Case #1

47 year old man

- Chest pain
- Not exertional
- Normal Examination
47 year old man with chest pain
Absent pericardium

- Usually left side
- Heart shifted to left
- Mostly asymptomatic
- Strangulation can happen

Congenital Absence of the Pericardium

Snoopy Sign
Congenital Absence of the Pericardium
Diagnostic Echo Study

Case #2
Pericardial Cyst
A large pericardial cyst

Case #3
51 year old with SLE and BP 150/115
Case # 4

57 year old male with STEMI
Thrombolysis and Stent
Hypotensive and tachycardic

1. Dopamine
2. IABP
3. Fluid
4. Surgery

57 year old man with STEMI

Hepatic vein diastolic reversal with expiration

RV Diastolic Collapse
74 year old man with chest pain for several days

Case # 5

- Normal LV
- Small pericardial effusion
- What to do?

Persistent pain and not feeling well
Atrial fibrillation and hypotension

1 = Rate control  2 = Steroid  3 = Pericardiocentesis  4 = More imaging
What do you do now?

- 1. Steroid Therapy
- 2. TEE
- 3. CT
- 4. Surgery

Intraoperative TEE
**Tamponade Physiology**

- **Pressure**
  - Critical tamponade
  - Limit of pericardial stretch

- **Volume over time**
  - Rapid effusion
  - Slow effusion

**Cardiac Tamponade**

- RV collapse
- Mitral inflow variation
- HV expiratory reversal

NEJM 349: 684, 2003

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Case #6
77 yo man with severe aortic stenosis
TAVR and PM implantation

Pericardiocentesis yielded 125 cc of bloody fluid
77 yo man with severe aortic stenosis
Increasing dyspnea 2 months after pericardiocentesis

Effusive-Constrictive Pericarditis

Interventricular Dependence

Expiratory diastolic flow reversal
MRI DE in 2 patients with Constriction Circulation Oct 3rd 2011

Baseline

3 Months

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Medical RX

One week of Steroid Rx
## Case # 7

**27 yo man with fatigue and dyspnea**

- Sep. 2015…Flu-like symptoms, treated with inhaler
- Oct. 2015…Pre-syncopy and palpitation
  - Pericardial rub
  - Pericardial effusion on Echo
  - Treated with Ibuprofen 2400 mg/d, Colchicine 0.6 mg BID
- Not feeling better and CRP 60
- Underwent pericardial window
27 year old man underwent a window
Referred to Mayo

- Pericardial fluid …studies were negative
- Not feeling better
- RUQ abdominal pain and fatigue
- U/S…Enlarged gallbladder and liver
27 yo man after pericardial window

1= CT  2= MRI  3= Cath  4= Pericardiectomy

Hepatic Vein
Expiratory Diastolic Flow Reversal

Mitral Inflow

Mitral e' = 15 cm/sec

Case #8
66 year old woman with dyspnea

• 2010 : Nissen fundoplication for Reflux
• 2012 : Gastric perforation, repaired
• June 2015 : Pneumothorax
• Oct 2015 : Dyspnea and chest pain
  • Blood culture positive GP cocci
  • Atrial fib with RVR
  • Echocardiography obtained
66 year old woman with dyspnea

Gastro-pericardial fistula

Pneumo-pericardium
Unusual case
What would you do for this patient?

- 45 y/o male with chest pain and dyspnea x 4 days
- Pain preceded by heavy lifting while camping. No relationship to exercise.
- MVA with pelvic and rib fractures. Chest tube and IVC filter placement 6 yrs ago.
- Many risk factors

1=CT 2=Echo 3=Coronary angiogram 4=Stress test

Echocardiographic images
What do you think?
Chest and Cardiac CT

CT scans 2004 and 2012
Embolic strut
Most recent Interesting Case (being created)

Echo guided Pericardiocentesis

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Chest wall</td>
<td>79%</td>
</tr>
<tr>
<td>Subcostal</td>
<td>18%</td>
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<tr>
<td>Location</td>
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</table>
Pericardial Diseases and Tamponade

Take home message

• Always, identify underlying cause for pericarditis, pericardial effusion or tamponade

• Echo diagnosis of tamponade
  • Plethoric IVC
  • Diastolic collapse of RV, RA and LA
  • Diastolic HV flow reversal with expiration

• Treat acute or effusive-constrictive pericarditis or pericardial inflammation with NSAID (1 month) and colchicine (0.6 mg BID for 3 months)

Thank You!

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50 yo man with Radiation Rx 32 years ago
Presenting with HF 2 years after CABG

50 year old man with radiation Rx and
CABG presenting with JVP elevation

E = 90 cm/s  Insp
E = 120 cm/s  Exp

Lateral e’ =12 cm/s
Medial e’ 20 cm/s
Hepatic vein Doppler

50 yo man with CP