Systemic Diseases

and

Echocardiography

Roger Click

Relevant Financial Relationship(s)
None

Off Label Usage
None

Echo and Systemic Diseases

Amyloid
Carcinoid
Sarcoid
Hemochromotosis
HES
Echo and Systemic Diseases

• Rare, unusual
• Echo features standout
• Referred for echo to R/O cardiac involvement
• Picked up incidentally on the Echo

Echo and Systemic Diseases

Amyloid

• Pathology
  - Extracellular amyloid
  - Kidney, heart, nerves
  - Infiltrative cardiomyopathy

• Amyloid
**Echo and Systemic Diseases**

**Amyloid**

- **Clinical**
  - CHF
  - Diastolic dysfunction, late systolic dysfunction
  - Rhythm abnormalities
  - Sudden death
  - Coronary infiltration, Chest pain

- **Echo**
  - Thick walls
  - Increased echogenicity
  - Effusions
  - Thickened leaky valves

- Thick walls + Low Voltage = Amyloid
Echo and Systemic Diseases

Amyloid

Echo and Systemic Diseases

Amyloid

Echo and Systemic Diseases

Hemochromatosis

- Pathology
- Iron storage
- Kidney, heart
Echo and Systemic Diseases
Hemochromatosis

• Clinical
  • Multisystem
    • Diabetes mellitus
    • Liver disease
    • Skin pigmentation
    • Heart disease CHF
  • Treatable with phlebotomy

Echo and Systemic Diseases
Hemochromatosis

• Echo
  • Dilated cardiomyopathy
  • LV dysfunction
  • LV walls ? Thick

Echo and Systemic Diseases
Hemochromatosis

64 yo female dyspnea, fatigue
Hemochromatosis

6 years later, phlebotomy Tx

Carcinoid

- Pathology
  - Carcinoid tumors from GI tract rarely bronchus
  - Metastatic to liver – substances secreted
  - Develop endocardial plaque lesions on valves
Echo and Systemic Diseases
Carcinoid

Clinical
- Carcinoid Syndrome
  - Cutaneous flushing
  - Diarrhea
  - Bronchconstriction
  - Cardiac endocardial plaques
- Right heart failure
  - Fluid retention
  - Fatigue
  - Dyspnea

Echo and Systemic Diseases
Carcinoid

Echo
- Combined pulmonic and tricuspid stenosis and regurgitation
- Dilated right heart chambers
Echo and Systemic Diseases
Sarcoid

• Pathology
  • Granulomatous disease
  • Multisystem filtration
  • Lung, lymph nodes, liver, spleen, parotid glands, heart
  • Primary cardiac 1/4
  • Secondary 3/4

• Clinical
  • Rhythm and conduction
  • CHF
  • Valve dysfunction
  • Effusions
Echo and Systemic Diseases
Sarcoid

- Echo
  - LV enlargement
  - Abnormal systolic and diastolic
  - Regional wall
  - LV aneurysm

37 yo male, dyspnea

38 yo male, fatigue
Hypereosinophilic Syndrome

- Pathology
  - Systemic illness
  - >1500 Eos >6 months
  - Bone marrow, nerves, heart
  - Endocardial thickening, thrombus
    Apex, mitral valve
Echo and Systemic Diseases
Hypereosinophilic Syndrome

- Clinical
  - CHF
  - Mitral regurgitation
  - Embolism

- Echo
  - Mural thrombus apical obliteration
  - Posterior mitral valve leaflet tethered