

# STUDY OF LINGUAL RHABDOMYOMA COMPLICATED

## BY GLOSSITIS IN SHEEP (CASE REPORT)

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### Abstract

Rhabdomyomas are rare, benign straight muscle neoplasm . We report the clinical and morphological feature of Rhabdomyoma apparently present in the left anterior tongue of ewe.

The animal presented for surgical removal of an enlarging lingual neoplasm . Histological examination of this lesion confirm the diagnosis of Rhabdomyoma with glossitis and no evidence of recurrence of this neoplasm after initial resection

**Keyword:** Rhabdomyomas, muscle neoplasm, glossel surgery

### Introduction

Rhabdomyoma is a benign mesenchymal tumor of skeletal muscle, which mainly occurs in the head and neck (Boysen *et al.*, 2007), separated into two major categories based on site: Cardiac and extracardiac. They are further separated by histology: fetal (myxoid and cellular), juvenile (intermediate), and adult types. Genital types are recognized, but are often part of either the fetal or juvenile types. The fetal type is thought to recapitulate immature skeletal muscle at about week six to ten of gestational development.(Kapadia *et al.*, 1993)

Rhabdomyomas are benign solitary or multiple neoplasms that originate from striated muscles (Meuten, 2002). Rhabdomyomas can occur in the myocardium, skeletal muscles of the larynx, and in the head region in both humans and animals (Meuten, 2002; Radi, 2006) In domestic animals, cardiac rhabdomyoma has been reported most frequently in swine and rarely in cattle, sheep, and deer (Bradley *et al.*, 1980; Kolly *et al.*, 2004; Meuten, 2002; Tanimoto and Ohtsuki, 1995).

In gross pathology The tumor may be seen within the subcutaneous tissues (below the skin), (Walsh and Hurt, 2008) mucosal surfaces or in soft tissue. Within the head and neck, the posterior ear region, skin of the face, and the tongue are the most commonly affected sites (about a 2:1 ratio of soft tissue to mucosa) (Kapadia *et al.*, 1993; Willis *et al.*, 1994). The tumors are well defined, non-specific usually solitary masses, but when seen in the head and neck (or genital region), they may be

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polypoid. Tumors range in size from a few millimeters up to 12.5 cm, with a mean of about 3.0 cm. Although there are isolated case reports, multifocality is very rare. (Kapadia *et al.*, 1993)

In human Adult rhabdomyoma can be seen in all ages but these tumors are most common in adults older than 40 years old and they are three times more common in male (Kapadia *et al.*, 1993). Occasional cases are seen in children (Huang *et al.*, 2012). Adult rhabdomyoma are most frequently seen in the head and neck area (Hansen and Katenkamp, 2005; Vuong *et al.*, 1990) and rare cases occurring in mediastinum (Zolota *et al.*, 2006; Sidhu *et al.*, 2002) and other locations have also been reported. Although most cases are solitary tumors, multifocal cases can occur (Liess *et al.*, 2005; Koutsimpelas *et al.*, 2008) and the tumors are found within the head and neck area. Clinically, they are painless mass with a slow growth rate. Incidental findings during autopsy can occur. As may of them are found in the larynx and base of tongue, obstruction of the airway and difficulty in swallowing are common manifestations (Hassell *et al.*, 2012). These tumors has characteristic histologic features. Adult rhabdomyomas have similar features among tumors and composed of a checker board arrangement of large polygonal cells with solid amphophilic to eosinophilic cytoplasm and cells with a large cytoplasmic vacuole. Striations reminiscent of striated muscle can be seen (Hassell *et al.*, 2012).

Glossitis is inflammation of the tongue. It causes the tongue to swell and change color. on the surface of the tongue (papillae) may be lost, causing the tongue to appear smooth. ( Liran and Yehuda, 2007)

## Materials and method

Ewe 3 years old was transferred from a clinic from Qurna city for evaluation of a large mass in the left anterior tongue (Fig. 1 and Fig. 2), difficult to feed. Total surgical excision was made, representative tissue samples were collected, fixed in 10% buffered formalin, routinely processed to prepare hematoxylin and eosin (H&E) slides, and evaluated by microscopic examination.



Fig. 1-2. A large mass on the left interior tongue

## Results

The neoplasm consisted of tightly arranged, large, variably sized, ovoid to irregular, swollen myocytes. The cells had variably distinct cell borders with a deeply eosinophilic cytoplasm and varying degrees of cytoplasmic vacuolation. The nuclei were single, oval to elongate, peripherally located (Fig. 3 – Fig. 11).

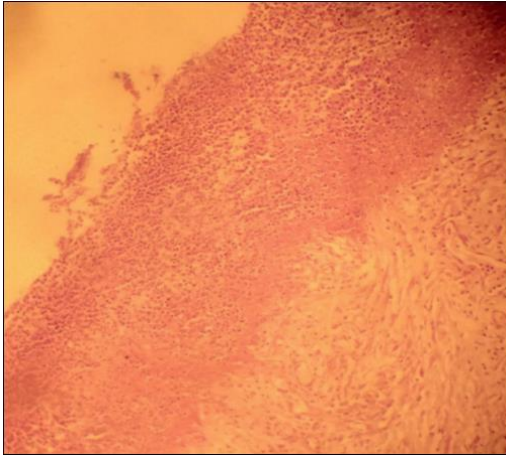


Fig. 3 Tongue a mass of lingual skeletal muscle associated with infiltration of inflammatory cells (glossitis) 10XH&E

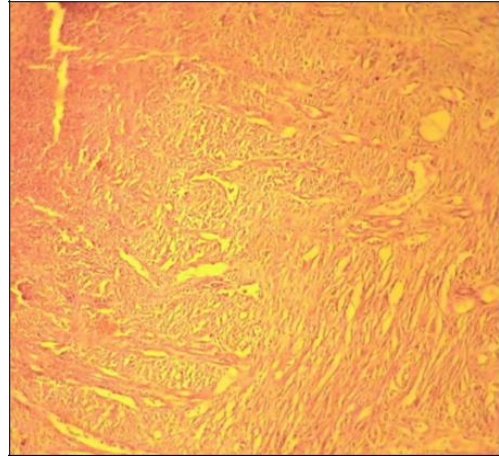


Fig. 4 Tongue a mass of lingual skeletal muscle associated with infiltration of inflammatory cells (glossitis)10X H & E

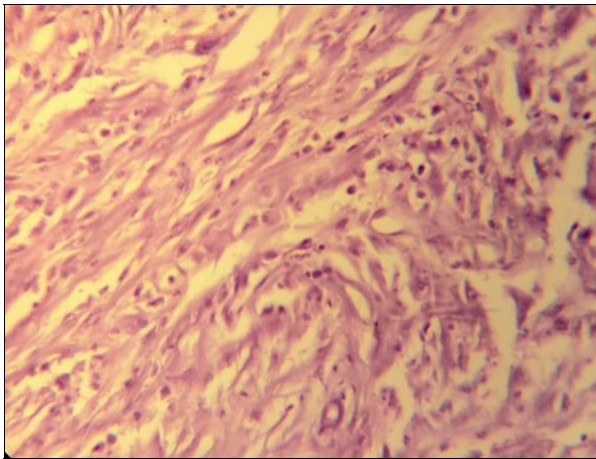


Fig. 5 The musculoskeletal structure of tumor 100 X H & E

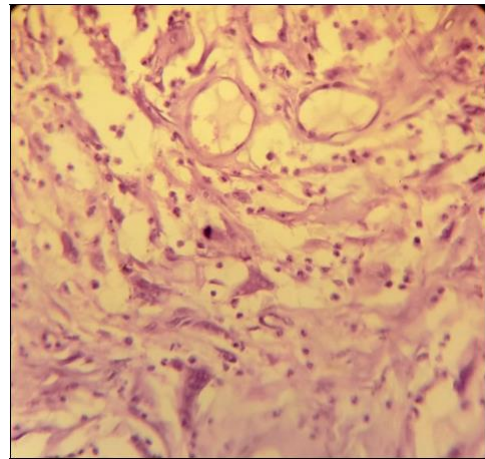


Fig. 6 High power skeletal muscle cells with some vacuolation other with prominent nuclei also infiltration of inflammatory cells and high vascularization 100X H & E

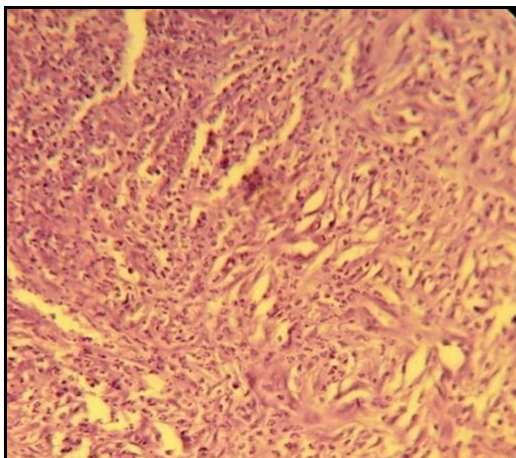


Fig. 7 High power heavy infiltration of inflammatory cells between skeletal muscles cells of the tumor 40X H & E

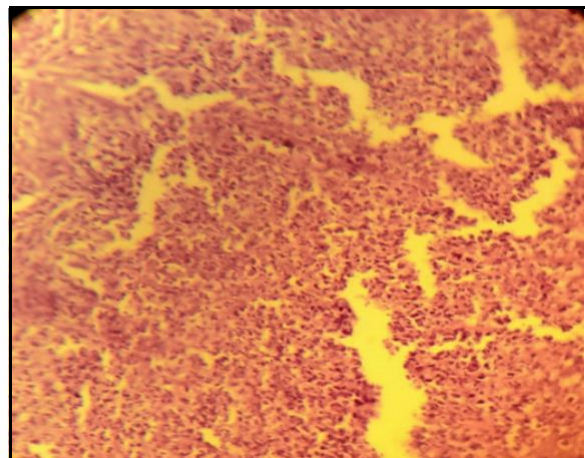


Fig. 8 Tongue mass of lingual skeletal muscle associated with infiltration of inflammatory cells (glossitis) 10X H & E



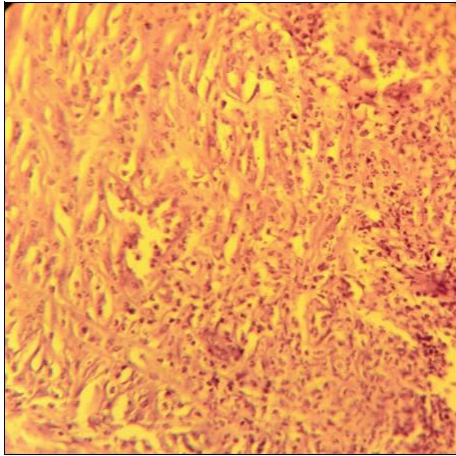


Fig. 9 High power of musculoskeletal structure of the tumor tongue mass of lingual skeletal muscle associated with infiltration of inflammatory cells (glossitis) 40X H & E

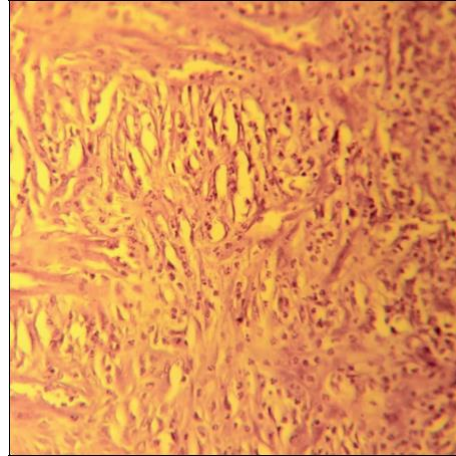


Fig. 10 High power of skeletal muscle cells with some vacuolation other with prominent nuclei also infiltration of inflammatory cells and high vascularization 40 X H & E

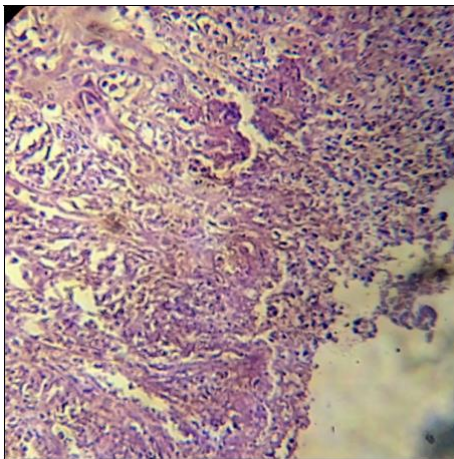


Fig. 11 High power heavy infiltration of inflammatory cells between the skeletal muscle of the tumor 40X H & E

## Discussion

The rare occurrence of rhabdomyoma and its relatively benign nature makes a histological diagnosis very necessary, though often difficult to make

Before we make histological section, Grossly, this tumor (rhabdomyoma) is benign, it is in accordance with (Hassell *et al.*, 2012) who reported benign tumors are in centimeter range and have well circumscribed pushing margins. It can occur as a pedunculated mucosal or multinodular mass. The cross section is solid and finely granular with a tan to red-brown color. Necrosis should not be seen.

Histopathological study shows skeletal muscle cells with some vacuolation other with prominent nuclei of skeletal muscle cells this findings agree with (Vuong *et al.*, 1990) who reported rhabdomyomas are composed of bland, primitive spindled cells. The spindle cells are haphazardly arranged primitive, elongated skeletal muscle cells. There are often large ganglion cell-like rhabdomyoblasts showing prominent nucleoli within nuclei that show vesicular chromatin distribution. tumors show short to more sweeping fascicles of spindled rhabdomyoblasts. The tumor cells may infiltrate into adjacent skeletal muscle or fat (vacuolation).

Histological section of the tongue mass show this tumor with heavy infiltration of inflammatory cells between the skeletal muscle of the tumor (glossitis) this result in opposite to (Yehuda *et al.*, 2010) and (Rivera and Carlton, 1992) who reported Poor hydration and low saliva in the mouth may allow bacteria to grow more readily.

## Conclusion

Among laboratory animal species, no reports of rhabdomyomas are available in sheep. Spontaneous lesions in the tongue of dogs are rare in studies. This report represents the first description of rhabdomyoma in ewe . Surgical excision is the treatment of choice. There is no role for chemotherapy or radiation therapy.

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