Diagnosis of Renal Lymphoma in a Dog

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Abstract

The report describes ultrasonographic findings of kidney lymphoma as an added tool in diagnosis of renal lymphoma in a female spitz. The animal was presented with history of inappetance, generalized lymphadenopathy, vomiting and diarrhea. Radiography, ultrasonography and fine needle aspiration cytology (FNAC) of lymph node and kidney cortex were performed. Ultrasonography findings of renal lymphoma showed protrusion on kidney's cortical surface and hypoechoic circumscribed changes in cortico medullary region. Ultrasonography assisted aspiration for cytology and confirmed canine renal lymphoma diagnosis. Hematobiochemistry not showed much changes and X-ray revealed splenomegaly. After death of animal, changes on kidney cortical surface were noticed and biopsy also confirmed presence of renal lymphoma.

Keywords: Kidney; lymphoma; vomiting; radiography

Introduction

Lymphoma is one of the most frequent neoplasm in dog and is generally easy to diagnose, as cytology is a sensitive method to confirm suspicion. Despite these factors, primary renal lymphoma has been rarely reported. In humans, commonly agreed criteria for defining most primary renal or extranodal lymphomas histologic diagnosis and absence of other nodal or extranodal involvement (Sheth *et al.*, 2006). Renal tumors are uncommon in dogs, comprising less than 2 percent of primary neoplasms. Most are epithelial in origin (adenocarcinoma and carcinoma), with other reported classes being mesenchymal (hemangiosarcoma, fibrosarcoma, anaplastic sarcoma) and mixed type (nephroblastoma). Renal lymphoma normally varying echogenicity hypoechoic to hyperechoic, elevated cortical surface or irregular contour or some time normal structure also) so lymphoma infiltration on the kidney *via* ultrasound guided fine needle aspiration biopsy technique is effective in confirming renal lymphoma (Breshears *et al.*, 2011).

History and Observations

A twelve years old female Spitz weighing around 8 kg was presented with history of inappetance, generalized lymphadenopathy, vomiting and diarrhea. Vitals were normal, abdominal palpation on the lumbar region revealed pain. On chest auscultation, no abnormalities were detected. Similarly, blood report were normal. Radiography, eletrocardiography and echocardiography were performed with normal outcomes, but abdominal ultrasonography of kidney revealed elevated cortical surface or irregular contour on cortical surface (Fig.1) (Durno *et al.,* 2011).

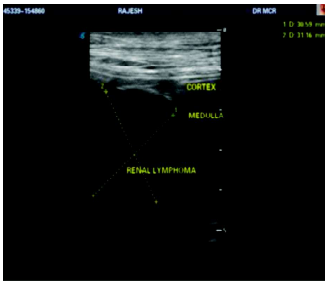

Fig. 1: Kidney ultrasonography revealed elevated cortical surface or irregular contour on cortical surface

Ultrasound guided fine needle aspiration cytology (FNAC) of lymph node and kidney cortex were performed and its results correlated with histopathological observation of renal lymphoma (Fig. 2) (Haers *et al.,* 2010).

Diagnosis and Treatment

Majority of renal lymphoma is difficult to diagnose with physical methods of diagnosis Ultrasound guided fine needle aspiration cytology (FNAC) of kidney cortex helped in diagnosis of human renal lymphoma and similar observations were recorded. Histopathology results also confirmed infiltration of

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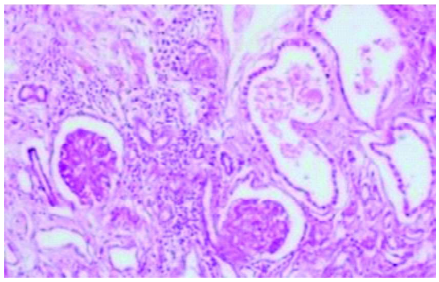

Fig. 2: Kidney histopathology of kidney revealed lymphoblastic lymphoma

lymphoblastic cells in kidney. Varying echogenicity and contour changes in renal cortex helped to diagnose renal lymphoma. This is helpful in diagnosing the case and give prognosis well in advance (Valdes *et al.,* 2007).

The dog was treated as per Madison Wisconsin university lymphoma protocol.

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Ukraine's mine-sniffing dog recognised for tracing over 200 explosives

Ukraine's President, Volodymyr Zelenskiy presented award to jack russell Patron, who was seen as a symbol of resistance against Russia. A mine-sniffing dog credited with detecting more than 200 explosives since the start of the war in Ukraine has been given a medal for his services to the country. Two-and-a-half-year-old jack russell, was presented with the award by Mr. Volodymyr Zelenskiy, at a news conference with Canadian Prime Minister Justin Trudeau in Kyiv on 8th May, 2022. The terrier, whose name means "ammo" in Ukrainian, sniffs out Russian mines and explosives in northeastern city of Chernihiv and acts as a mascot of the country's state emergency service. He has become a national symbol of Ukraine's resistance against Russia, featuring regularly in videos on official Ukrainian social media channels. The owner of Patron is Mykhailo Iliev of Civil Protection Service.