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Partial Glossectomy and Reconstruction for Excision of a Tumor of the Tongue in a Dog

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Abstract

A 13 year old female white Spitz was presented with a history of drooling of blood mixed saliva for the past 1 month. Oral cavity examination revealed small lemon sized soft mass on the dorsal aspect of the right side of the tongue. Clinical examination revealed normal vital parameters. Presumptive diagnosis was made as lingual tumor based on the gross appearance. Under general anaesthesia surgical excision of the tumor with wide margin of safety and tongue reconstruction was performed. Histopathology confirmed the tumor as amelonotic melanoma. Animal had an uneventful recovery with no recurrence.

Key words : partial glossectomy, lingual tumor, reconstruction, dog

Lingual tumors are rare in dogs, accounting for only 2-4% of all oropharyngealtumors. Glossectomy is classified into partial, subtotal and total. Partial glossectomy is defined as excision or amputation of any portion or all of the oral tongue rostral to the frenulum. A subtotal glossectomy is the removal of entire free tongue, portion of genioglossus, geniohyoid muscle or both caudal to the frenulum. Total glossectomy is the resection of ≥ 75% of the entire tongue. Amputation or excision of the tongue is defined as the total glossectomy (Dvorak *et al.,* 2004). Haemorrhage from the mouth, oral pain, malodour, salivation, dysphagia, increased respiratory noise, visual mass are the clinical signs of lingual tumors (Owen *et al.,* 2006).

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Case History and Observations

A 13 year old female white Spitz was presented with a history of drooling of blood mixed saliva for the past 1 month. Oral cavity examination revealed small lemon sized soft mass on the dorsal aspect of the right side of the tongue **(Fig.1)** with no other abnormalities. Clinical examination revealed normal vital parameters. Presumptive diagnosis was made as lingual tumor based on the gross appearance.

Diagnosis and Treatment

Pre-operative blood and x ray revealed normal blood parameters and no metastatic lesions. The animal was pre-medicated with Inj. Atropine sulphate @ 0.02 mg/kg B.wt SC and Inj. Xylazine @ 1 mg/kg B.wt IM. The induction was done using Inj. Ketamine @ 5 mg/kg B.wt IV and Inj. Diazepam @ 0.5 mg/kg B.wt IV. The animal was maintained with 2.5% Isoflurane and oxygen. Stay suture was placed around the mass and V- shaped incision was made with wide margin of safety 3 mm on each side. The tumor was resected and tongue was reconstructed (Fig.2) without affecting lingual artery, lingual vein and glossopharyngeal nerve. The incision was sutured with PGA 3-0. Post operatively, animal was maintained with antibiotic inj. Ceftriaxone @ 20 mg/kg B. Wt IV and supportive therapy Inj. DNS @ 10 ml/kg B. Wt IV, Inj. Tramadol @ 2mg/ kg B. Wt IV for 5 days. Oral liquid diet was

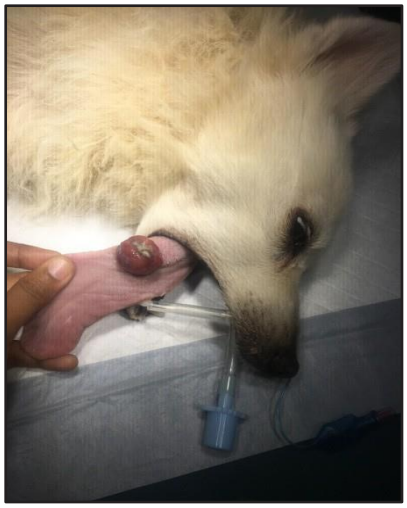

Fig. 1 Gross appearance of the tumor on the right dorsal aspect of the tongue

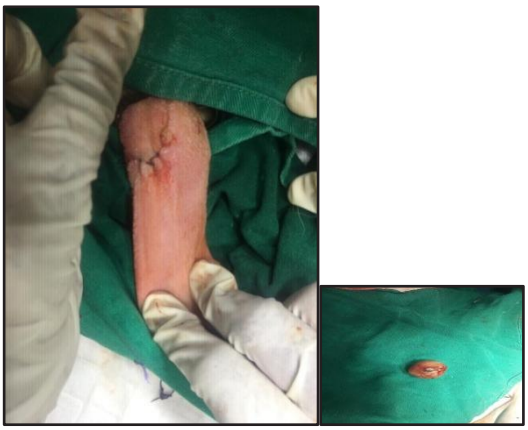

Fig. 2 After resection of the tumor and reconstruction of the tongue

given for a period of one week. Complete healing was noticed on seventh post operative day.

Discussion

Rostrally located lingual tumors are readily detectable and treatable by partial glossectomy. The prognosis for rostral lingual tumors is guarded to fair. Surgical resection with wide margin of safety is the treatment of choice. 17.80 % is the reported recurrence with incomplete excision. Food prehension, swallowing, taste, heat dissipation through panting, vocalization and grooming are the functions of the tongue in dogs (Dvorak *et al.,* 2004). Melanomas are the most common malignant tumor in dogs accounting 4-7% of all tumors. Variable degree of pigmentation makes the diagnosis of melanoma challenging. Immunohistochemistry confirms the diagnosis of melanoma (Kang *et al.,* 2009).

Histopathology

On histopathological examination the mass was composed of generalized epithelioid cells with a few spindle cells arranged in small packets that were surrounded by thin fibrous stroma and no visible melanin granules were noted and suspected to be an amelonotic melanoma.

Amelonotic melanoma is a malignant tumor and associated with poor prognosis (Adisa *et al.,* 2012). Tumors on the dorsal aspect of tongue has better prognosis due to earlier visual detection and increased amenability to surgical therapy and potentially decrease the metastatic rate (Withrow 2001 and Dvorak *et al.,* 2004). Rostrally located tumors are treated with partial glossectomy as a cure or palliative. In the presented case, prompt diagnosis, appropriate surgical management with wide of margin of safety and proper post operative care made the case success.

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