

Department of Veterinary Medicine
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Title of thesis	Clinico-diagnostic and therapeutic management of canine cardiac diseases
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ABSTRACT

The present study was carried out on 3166 dogs presented at Department of Veterinary Medicine, DGCN, COVAS, CSKHVKV, Palampur (H.P.) over a period from May 2021 to September 2022. Among these, fifteen dogs were diagnosed with different cardiac disorders grouped as dilated cardiomyopathy (n=8, 53.33%), hypertrophic cardiomyopathy (HCM) (n=2, 13.33%), valvular diseases (n=3, 20.00%) and pericardial disease (n=2, 13.33%) indicating 0.47 % overall occurrence. Cardiac disorders were diagnosed based on signalment, medical history, clinical examination, electrocardiography, laboratory examination, radiography, cardiac troponin-I biomarker and echocardiography. Labrador (n=6, 40.00%) was the most affected breed followed by German Shephard and Shih tzu (n=2, 13.33% each) and then followed by Beagle, Pomeranian, Pug, Pointer and Spitz (n=1, 6.67% each). Males were predominantly affected (n=13, 86.67%) than females (n=2, 13.33%). The major clinical findings noted were exercise intolerance (n=14, 93.33%), dyspnea (n=13, 86.67%), coughing (n=9, 60%), inappetence (n=8, 53.33%), orthopnoea (n=7, 46.67%), syncope (n=6, 50%) and ascites (n=6, 50%). Increased area of auscultation (n=11, 73.33%), murmurs (n=10, 66.67%), tachycardia (n=8, 53.33%), gallop (n=7, 66.67 % and crackling (n=6, 40%) were the main auscultation findings in cardiac disorders. The radiographic findings such as cardiomegaly (n=13, 86.67%) followed by primary bronchus compression (n=11, 73.33%), tracheal elevation (n=11, 73.33%), left atrial enlargement (n=10, 66.67%), pulmonary edema (n=7, 46.67%) and pulmonary vessel dilatation (n=7, 46.67%) were also recorded. The ECG parameters such as P amplitude was significantly (p<0.01) increased in dogs suffering from HCM and valvular disease while P duration was significantly increased in DCM group. Other ECG findings seen in various arrhythmias were increased QRS amplitude (n=3, 20%), QRS duration (n=7, 46.67%), electrical alternans (n=5, 33.33%), ST depression (n=3, 20%), atrial fibrillation (n=3, 20%), P mitrale (n=3, 20%), low QRS complexes (n=2, 13.33%), VPCs (n=2, 13.33%), and deep Q wave (13.33%). The mean plasma cholesterol levels were significantly elevated in HCM group and total plasma protein levels were found significantly decreased in HCM and pericardial disease groups. Echocardiographic findings showed mitral regurgitation and thickened valves in valvular diseases and thinning of ventricular wall with dilated heart chambers were observed in DCM. The mean cardiac biomarker (cTnI) values were found significantly increased (p<0.05) in overall cardiac diseases (0.21 ± 0.02 ng/dL) and in valvular disease (0.21 ± 0.04 ng/dL). According to cardiac disease condition, combination treatment consisting of diuretics, cardiac glycoside, PDE III inhibitors, angiotensin receptor inhibitor, nutraceuticals, corticosteroids, and cardiac prescription diets was given. Pericardiocentesis successfully managed both the pericardial effusion cases. However, the highest mortality rate (n=5/8, 62.50%) was recorded in the DCM followed by HCM group (n=1/2, 50%).

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