

What Is Your Diagnosis?

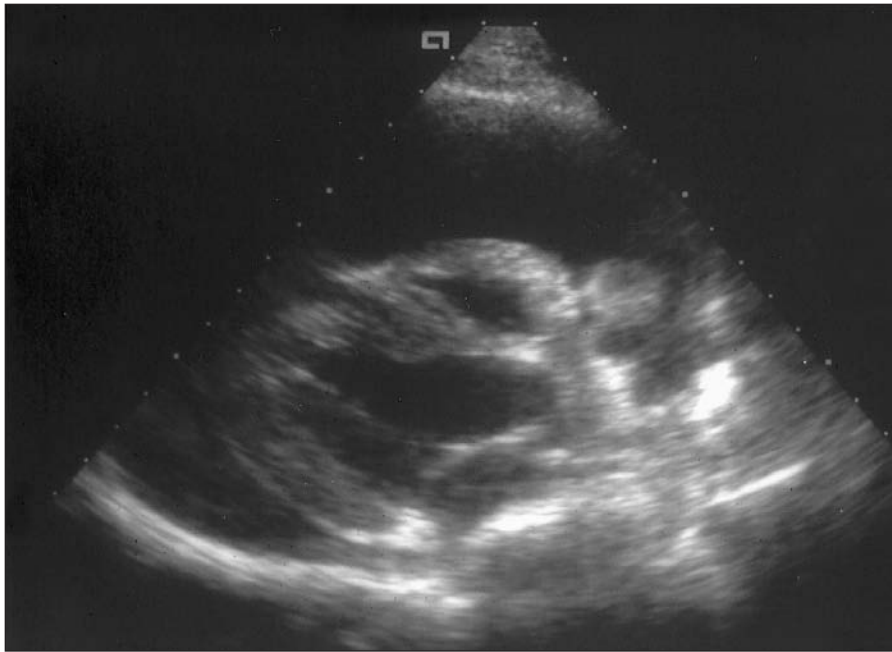


Figure 1—Right parasternal long-axis echocardiogram of a 9-year-old dog evaluated because of sudden onset of anorexia, weakness, and tachypnea.

History

A 9-year-old spayed female German Shepherd Dog cross was evaluated because of sudden onset of anorexia, weakness, and tachypnea. Three days prior to evaluation at our hospital, the referring veterinarian had removed an ulcerated hemorrhagic subcutaneous mass on the craniolateral aspect of the right shoulder. Signs of systemic disease were not detected prior to that surgery, and the mass was excised without complication. However, the mass was not submitted for histologic examination. The dog became acutely ill 24 hours after surgery and was referred to our hospital the same day. Physical examination revealed pale mucous membranes, tachypnea, tachycardia, muffled heart sounds, weak femoral pulses, jugular pulses, and a distended abdomen. A normal sinus rhythm with low-amplitude QRS complexes and electrical alternans were detected on an ECG. Thoracic radiography revealed a large globoid cardiac silhouette. An echocardiogram was obtained (Fig 1).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page ▶

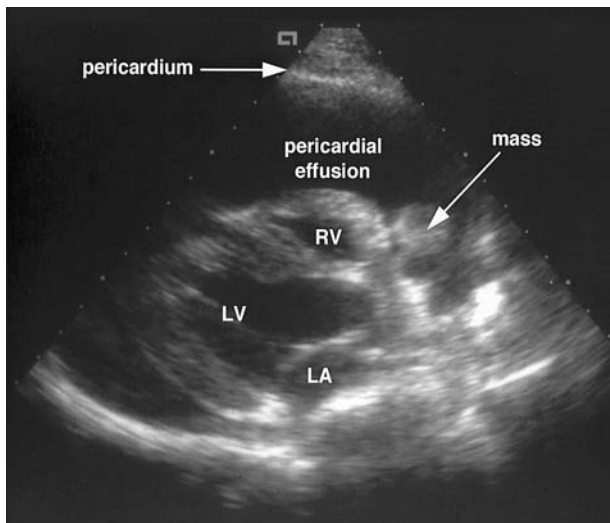


Figure 2—Same echocardiogram as in Figure 1. Notice the pericardial effusion and cystic mass in the area of the right atrium. RV = Right ventricle. LV = Left ventricle. LA = Left atrium.

Diagnosis

Echocardiographic diagnosis—Pericardial effusion and a cystic right atrial mass (Fig 2).

Comments

Results of physical examination, ECG, and thoracic radiography were consistent with pericardial effusion and cardiac tamponade. Echocardiography is a noninvasive and readily available means to detect pericardial effusion in dogs.^{1,2} Pericardial effusion may be associated with idiopathic, neoplastic, infectious, and congenital pericardial diseases.^{3,4} Severe effusion may develop secondary to congestive heart failure. Echocardiography is also a sensitive modality for identifying soft-tissue cardiac masses.⁵ In this case, pericardial effusion was associated with a large mass on the right auricular appendage (Fig 3). This mass was not apparent on thoracic radiographs but was easily identified on the echocardiograms. The hyperechoic structure located within the fluid-filled cystic mass was thought to be a thrombus. The most likely differential diagnosis for the right atrial mass in this dog is hemangiosarcoma. German Shepherd Dogs are predisposed to the development of hemangiosarcomas, which may be detected as a primary or metastatic tumor.⁶

Pericardiocentesis performed on the dog of this report yielded approximately 600 ml of hemorrhagic fluid with a PCV of 50%. Heart rate, results of thoracic auscultation, and femoral pulse quality improved immediately following pericardiocentesis. An ECG

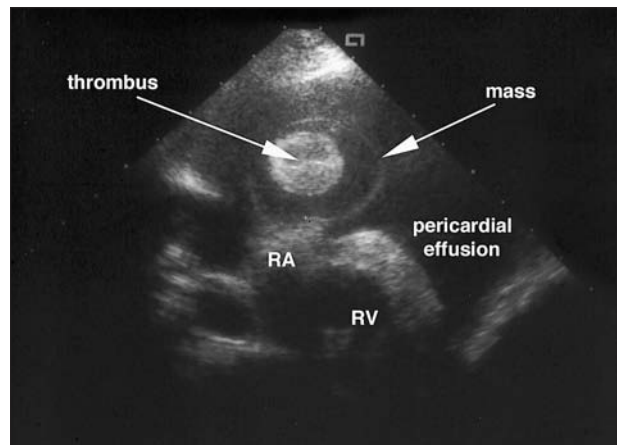


Figure 3—Right parasternal short-axis echocardiogram of the dog described in Figure 1. A hyperechoic structure consistent with a thrombus is evident in the center of the cystic right atrial mass.

obtained after the procedure revealed a normal sinus rhythm and QRS complex amplitudes within reference limits. Results of cytologic examination of the pericardial fluid were consistent with recent hemorrhage, and aerobic bacterial culture of the fluid did not yield growth. Aggressive treatment options for this dog included palliative pericardectomy and excisional biopsy of the mass. However, the owner declined further treatment. The dog died at home 4 days after evaluation. Necropsy was not permitted.

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