrupted pattern by using vicyl 2-0 which allows drainage of saliva into the oral cavity (Fig.2). The animal was prescribed inj. Montaz @ 25mg/kg body weight I/M for another 5 days and Inj. Melonex @ 0.2 mg/kg body weight once daily for three days. Oral topical antibiotic was also advised for 10 day. Chicken bone was restricted for 15 days and feeding of soft food was advised.

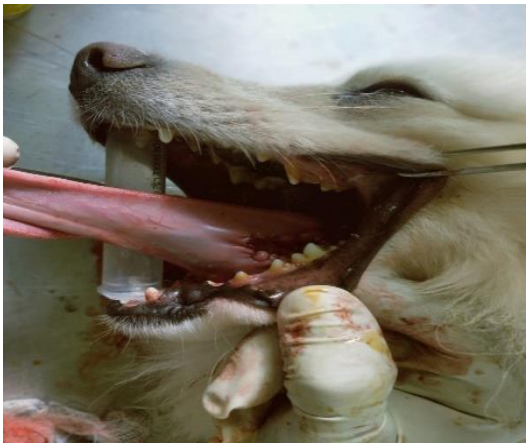

**Fig 2:** After surgical correction

## Result and Discussion

Subcutaneous or submucosal accumulation of saliva that has leaked from an injured salivary gland or salivary duct leads to formation of cyst or mucocele. This leaked saliva accumulates within the tissues of the mouth below or along side of the toungue resulting in a soft painless swelling cyst called as ranula. It has been noticed that dogs between 2 to 4 years age are most often affected. The incidence of canine sialoceles is less than one in 200 dogs. The mucoceles are very often observed in dogs three times more frequently than in cats (Smith, 2000) [3]. Ranula is a sub lingual salivary gland and marked at cervical, sub lingual and pharyngeal region. Trauma is believed to the cause of salivary gland tearing and occlusion of duct which leads to the formation of ranula. In the present case the ranula might be due to trauma as there was previous history of eating chicken bones. Repeated drainage or injection of anti-inflammatory drugs and cauterizing may worsen the case by causing abscessation as well as fibrosis (Dunning, 2002) [4]. Marsupialization was a method for successful surgical correction of ranula in dogs (Kilic, 2009) [5]. In this case marsupialisation was found successful and the wound was headed completely within 10 days of surgery. The interior of ranula cyst suppurates, contracts and closes by granulation (Hedlund, 2002) [1]. As an alternative to drainage of the ranula by needle aspiration, redirection of salivary flow by marsupialization has also been advised by Smith (2000) [3]. It was observed that marsupialization is an easily applicable healing alternative for ranula in dogs.

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