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Amrender Nath Tiwari

Vetlab (Veterinary Diagnostic Laboratory) New Delhi, India

Vikash Sharma

Department of Vety. Pathology, College of Veterinary Sciences, LUVAS, Hisar, Haryana, India

Maneesh Gupta

Vetlab (Veterinary Diagnostic Laboratory), New Delhi, India

Nagendra Gupta

KPC Hospital and Diagnostic Center, 18-Guru Gorakhnath Mandir Marg, Vineet Khand, Gontinagar, Lucknow, Uttar Pradesh, India

Hemangiosarcoma in a german shephard female dog: A case report

Amrender Nath Tiwari, Vikash Sharma, Maneesh Gupta and Nagendra Gupta

Abstract

An eleven years old german shepherd female dog was presented to the hospital with the tumorous condition in subcutis of abdominal region. There was presence of multiple tumorous masses in subcutaneous spaces. Gross examination revealed numerous lobulated well circumscribed, dark pinkish mass with firm consistency. On cut section, blood oozed out. Microscopic examination revealed presence of numerous blood vessels lined by neoplastic endothelial cells. The cells were frequently karyomegalic, with nuclear atypia. On the basis of gross and histopathological findings, the case was diagnosed as 'Hemangiosarcoma.

Keywords: Hemangiosarcoma, german shephard

Introduction

Hemangiosarcoma is a malignant tumor of vascular endothelium with high metastasis rate. It is also known as angiosarcoma or hemangioendothelioma (Douglas, 2007; Goldschmidt *et al.* 2002; Hidaka, 2006; Hilbe *et al.* 2002) [5, 9, 11, 12]. Hemangiosarcoma most commonly presents as a multicentric disease involving the spleen, liver, lungs, and right auricle of dogs, especially the German shepherd, Golden Retriever, Bernese Mountain dogs and Boxer dog breeds (Bar-Am, 2006; Douglas, 2007; Vail, 2000) [1, 5, 18]. The tumor is less frequently seen in the cat, and rarely in large domestic animals (Scott and Gross *et al.*, 1992) [6]. Hemangiosarcomas in dogs are aggressive and malignant tumors with poor prognosis (Bar-Am, 2006; Clifford, 2000; U'Ren, 2007) [1, 3, 16]. They are responsible of 12-21% of all mesenchymal tumors and 5% of all non-cutaneous primary malignant tumors in dogs. 2.3-3.6% of cutaneous tumors and 45-51% of splenic tumors in dogs are hemangiosarcomas. Cutaneous involvement can be solitary or, rarely, part of the multicentric syndrome. Some canine dermal hemangiosarcomas appear to be the result of chronic solar irradiation (Hargis *et al.*, 1992) [10].

A 11-year old female german shephard dog was presented to the KPC Pet Hospital, Lucknow with numerous tumorous masses in sub-cutaneous spaces of abdominal region. It was surgically removed and collected in 10 per cent buffered formalin and sent to Vetlab for histopatolgical investigation. There it processed routinely, embedded in paraffin (Luna, 1968) [14], sectioned at 5 micrometers and stained with haematoxylin and eosin stains (H & E) following the standard protocol as described by Culling (1995) [4].

Grossly the cutaneous mass was well circumscribed, ulcerated, but not encapsulated. The cut surface of the nodules was firm and pinkish (Figure 1). Microscopic examination revealed presence of endothelium-like cells with shapes changing from oval to fusiform and with vesicular nuclei and one or more nucleoli constricted cellular component (Figure 2 and 3). Many fissures, irregular capillaries and larger vascular structures with inflammatory cell infiltration were found. Areas of necrosis were also evident.

Based on gross and histopathological findings, the case was diagnosed as hemangiosarcoma. Hemangiosarcoma is a malignant tumor originating from vascular endothelial tissue (Bar-Am, 2006; Hidaka, 2006) [1, 11]. Cutaneous hemangiosarcomas are less aggressive than their visceral counterparts, with lower metastatic potential and longer survival times (Hargis *et al.*, 1992 and Gross *et al.*, 1992) [10, 7]. Metastasis occurs by transabdominal implantation or by hematogeneous route rapidly. Surgery and chemotherapy has limited succes for survival (Clifford, 2000) [3]. When immunotherapy and chemotherapy is combined, survival has been reported to prolong (U'Reni, 2007) [16]. Early diagnosis of the pathologic mass with biopsy and subsequently total extirpation of the mass would prolong survival and decrease possible function losses and pain to a minimal level.

Correspondence

Amrender Nath Tiwari

Vetlab (Veterinary Diagnostic Laboratory), New Delhi, India



Fig 1: Multiple subcutaneous tumorous masses in abdomen of the female dog.

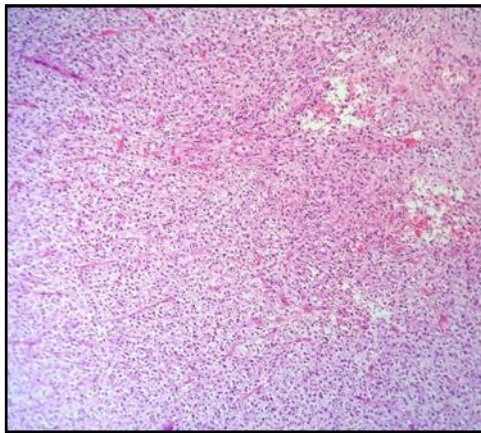


Fig 2: Section of malignant fibrous histiocytoma showing oval or polygonal histiocytic cells with oval-round vesicular nuclei. H & E \times 100

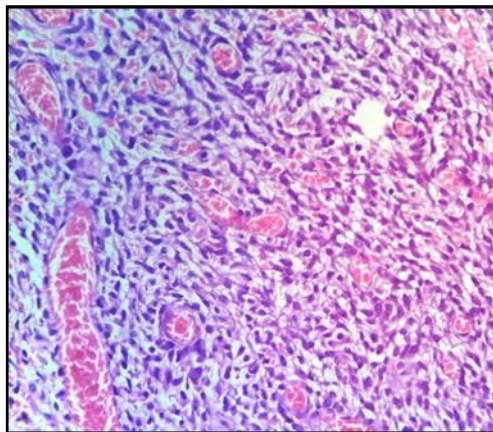


Fig 3: Higher magnification of the previous image showing numerous vascular channels, oval to spindloid and polygonal neoplastic endothelial cells with oval-round vesicular nuclei. H & E \times 400

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