Correlation of Radiographic and Echocardiographic Findings with Clinical Outcome in Canine Heart Patients

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Abstract

Thoracic radiography and echocardiography are two of the most important diagnostic tools for structural heart diseases. In canine heart disease cases, both severity grade and prognosis of the case are equally important for the clinicians and owners to decide on treatment options for the dog. Forty-two canine heart patients with complete history, clinical signs, follow up details, complete radiography records and echocardiography recordings were included in this study. The forty-two dogs were free of liver, kidney and lung diseases. Data was tabulated in SPSS 16.0 software and was analyzed using Kaplan-Meier Survival Analysis technique to determine the median survival duration of canine heart patients according to severity classification based on radiographic findings and severity classification based on echocardiographic findings. The medical effects of furosemide, benazepril and pimobendan were also studied by comparison of median survival duration between the group treated with the particular medication and the group not treated with the particular medication. Kaplan Meier Survival Analysis showed that the median survival durations in canine heart patients classified by severity of radiographic findings are 449±42 days in heart patients with severe radiographic findings, 530±175 days in heart patients with moderate radiographic findings and 549±173 days in heart patients with mild radiographic findings. Meanwhile, canine heart patients with severe echocardiographic findings have median survival duration of 449±3.3 days compared to 515±189 days in cases with mild echocardiographic findings. Kappa's test of agreement showed moderate degree of agreement between severity classification based on radiographic and echocardiographic findings with a kappa value of 0.60 ($p=0.003$). Median survival duration of canine heart patients undergone medical intervention was markedly longer than canine heart patients without medical intervention.

Keywords: canine, heart disease, radiography, echocardiography, median survival duration