A Rare Case of Liposarcoma in a Dog

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Abstract

A 6 year old cross bred dog was referred with a history of a growth in the right foreleg. Clinical examination revealed presence of a large hard mass above the right elbow. The growth was solitary, well circumscribed, firm and freely movable. The thoracic radiographs showed no evidence of pulmonary metastases. Under general anaesthesia, the tumor growth was excised following aseptic surgical procedure. Histopathological examination confirmed the tumor as liposarcoma. The animal recovered uneventfully and there was no recurrence during the follow up period of one year.

Key words: Dog · liposarcoma · Histopathology.

Liposarcoma is rare in domestic animals (Cecilia et al., 2013) that develop primarily in older dogs (Jubb et al., 2007) with an overall incidence of 0.2 to 0.5% among all canine neoplasms (Wang et al., 2005). It often arises from the skin and subcutis (Baeez et al., 2004). In the present report, an unusual case of liposarcoma in a 6 year old dog and its successful surgical management is placed on record.

Case History and Observations

A 6 year old cross bred dog was referred with the history of a growth in the right foreleg and the animal was found limping while walking for the past 15 days. Anamnesis revealed that the growth which was gradually increasing in size was persistent since last 4 months. Clinical examination revealed presence of a large hard mass above the right elbow in the lateral aspect (Fig.1). The growth disturbed the gait of the animal and the animal experienced discomfort while lying down and getting up. The growth was solitary, well circumscribed, round, firm and freely movable. Heart rate, respiratory rate and rectal temperature were within the normal physiological limits. The thoracic radiographs showed no evidence of pulmonary metastases. Based on the history, clinical and radiological examination, the case was tentatively diagnosed as tumor and the animal was prepared for aseptic surgical correction.

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Treatment and Discussion

The dog was premedicated with Atropine sulphate\(^1\) @ 0.04mg/kg body weight s/c and Xylazine hydrochloride\(^2\) @ 1mg/kg body weight i/m and general anaesthesia was induced with ketamine hydrochloride\(^3\) @ 10 mg/kg body weight i/m. An elliptical incision was made at the base of the tumor and bleeding vessels were ligated with 2-0 chromic catgut. Adopting standard surgical procedure, the growth was carefully excised as a single intact mass and the skin was sutured. Post operatively, the animal was given Inj. Ampicillin – cloxacillin \(^4\) @ 10 mg/kg body weight twice daily i/m for five days and the wound was dressed with povidone iodine \(^5\) solution on alternate days. The skin sutures were removed on the eighth post-operative day and the animal recovered uneventfully.

On gross pathological examination, the growth was 11.5 x 7.5 x 7.0 cm in size, firm to cut and the cut surface showed grey and white sharply delimited areas with irregular contours. The tissue sample was preserved in 10% formal saline for histopathological examination.

Histologically, nodules showed neoplastic cells with variable sized lipid vacuoles in the cytoplasm. 15-20 per cent of the cells showed vacuolation. Neoplastic cells showed vesicular nuclei with single nucleoli confirming the case as liposarcoma (Fig. 2).

Liposarcomas are uncommon malignant tumors of white adipose cell lipoblasts (Jubb et al., loc.cit). There is no sex predisposition but the incidence increases with age (Baez et al., loc.cit). In the present report the age of the dog was 6 years. Specific causes for liposarcomas were not known and were locally invasive neoplasms that rarely metastasize. Prognosis was based on the size, location, grade, histologic type of neoplasm and adequacy of surgical margins. Treatment for liposarcoma should include an early surgical excision with wide margins while radiation and chemotherapy seem to be unresponsive (Baez et al., loc.cit). In the present case, timely surgical intervention in the early stage and wide surgical excision of the tumor led to the favourable prognosis and there was no recurrence during the follow up period of one year.

References


