



ISSN: 2456-2912

VET 2023; 8(5): 408-410

© 2023 VET

www.veterinarypaper.com

Received: 15-07-2023

Accepted: 19-08-2023

Dr. R Uma Rani

Ph.D., Professor,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary University Training
and Diagnostic Centre,
Madurai, Tamil Nadu, India

Dr. S Sivaseelan

Ph.D., Professor and Head,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary University Training
and Diagnostic Centre,
Madurai, Tamil Nadu, India

Dr. C Sowbharenaya

Ph.D., Assistant Professor,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary Clinical Complex,
Veterinary College and Research
Institute, Theni, Tamil Nadu,
India

Dr. R Arun

M.V.Sc., Assistant Professor,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary Clinical Complex,
Veterinary College and Research
Institute, Theni, Tamil Nadu,
India

Dr. N Pazhanivel

Ph.D., Professor,
Tamil Nadu Veterinary and
Animal Sciences University,
Department of Veterinary
Pathology, Madras Veterinary
College, Chennai, Tamil Nadu,
India

Corresponding Author:

Dr. R Uma Rani

Ph.D., Professor,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary University Training
and Diagnostic Centre,
Madurai, Tamil Nadu, India

A rare case of capillary haemangioma with osseous metaplasia in a sheep

Dr. R Uma Rani, Dr. S Sivaseelan, Dr. C Sowbharenaya, Dr. R Arun and Dr. N Pazhanivel

Abstract

Haemangioma, a benign tumor comprised of different sizes of proliferating vascular spaces with erythrocytes depending on the depth of the extra blood vessels and lined by a uniform layer of endothelial cells (Ionita *et al.*, 2023, Nascimento *et al.*, 2022, Schoniger *et al.*, 2008) [2, 4, 8], commonly found in the skin, muscle, soft tissues, oral cavity, spleen, and bladder (Ionita *et al.*, 2023) [2]. Haemangioma are frequently seen in dogs, less frequently in cats, and infrequently in other domestic animals (Sasani *et al.*, 2015) [7]. Osseous metaplasia is a benign transformation of no osseous soft tissue into bone (Tilve *et al.*, 2022) [12]. The reports on haemangiomas with osseous metaplasia are dearth and the present report records a rare case of capillary haemangioma with osseous metaplasia and its successful surgical management in a ram.

Keywords: Ram-capillary haemangioma, osseous metaplasia, surgical management

Introduction

Case history and Observations

A 2 year old ram was presented with the history of having a swelling in the left cheek for the past 2 months and anamnesis revealed that the swelling was slow in onset. Clinical examination revealed that there was a subcutaneous mass in the Vento lateral aspect of left mandibular region (Fig.1). The mass was painless, soft to hard, relatively movable and was in the middle part of the left mandible. A little amount of blood tinged fluid was retrieved through fine needle aspiration, and there were no significant findings on thoracic and abdominal radiographs. All other clinical and physiological parameters were within the normal limits. Based on the history and clinical examination, the case was suspected for subcutaneous tumor. Surgical excision of the tumor was decided upon and the animal was prepared for aseptic surgery.

Treatment and discussion

The ram was kept off feed for 18 hours and withheld water for 12 hours prior to the surgical procedure. The animal was sedated with xylazine @ 0.1 mg/kg body weight intramuscularly and local infiltration an aesthesia was given with 5 ml of 2% lignocaine Hcl. After development of anesthesia, the left mandibular area was prepared for aseptic surgery. An elliptical cutaneous incision was given around the base of the tumor mass. The mass and cutaneous tissues were detached using scissors, complete surgical excision was performed along with the area of healthy cutaneous tissue and the bleeding was arrested using electro cautery. Difficulty was experienced while excision of the tumor mass as the mass was firmed adhered with adjacent mandibular bone. The subcutaneous sutures were placed using No. 1 chromic catgut and the skin incision was closed by simple interrupted sutures using 2-0 silk. Post operatively the animal was given Ceftriaxone @ 10 mg/kg intramuscularly for 5 days and Meloxicam 0.4mg /kg intramuscularly for 3 days. The cutaneous wound was dressed with Providence iodine solution on alternate days and the sutures were removed on 10th post-operative day. The animal recovered uneventfully and there was no recurrence during the follow up period of six months.

Gross examination of the excised tumor mass revealed the mass was well-demarcated and encapsulated and had the dimensions of 4.00 cm x 2.80cm x 2.5 cm with whitish multifocal osseous tissue on its surface (Fig. 2).

On cut section, the mass was homogeneously white osseous components tinged with blood. The tissue sample was preserved in 10% formalin for histopathological examination. Microscopically examination revealed the mass composed of thin walled capillaries (Fig.3) and lined by single layer of endothelial cells and multifocal areas revealed osseous metaplasia (Fig.4). Based on the gross and histopathological examination the tumor mass was confirmed as capillary haemangioma with presence of osseous metaplasia.

Hemangiomas are benign vascular tumors consisting of blood vessels and connective tissue frequently appear on the skin of head and neck region with slow growing rate (Ionita *et al.*, 2023) [2]. The occurrence of Hemangiomas are common in older dogs more than 10 years of age and uncommon in dogs below 3 years of age whereas they are more common at a young age in horses and calves (Sewoyo *et al.*, 2023) [10] but in the present case the age of the ram was two years. Eventhough the pathogenesis is not clear, imbalance of angiogenesis deriving to uncontrolled proliferation of vascular elements might be the reason for hemangiomas (Nascimento *et al.*, 2022) [4]. Hemangiomas are classified as cavernous and capillary based on the size of the blood vessels within the tumor (Sasani *et al.*, 2015) [7]. Capillary Hemangiomas have small-diameter vessels with a characteristic pattern of “trunk-and-branch”, while cavernous hemangiomas present larger diameter vessels (Thompson and Fanburg-Smith, 2016) [11]. Although the occurrence of capillary, cavernous or combination of capillary and cavernous type of Hemangiomas have been recorded and capillary Hemangiomas are rare in dogs and cats (Schulthesis, 2004) [9]. Histopathological description of the present case is in agreement with earlier reports (Sewoyo *et al.*, 2023) [10]. Hemangiomas are rare in sheep (Sasani *et al.*, 2015; Nascimento *et al.*, 2022) [7, 4] and in the present case capillary type of haemangioma in a ram is recorded. Several treatment options like surgical excision under general anesthesia, tumor ablation with local anesthesia, and electrocauterization were adopted for hemangiomas and the recurrence rate depends on the technique used for resection (Ionita *et al.*, 2023) [2]. Early diagnosis of capillary haemangioma and timely surgical intervention by complete surgical resection of the tumor with a margin of healthy tissue resulted in uneventful recovery in the present case and there was no recurrence of tumor till one year of post-surgery.

Ectopic ossification, a process of bone formation in abnormal sites has three classifications as heterotopic ossification, osseus choristoma and osseous metaplasia. Heterotopic ossification results due to metastatic calcification from systemic disease or dystrophic calcification from local tissue disease (Myers, and McGavin, 2007) [3] whereas osseus choristoma is a congenital tumor condition.

Osseous metaplasia is a ectopic ossification condition which is due to the differentiation of local soft connective tissue cells into osteogenic cells as a response to trauma and chronic inflammation, pathological events such as tumourigenesis, metabolic disorders or physical injury (Park *et al.* 2009) [6]. Osseous metaplasia have been reported as reactive non-neoplastic ossification or dystrophic calcification with smooth muscle tumours in humans (Chen *et al.* 2011) [1], cutaneous leiomyosarcoma in a budgerigar (Timurkaan *et al.*, 2016), fibroma in a dog (Park *et al.* 2009) [6], and cholangiocarcinoma in a cow (Ohfuji 2012) [5]. In the present case, osseous metaplasia was seen along with hemangioma and to the best of our knowledge, the present one is the first reported case in sheep.



Fig 1: Subcutaneous mass in the ventrolateral aspect of left mandibular region of a Ram



Fig 2: Gross appearance of hemangioma with osseous metaplasia

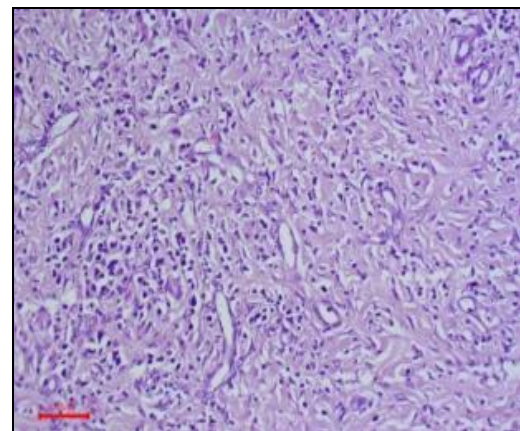


Fig 3: Mass composed of thin walled capillaries lined by single layer of endothelial cells Scale bar H&E x 50µm

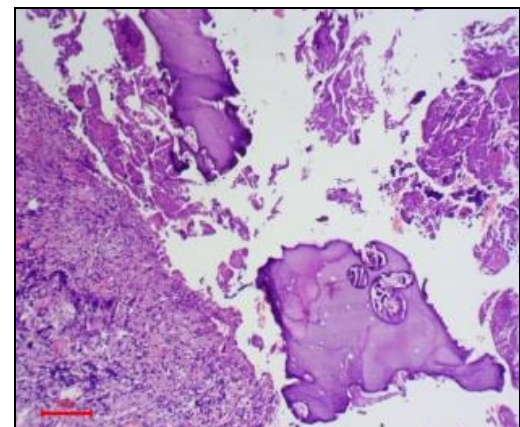


Fig 4: Multifocal osseous metaplasia scale bar H&E x 50µm

Summary

A rare case of capillary haemangioma with osseous metaplasia and its successful surgical management in a ram is reported.

References

1. Chen E, O'Connell F, Fletcher CD. Dedifferentiated leiomyosarcoma: Clinic pathological analysis of 18 cases. *Histopath.* 2011;59:1135-1143.
2. Ionita IG, Zainea V, Voiosu C, Stefanescu CD, Panea CA, Dumitru AV, *et al.* Management of Capillary Hemangioma of the Sphenoid Sinus. *Medicina.* 2023;59:858-868.
3. Myers RK, McGavin MD. Cellular and tissue responses to injury. In: *Pathologic Basis of Veterinary Disease.* 4th Ed. by McGavin, M. D. and Zachary JF Mosby, Philadelphia; c2007. p. 48-51.
4. Nascimento KA, Ferreira JJA, Souza VL, Soto-Blanco B, Camara ACL, Macedo JTSA, *et al.* Congenital cutaneous hemangioma in a newborn lamb. *Acta sci. Vet.* 2022;50:821-829.
5. Ohfuji S. Osseous metaplasia in the mesenteric lymph node with metastatic cholangiocarcinoma in a cow. *Am. J Cancer Sci.* 2012;1:1-7.
6. Park J, Han J, Hong I, Hwang O, Hong K, Ji A, *et al.* Salivary mucocele with osseous metaplasia in a dog. *J Vet. Med. Sci.* 2009;71:975-977.
7. Sasani F, Moosakhani F, Zafari M, Golchin D, Moradi Z. Nasotracheal Cavernous Hemangioma in Sheep (Case Report). *Int. J Vet. Sci. Res.* 2015;1:1-2.
8. Schoniger S, Tivers MS, Baines SJ, Summers BA. Arteriovenous haemangioma in two dogs and cat. *J Comp. Path.* 2008;139:130-136.
9. Schulthesis PC. A retrospective study of visceral and nonvisceral haemangiosarcoma and haemangiomasin domestic animals. *J Vet. Diag. Invest.* 2004;16:522-526.
10. Sewoyo PS, Teja PTHS, Wandia IN, Purbantoro SD. Vulvar hemangioma in a Kintamani dog. *Asosiasi Rumah Sakit Hewan Indonesia Vet Lett.* 2023;7:23-24.
11. Thompson LDR, Fanburg-Smith JC. Update on Select Benign Mesenchymal and Meningothelial Sinonasal Tract Lesions. *Head Neck Pathol.* 2016;10:95-108.
12. Tilve VR, Maddox T, Ressel L, Pettitt R. Osseous Metaplasia of the Transverse Humeral Ligament in a 10-Year-Old Bengal Cat. *Vet. Comp. Orthop. Traumat.* 2022;5:6-10.
13. Timurkaan N, Eroksuz H, Cevik A, Karabulut B. Cutaneous leiomyosarcoma with osteoid metaplasia in a budgerigar (*Melopsittacus undulatus*): A case report. *Veterinari Medicina.* 2016;16:533-537.