ECHOCARDIOGRAPHIC FINDINGS IN DAIRY COWS WITH CARDIAC LYMPHOMA: 7 CASES

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Bovine lymphoma is a common neoplasm in cattle in areas where bovine leukosis virus infection is common. Although the typical form of enzootic lymphoma can be easily diagnosed in clinical setting, lymphomatous tissue can cause non-specific signs such as abomasal ulcer, ataxia or clinical signs of heart diseases. The aim of this study was to describe echocardiographic findings in 7 cows with a diagnosis of cardiac lymphoma. During the study period (2007-2010), all cows with a presumptive diagnosis of heart disease in the bovine ambulatory clinic had a complete transthoracic echocardiography (TTE). The data that were recorded were the presence of pericardial fluid, mass lesions, any other anomaly, signs of cardiac tamponade, shortening fraction of the left ventricle, as well as cardiac chamber dimensions.

The TTE findings of 7 adult Holstein cows with a diagnosis of cardiac lymphoma (based on necropsic findings or pericardial fluid analysis) were available. All but 2 cows had clinical signs of right-sided heart failure that consisted in venous distension/pulse and various levels of peripheral edema.

The echocardiographic findings revealed small to large degree of pericardial effusion in 5 cows. The pericardial effusion was hypoechoic to anechoic with hypoechoic to echoic strands in 3 of 5 cases. Echocardiographic signs of cardiac tamponade (right atrial collapse and/or diastolic right ventricular collapse) were present in 4 of 5 cases. In 3 cases an echoic mass was observed in the posterior wall of the right atrium or at the right atrioventricular junction. The left ventricular fractional shortening decreased in 3 of 7 cases (25%, 25.9% and 26.7), the mean FS was 38.5%±13.1% (reference range 46.5 ±9.5%). Pericardiocentesis was attempted when pericardial effusion was found. The pericardial fluid obtained was odorless, and sero-hemorrhagic to hemorrhagic. The cytological analysis yielded results compatible with lymphoma in 4 cases and transudate in 1 case.

In case of cardiac lymphoma, TTE may be especially useful in patients without typical clinical signs of lymphoma. The typical cardiac manifestation of lymphoma which consists in right atrial infiltration by neoplastic tissue can be seen with ultrasonography. However, pericardial effusion without manifestation of atrial involvement is a frequent finding. Pericardiocentesis performed when pericardial effusion is suspected after TTE is a valuable diagnostic tool to confirm the diagnosis.