Case 63: What’s wrong with that heart?

Tom Cecere, Gregory Troy, Mari Waterman,
Michele Borgarelli, Jonathan Abbott
SEVPAC, Tifton, GA
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Signalment/History

• 12-year-old spayed female Pomeranian dog

• Acute posterior paraparesis

• Physical exam findings
  • Grade 3/6 systolic murmur
  • Palpably collapsed trachea
  • Exercise-induced cyanosis
  • L-sided head tilt, anisocoria, thoracolumbar pain, CP deficits

• Echocardiogram
  • Mitral and tricuspid insufficiency
    • Thickened mitral valve with prolapsed anterior leaflet
  • Aortic stenosis
Aortic valve
Coronary artery
Morphologic diagnosis

• Heart: aortic valve and coronary artery amyloidosis (AL amyloid) with mild myocardial degeneration

• Heart: moderate tricuspid valve endocardiosis
Additional necropsy findings

- Spinal cord, L4-5: Focally extensive infarct (FCE)
- Segmental tracheal collapse
- Hepatocellular carcinoma
- Diffuse hepatocellular vacuolation (glycogen)
- Adrenal cortical adenoma
Amyloidosis

• A group of diseases unified by the deposition of amyloid protein

• Classification
  • Primary amyloidosis
    • Immunocyte dyscrasias
    • AL amyloid
  • Reactive systemic amyloidosis
    • Secondary amyloidosis
    • AA amyloid
    • Hemodialysis associated
    • Heredofamilial
    • Localized
    • Endocrine
    • Amyloid of aging
Amyloid in the heart

- Human valvular amyloid
  - Systemic 1° amyloidosis
  - Senile cardiac amyloidosis
  - 2° to local scarring

- Veterinary medicine

Valvular Vegetations? Cardiac Amyloidosis Is a Possibility

Seema Rana, Pradeep Vaideswar, Shobhana P Pandit
Department of Pathology, Seth GS Medical College, Mumbai

Cardiovascular Pathology 19 (2010) 228–235

High prevalence of amyloid in 150 surgically removed heart valves—a comparison of histological and clinical data reveals a correlation to atheroinflammatory conditions

Arnt V. Kristen, Philipp A. Schnabel, Bettina Winter, Burkhard M. Helmke, Thomas Longerich, Stefan Hardt, Achim Koch, Falk-Udo Sack, Hugo A. Katus, Reinhold P Linke, Thomas I Dondelinger

Microscopic amyloid deposits in the heart valves: a common local complication of chronic damage and scarring

Y. Goffin

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- VMRCVM pathology group

References

Questions?