

# Marsupialisation of bilateral ranula in a buffalo calf

## Abstract

Diabetes in elderly patients has frequent occurrence of geriatric syndrome. It includes a Ranula refers to accumulation of extra-glandular saliva in the floor of the mouth interfering the normal feeding. A male buffalo calf, age of 6 months had bilateral sublingual sialocele (ranula) showing difficulty to masticate and drink water. Bilateral ranula was excised elliptically to facilitate dynamic fluid/saliva drainage and marsupialisation performed under anesthesia. Animal showed uneventful recovery without any postoperative complications.

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**Kalaiselvan E, Swapan Kumar Maiti, Azam Khan, Naveen Kumar Verma, Mohar Singh, Sharun Khan, Naveen Kumar**

Division of Surgery, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India

**Correspondence:** Swapan Kumar Maiti, Division of Surgery, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India, Email [maiti\\_6@rediffmail.com](mailto:maiti_6@rediffmail.com)

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## Introduction

Ranula or sublingual sialocele refers to a collection of extra-glandular and extra-ductal saliva in the floor of the mouth originating from the sublingual salivary gland. It is a pseudo cyst of mucus extravasations, as it contains submucosal or subcutaneous tissue and devoid of epithelial lining.<sup>1,2</sup> Salivary mucocele are formed by the extravasations and accumulation of saliva in the subcutaneous tissue adjacent to ruptured salivary gland or duct system and are surrounded by granulation tissue induced by saliva.<sup>3</sup> Difficulty in feeding occurs as result of abnormal retention of saliva under the tongue near to the phrenum linguae.<sup>4</sup> The drainage of the mucocele, followed by marsupialisation is resolve to the condition.

## Case history and anamnesis

A six months old male buffalo calf was presented to the Institute Referral Veterinary Polyclinic with the history of anorexia, drooling of saliva, difficulty in mastication and swelling on the ventral part of the tongue since 5 days.

## Clinical examination

Examination of the mouth revealed a bilateral fluid retention swelling at the frenulum linguae region of the tongue. On fine needle aspiration of the swelling under aseptic condition, the contents revealed straw coloured, the mucinous fluid appeared ropey, confirmed the presence of saliva with the pH of 7.0. A diagnosis of bilateral sialocele associated with ranula was made and decided to treat surgically.

## Treatment

Initially animal was stabilized with 500ml of normal saline and 500ml of ringers lactate intravenously. Animal was mildly sedated with administration of midazolam @ 0.1mg/kg body weight intravenously. Furthermore, local anesthetic lignocaine 2 % was sprayed over the swelling. Mouth cavity was held open via Günter mouth gag. An intra oral mouth antiseptic washing was carried out by using the 0.05% povidone iodine. The swelling under the tongue (sialocele) was excised elliptically in order to facilitate the drainage of fluid (saliva). Later marsupialisation was done by using vicryl 1-0 and flushed with tincture iodine. This allows the sialocele to remain open and drain

saliva into the mouth (Figure 1–4). The owner was advised to clean the oral cavity with povidone iodine for 7 days. Postoperatively, antibiotic, analgesic and fluid therapy was administered for 5 days. On 10thpost-operative day animal showed normal feeding habit and had normal recovery without any complications (Figure 5).



**Figure 1** Swelling in the ventral part of tongue.



**Figure 2** Bilateral sublingual sialocele (Ranula).



**Figure 3** Incision of over the sialocele (right side).



**Figure 4** Deroofing and marsupialization of ranula.



**Figure 5** Subsided in the swelling indicates complete recovery of the condition (Arrow).

## Discussion

The main salivary glands in buffaloes consist of three pairs namely; parotid, mandibular and sublingual glands. The parotid duct emerges from the distal extremity of the gland and duct opens into the buccal vestibule at the parotid papilla.<sup>5</sup> Whereas, mandibular duct and sublingual duct originates from the rostral border of the gland and it opens at the sublingual caruncle. According to Sagar et al.<sup>6</sup> the common affections of the salivary ducts in buffaloes are ectasia of the parotid duct, salivary fistula, sialolith and sialocele. Sialocele is the most commonly recognized clinical disease of the salivary

glands in dogs and is also described in humans, cats, ferrets, horses and ruminants.<sup>7</sup> The sublingual sialocele or mucocele is manifested with the fluid retention in the subcutaneous tissue and associated with an inflammation induced by accumulated saliva.<sup>8</sup> The enzymes in the saliva are annoying to the surrounding connective tissues. Furthermore, cystic appearance of mucocele is due to the presence of inflammatory tissue around the saliva accumulated region/tissue.<sup>4</sup> Development of non-epithelial origin of granulating tissue limits further swelling. Usually the swelling is painful in the beginning, which makes animals feel discomfort and hard to masticate.<sup>6,9</sup> The predisposing factors for mucocele are unknown, but trauma is strongly suspected.<sup>8</sup> Etiology for the present case might be due to intra oral trauma during ingestion of grass or excessive pressure or blunt injury over the salivary duct or sialoliths.<sup>8,9</sup> In spite of location, the definitive treatment of a salivary mucocele involves excision of the offending or damaged salivary glands. Non-surgical treatments of mucocele like incisional drainage followed by infusion of irritants into cystic cavity to destroy the lining membrane and to prevented recurrence.<sup>3</sup> Surgical treatments like marsupialisation<sup>10</sup> and unilateral removal of salivary gland<sup>9</sup> are also reported. In the present case marsupialisation along with infusion of tincture iodine was done. Ranula in buffaloes previously reported on single side<sup>9</sup> and or both<sup>11</sup> with ptyalism, protruded tongue and inanition.<sup>12</sup> Recurrence of the serocele or sialocele is rare after surgical treatment but may indicate incomplete removal of the affected salivary tissue, or that the incorrect gland was removed.<sup>2</sup> Although bilateral ranula treatment is simple, it must be differentiated from actinomycosis, foreign body abscess, bottle jaw, foot and mouth disease and hemorrhagic septicemia.

## Conclusion

The clinical case was diagnosed as bilateral oral mucocele (ranula). It was corrected by deroofing and marsupialisation along with infusion of irritant tincture iodine. The buffalo calf made uneventful recovery without any complication under the postoperative antibiotics anti-inflammatory and fluid therapy for 5 days.

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## Conflicts of interest

The authors declare there are no conflicts of interest.

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