

Mediastinal mass in a dog.

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Signalment: Mixed-breed canine, 6 year old spayed female named Victoria

Specimen: Cytologic sample from mediastinal mass near the heart base.

History: Victoria was referred to the Oklahoma State University Boren Veterinary Medical Teaching Hospital (OSU-BVMTH) with a 6 month history of anorexia and lethargy. Four months previously the referring veterinarian documented icterus with moderately increased serum activity of ALT and ALP. Leptospirosis serology was negative, and the dog was treated empirically with antibiotics and fluid therapy. The icterus resolved and liver enzyme values improved, but were still increased. A pleural effusion was determined to be a modified transudate.

Clinical findings: Physical examination at OSU-BVMTH revealed a thin, lethargic dog with muffled heart sounds, jugular distension and jugular pulses. A CBC was unremarkable with the exception of lymphopenia. Liver enzymes were slightly increased: ALT 469 IU/L (RI 12 – 118), ALP 314 IU/L (RI 5 – 131), GGT 16 IU/L (RI 1 – 12). Total Bilirubin was increased at 13.7 $\mu\text{mol/L}$ (RI 1.7 – 5.1). RI means reference interval. Thoracic ultrasound demonstrated a mediastinal mass surrounding the aorta at the base of the heart. Pericardial effusion was present and pericardiocentesis retrieved 0.4 L of serosanguinous fluid. Radiographs showed multiple small nodules in both right and left lung fields and blunt liver margins. A fine needle aspirate of the heart-base mass was obtained and submitted to the OSU-BVMTH clinical pathology laboratory (Antech Diagnostics) for cytologic evaluation (Figures 1-4).

Questions:

1. What are the differential diagnoses for canine heart-base tumors?
2. Is histopathology alone sufficient to differentiate these tumors?
3. How can immunohistochemical staining (IHC) be used to facilitate diagnosis?

Cytology of canine heart base mass:

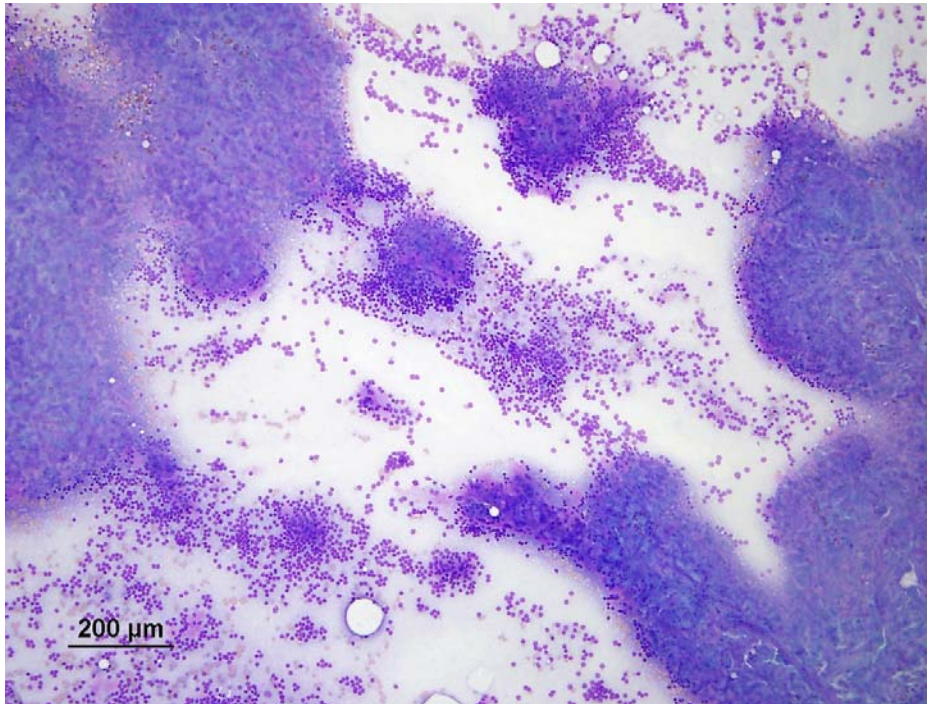


Figure 1. Aspirate of canine heart base mass, X100 magnification, aqueous Romanowsky stain.

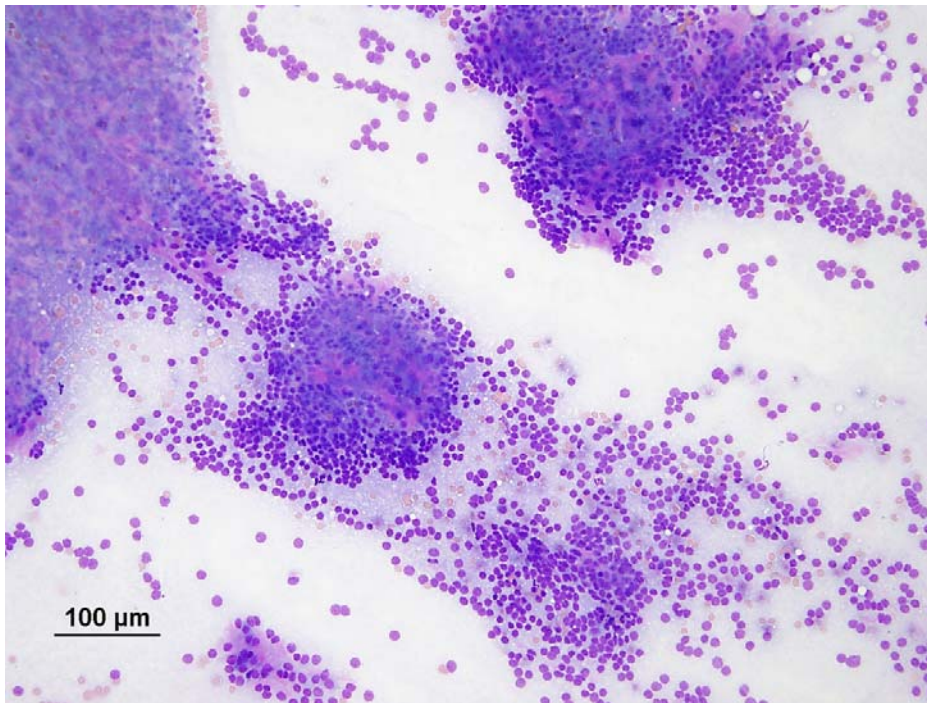


Figure 2. Aspirate of canine heart base mass, X200 magnification, aqueous Romanowsky stain.

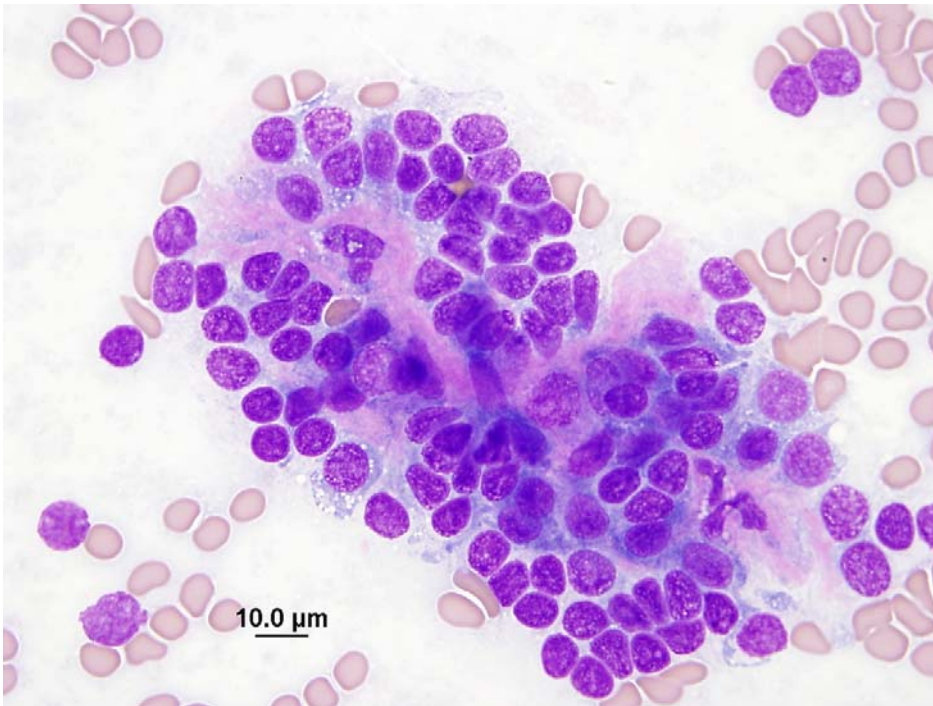


Figure 3. Aspirate of canine heart base mass, X1000 magnification, aqueous Romanowsky stain.

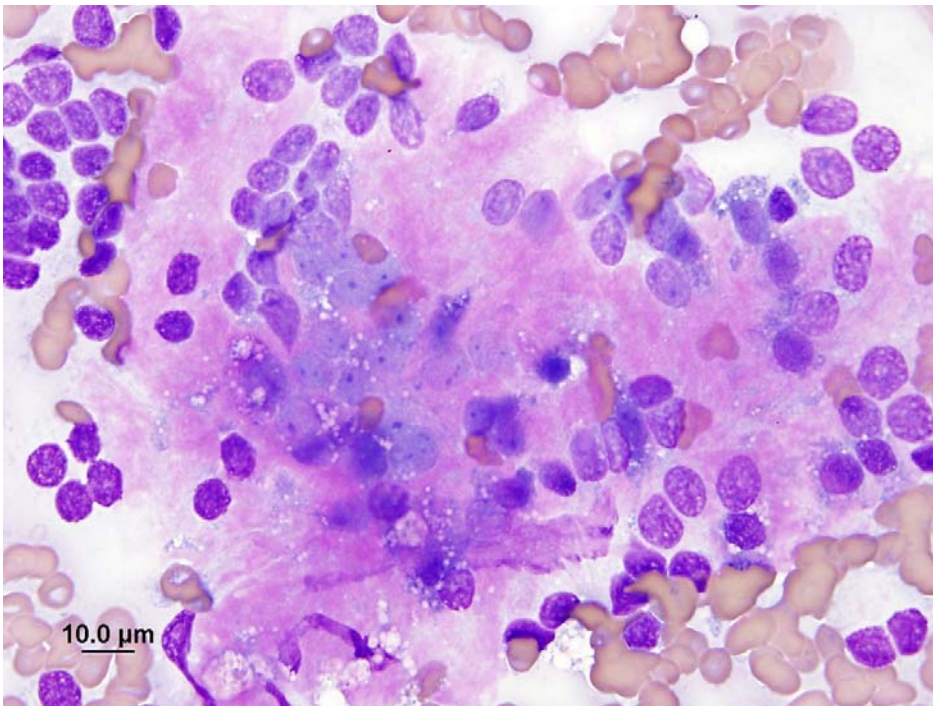


Figure 4. Aspirate of canine heart base mass, X1000 magnification, aqueous Romanowsky stain.