Case #1

47 year old man

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

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

Congenital Absence of the Pericardium

Snoopy Sign
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
57 year old man with STEMI

Hepatic vein diastolic reversal with expiration

RV Diastolic Collapse

Tamponade Physiology

Pressure

Critical tamponade

Limit of pericardial stretch

Rapid effusion

Slow effusion

Volume over time

NEJM 349: 684, 2003
Cardiac Tamponade

RV collapse Mitral inflow variation HV expiratory reversal

Hemo-pericardium

Case #5
Intramural Hematoma

Case #6

66 year old woman with dyspnea
Pneumo-pericardium

Gastro-pericardial fistula
Case #7

77 yo man with severe aortic stenosis
TAVR and PM implantation & RV Perforation

Pericardiocentesis yielded 125 cc of bloody fluid

77 yo man with severe aortic stenosis
Increasing dyspnea 2 months after pericardiocentesis

After Pericardiocentesis
2 months later
Effusive-Constrictive Pericarditis

Interventricular Dependence

Expiratory diastolic flow reversal

Tamponade vs Effusive CP

Miranda et al. In Preparation
Cardiac Magnetic Resonance Imaging Pericardial Late Gadolinium Enhancement and Elevated Inflammatory Markers Can Predict the Reversibility of Constrictive Pericarditis After Antiinflammatory Medical Therapy
A Pilot Study

DaLi Feng, MD; James Glockner, MD, PhD; Kyunch Kim, MD; Matthew Martinez, MD; Imran S. Syed, MD; Philip Araoz, MD; Jerome Breen, MD; Raul E. Espinosa, MD; Thoralf Sundt, MD; Hartzell V. Schaff, MD; Jae K. Oh, MD

Baseline 3 Months

Medical RX

Circulation Oct 3rd 2011

Transient Constrictive Pericarditis
One week of Steroid Rx
**Transient Constriction**

<table>
<thead>
<tr>
<th></th>
<th>Reversible (N=14)</th>
<th>Persistent (N=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>54 ± 17</td>
<td>59 ± 16</td>
</tr>
<tr>
<td>LVEF</td>
<td>57 ± 3</td>
<td>60 ± 3</td>
</tr>
<tr>
<td>E' (cm/sec)</td>
<td>12 ± 1</td>
<td>11 ± 1</td>
</tr>
<tr>
<td>Steroid Rx</td>
<td>71 %</td>
<td>53 %</td>
</tr>
<tr>
<td>Pericardium</td>
<td>3.8 ± 0.6 mm</td>
<td>4.0 ± 0.6 mm</td>
</tr>
<tr>
<td>DE Pericardium</td>
<td>4.4 ± 0.4 mm</td>
<td>2.1 ± 0.4mm</td>
</tr>
<tr>
<td>Grade 3–4/4 DE</td>
<td>93 %</td>
<td>33 %</td>
</tr>
<tr>
<td>Sed rate</td>
<td>45 to 4</td>
<td>25 to 20</td>
</tr>
<tr>
<td>CRP</td>
<td>75 to 2</td>
<td>14 to 15</td>
</tr>
</tbody>
</table>

**Case #8**

*35 yo man presents with dyspnea and fever*

BP 80/40 mmHg
35 yo man with tamponade and fever
TEE after pericardiocentesis

Case #9

36 yo man with dyspnea, chest pain, and abd pain
Case #9

36 yo man with dyspnea, chest pain, and abd pain

Sarcoidosis
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
  - Interventricular dependence
  - Diastolic HV flow reversal with expiration
- We may be able to identify the patients who may develop effusive-constrictive pericarditis at the time of pericardiocentesis

Thank You!

[Email links provided]
Questions & Discussion
Echo-Guided Pericardiocentesis

Location:
- Chest wall: 79%
- Subcostal: 18%
- Others: 3%