Pulmonary Adenocarcinoma in a Dog – A Case Report

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(Received : 29-09-2014; Accepted : 19-05-2015)

Abstract

A 9 year old Dobermann bitch was presented with a history of inappetance and non-productive cough for over a week. The animal was dull and depressed with pale conjunctival mucous membrane. Thoracic radiography revealed radio-dense mass at the base of the heart in the lung region. Hematology revealed anemia, thrombocytopenia and serum biochemistry showed an increase in BUN, creatinine and reduced total protein and albumin values. The animal collapsed during the course of the treatment. Post mortem examination revealed a hard grayish-white mass in the left apical lobe. On samples of apical lobe mass was diagnosed as adenocarcinoma.

Key words: dog - lung adenocarcinoma

Primary lung tumors are rare in dogs, whereas pulmonary metastatic neoplastic involvement is common (Conti et al., 2010). The present paper reports a case of pulmonary adenocarcinoma in a dog.

Case History and Observations

A 9 year old female Dobermann was brought to the Madras Veterinary College Teaching Hospital with the history of inappetance and non-productive cough for over a week. The animal was dull and depressed. Clinical examination revealed pale conjunctival mucous membrane and auscultation of thorax revealed exaggerated lung sounds. Blood was collected for haematology and serum biochemistry. Haematology revealed reduced Hb (4.6 mg/dL), PCV (17.7%), RBC (2.60, 000/dL) values, platelet count (1,17,000 lakhs/cmm) and normal WBC count (6, 800/dL) and monocytosis. Serum biochemistry showed increase in BUN (45.53 mg/dL), creatinine (4.45 mg/dL) and reduced total proteins (5.95 mg/dL) and albumin (1.99 mg/dL) values. Thoracic radiography revealed radio dense mass at the base of heart in the lung region (Fig 1).

Treatment and Discussion

The case was treated with Ringer’s lacatate @10 mg/kg BW IV, Pantaprazole @1mg/kg BW IV and advised for Oral Tab Doxycycline @ 10 mg/kg BW, Tab Pantaprazole @ 1mg/kg BW BID and Suspension Thrombup.

The animal collapsed during the course of the treatment. Post mortem examination revealed pale pink lung with diffuse anthracosis. Left apical lobe revealed a hard grayish-white mass measuring 4x3 cm (Fig 2). Kidneys were shrunken and capsule could be peeled off with difficulty. Cortex was rough, granular and hard to incise. Histopathology of lung revealed diffuse edema and congestion along with a few areas showing chronic peribronchitis. The samples of tumor tissue from apical lobe revealed numerous acinar structures lined by cuboidal cells in adenoid pattern containing mucin in their lumens suggesting adenocarcinoma (Fig 3). Kidney revealed chronic interstitial nephritis with increased plasma cells and fibrous tissue.

Primary lung tumours in dogs are relatively uncommon. The most common types of primary lung tumours are carcinomas and adenocarcinomas. Based on the site of their location, adenocarcinomas have been classified into bronchial, alveolar or bronchoalveolar carcinoma. Adenocarcinoma, regardless of tissue cell origin, is the most common histologic type in dogs and cats (Withrow, 2007). Adenocarcinomas are usually present as peripheral,

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solitary or as well-defined masses (Wilson and Dungworth, 2002) as observed in this case.

Primary lung tumors occur most commonly in larger, older animals, with a mean age of 10 or 11 years in dogs. The most common clinical findings in dogs are cough, dyspnea, lethargy, and weight loss as observed in this case, although 25% of dogs with primary lung tumors have no clinical signs related to the tumor (Hahn and McEntee, 1997). Clinical signs associated with primary pulmonary neoplasia are often vague and non-specific. It has been reported that as many as 33 percent of primary lung tumors were detected during physical or radiographic evaluation for unrelated problems.

References

