What's Your Radiographic Diagnosis?

by Chris Wilson*
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History:

A 12-year old female cat was presented with a history of posterior paresis of 3 days duration and an irregular heart rate. Examine the DV and lateral thoracic survey radiographs (Figures 1 and 2) and the angiocardiogram (Figure 3) and make your radiographic diagnosis.

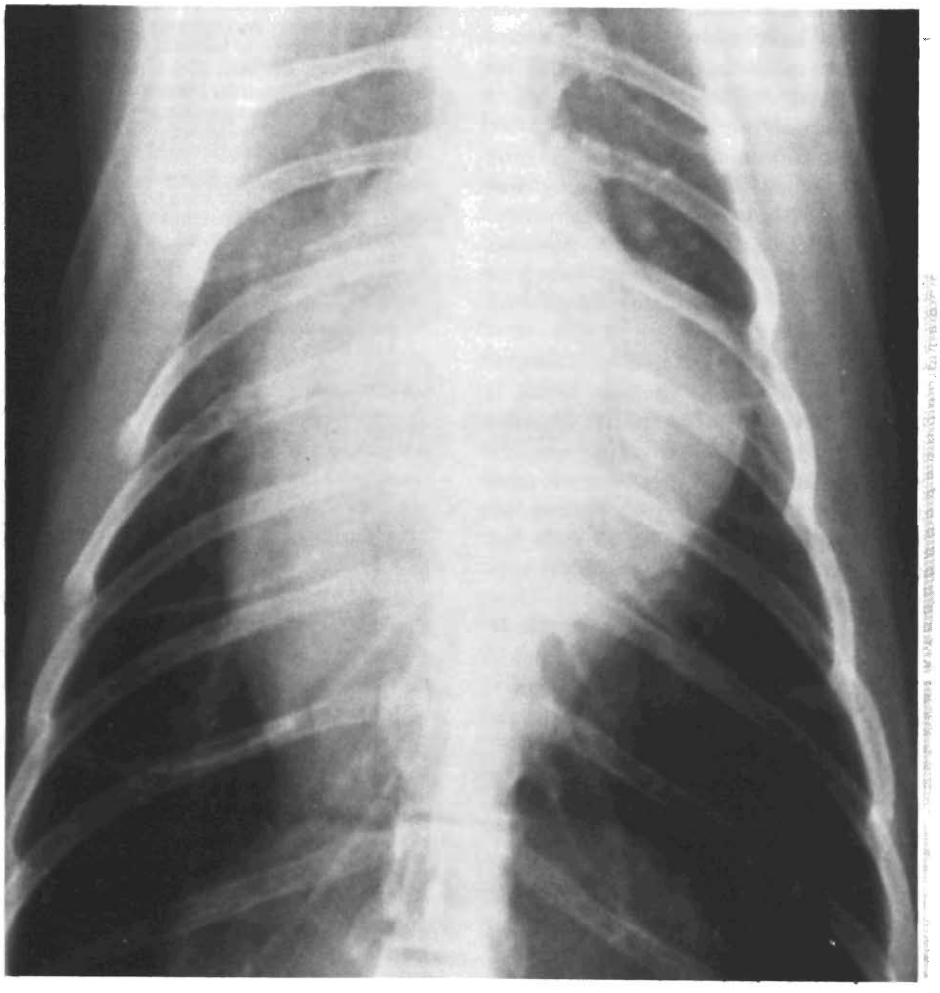

Fig. 1: DV thoracic radiograph.

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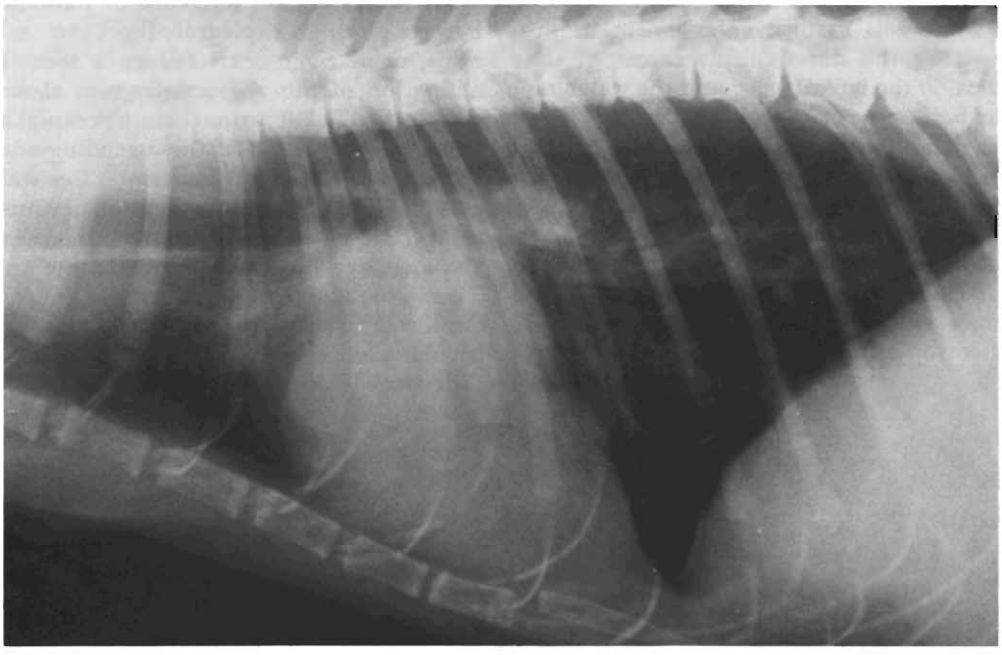

Fig. 2: Lateral thoracic radiograph.

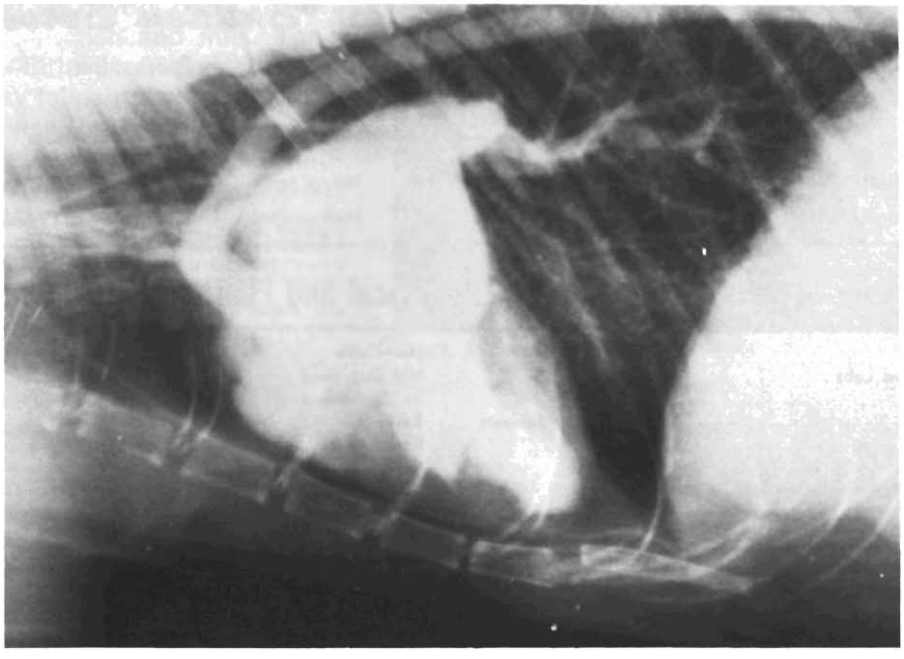

Fig. 3: Angiocardiogram taken approximately 6 sec. after injection of contrast into the cephalic vein. Heart is in diastole.

Diagnosis: hypertrophic cardiomyopathy.

Examination of the survey films (Figures 1 and 2) reveals cardiac enlargement as indicated by the dorsal displacement of the trachea on the lateral view, and the widening of the base of the cardiac silhouette on the DV projection. Enlargement of the base of the heart in the area of the right and left atria is also seen in the lateral view. Increased sternal contact is seen on the lateral view which may be due to a combination of both right ventricular and right atrial enlargement. These changes are compatible with hypertrophic cardiomyopathy. The cardiac silhouette on the DV view has the "valentine" shape also seen with this disease. Enlarged, tortuous pulmonary veins are seen near the base of the heart indicating the presence of pulmonary hypertension. No pleural fluid, or other evidence of right heart failure is seen. Examination of the angiocardiogram shows a greatly dilated left atrium causing cranial and ventral displacement of the ascending aorta. Hypertrophy of the left ventricular free wall is also identified. An enlarged papillary muscle from the interventricular septal wall is seen as a triangular filling defect close to the apex. There is no apparent obstruction of the aortic outflow tract by the hypertrophied ventricular wall. These changes are diagnostic of hypertrophic cardiomyopathy.

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