

PARTIAL ROSTRAL GLOSSECTOMY FOR ALVEOLAR RHABDOMYOSARCOMA OF TONGUE AND ITS LARYNGEAL METASTASIS IN A DOG

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A rare case lingual neoplasm was diagnosed in a four year old female Labrador dog presented with difficulty in prehension and dysphagia and irregular ulcerated hard mass of 4cm X 2.7 cm at the rostral aspect of the tongue. Partial glossectomy was performed under general anaesthesia. Alveolar rhabdomyosarcoma was diagnosed morphologically on the basis of histopathological report. Two months after surgical treatment, the dog was presented with unexpected complications like respiratory distress and general weakness. Based on clinical, radiological and endoscopic examination, laryngeal metastasis of rhabdomyosarcoma was concluded. The histopathological report, diagnosis, surgical treatment and adjuvant chemotherapy are discussed in detail.

Keywords: Adjuvant chemotherapy, Alveolar rhabdomyosarcoma, Partial glossectomy. .

Tongue is reported as the least common location for tumours. Lingual tumours represented less than four percent of the oral tumours in canines (Beck *et al.*, 1986 and Carpenter *et al.*, 1993). Haemangioma, melanoma, liposarcoma and squamous cell carcinoma were reported as the lingual tumours in dogs. In dogs, rhabdomyosarcoma has been reported in the pharynx, larynx, striated muscles, cardiac muscle, and trachea (Brockus and Myers, 2004) but reports on lingual rhabdomyosarcomas are quite limited. Lingual tumours are surgically managed by various glossectomy procedures. The present case documented a rare case of alveolar rhabdomyosarcoma of tongue and its management by partial glossectomy and adjuvant chemotherapy.

Case History and Observations

A four year old female Labrador dog was presented to the University Veterinary Hospital, Kokkalai, Thrissur, with a history of decreased appetite and difficulty in

prehension and dysphagia since one month. Physical examination revealed an irregular ulcerated hard mass of 4cm X 2.7 cm at the rostral aspect of the tongue (Fig. 1) with ptialism and halitosis. Both the mandibular lymph nodes were palpable in size. Low haematocrit values, lymphopenia and mild granulocytosis on haematological examination and no remarkable changes on serum biochemical examination were noted on hemato-biochemical estimations. Plain lateral radiograph of the thorax showed no evidence of metastatic lesions in the lungs. Based on physical examination and radiographic findings, partial glossectomy was thought necessary.

Surgical Treatment

Animal was premedicated using atropine sulphate at the dose rate of 0.045 mg/kg body weight i/m followed by xylazine hydrochloride at the dose rate of 1mg/kg body weight intramuscularly. Dissociative anaesthesia was induced with ketamine hydrochloride at the dose rate of 5mg/kg I/M

and the anaesthesia was maintained with 2% isoflurane. The dog was placed on dorsal recumbancy. The oral cavity was prepared for an aseptic surgery. Simple interrupted sutures were applied for haemostasis, and full thickness incision was made on the tongue to remove the rostral part of the tongue involving the tumour mass. Partial rostral glossectomy was performed under the dissociative anaesthesia and further hemostasis was achieved using digital pressure. In addition to the haemostatic sutures, simple interrupted sutures were used for the apposition of mucosal edges. A simple



Fig. 1. Irregular ulcerated hard mass at the rostral aspect of the tongue

interrupted suture pattern with 1-0 polyglactin 910 was used to appose the dorsal and the ventral lingual mucosa. The resected mass was sent for histopathological examination after fixing in 10% neutral buffered formalin.

Postoperatively, fluid therapy and ceftriaxone at a dose rate of 20 mg/kg body weight intravenously and meloxicam at 0.2 mg/kg body weight intramuscularly were administered for five days. The animal was offered liquid diet from third post-operative day. The animal was reviewed on tenth postoperative day and showed marked improvement in general body condition (Fig.2).

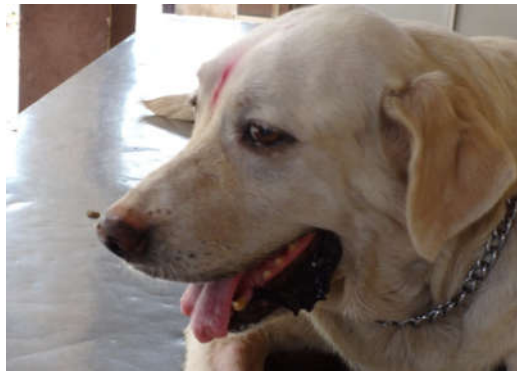


Fig. 2. Review on tenth postoperative day

Results and Discussion

Though the animal recovered uneventfully, it was again presented for review after two months with the complaint of reduced food intake, respiratory distress and inability to bark. Physical examination revealed moderately hard swelling on the cranial cervical region. Lateral radiograph of the neck revealed well defined area of soft tissue swelling around larynx (Fig. 3). On endoscopic examination, edema on the laryngeal vestibule and hyperemia on the infraglottic cavity could be detected (Fig.4). Reduction in the tumour mass was not observed with chemotherapy. Upon request from the owner the animal was euthanized and autopsy could not be conducted because of sentimental attachment owner.

Although rhabdomyosarcoma has a predilection for the head and neck region, its occurrence in the tongue is uncommon. Glossectomy has been reported as the first line of treatment for tongue tumours and partial glossectomy represented the excision of any portion of the tongue rostral to the frenulum. Because of the robust blood supply, the tongue potentially bleeds during surgery but significantly heal following surgical correction as also reported by Vincenzo and Sarah, (2013). In addition to partial glossectomy, adjunct combination chemotherapy may greatly improve the prognosis. Oral rhabdomyosarcoma was treated by radical surgical excision followed by chemotherapy using combination of vincristine, dactinomycin, and

cyclophosphamide. Since laryngeal rhabdomyosarcomas being locally invasive and complete excision is difficult due to local

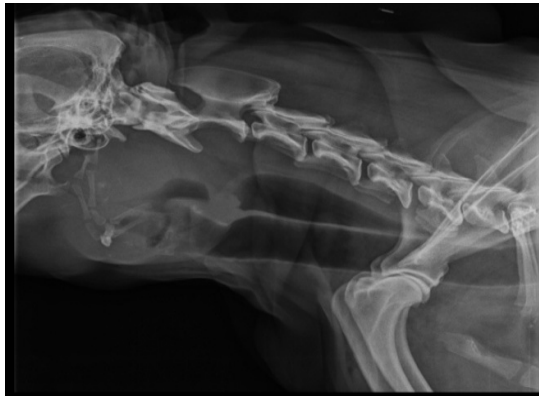


Fig.3. Lateral radiograph of the neck revealed well defined area of soft tissue swelling around larynx

Glossectomy has been reported as the first line of treatment for tongue tumours and partial glossectomy represented the excision of any portion of the tongue rostral to the frenulum. Because of the robust blood supply, the tongue potentially bleeds during surgery but significantly heal following surgical correction as also reported by Vincenzo and Sarah, (2013). In addition to partial glossectomy, adjunct combination chemotherapy may greatly improve the prognosis. Oral rhabdomyosarcoma was treated by radical surgical excision followed by chemotherapy using combination of vincristine, dactinomycin, and cyclophosphamide. Since laryngeal rhabdomyosarcomas being locally invasive and complete excision is difficult due to local invasion, and recurrence of these tumours often leads to euthanasia as also advocated by Caserto, (2013).

Conclusion

The case report presented alveolar rhabdomyosarcoma of anterior third of the tongue in a dog which received surgical excision with adjunct with chemotherapy but presented after two months with laryngeal

invasion, and recurrence of these tumours often leads to euthanasia as also advocated by Caserto, (2013).

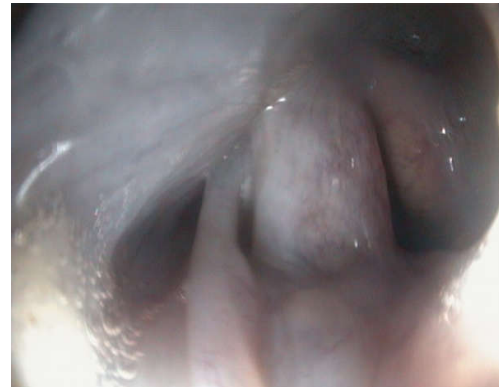


Fig. 4 Edema on the laryngeal vestibule and hyperemia on the infraglottic cavity

metastasis. Alveolar rhabdomyosarcoma also should be considered in the differential diagnosis of oral tumors in dogs.

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