ACC Ohio Chapter
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New onset CHF in An Athlete

• 22 year old soccer player without past medical history, presented for evaluation of more than expected exertional dyspnea, during training, which gradually progressed over few months to dyspnea while climbing 2 flights of stairs

• Physical examination: 127/78, HR 78, Wt 220, H6’4”

• HEENT: unremarkable

• Chest CTA

• CV RRR, no murmur and gallops, PMI displaced inferiorly and lateral, no JVD

• Abdomen: unremarkable

• Extremity no edema
12 Lead ECG
Which test would you order next?

• A: TTE
• B: CMR
• C: Cardiac CT
• E: MUGA
Transesophageal Echocardiogram
Do we really have the diagnosis yet?
CMR: HASTE, trueFISP, PSIR
Low dose Cardiac CT
Diagnosis?  
Further evaluation?  
Treatment?
Isolated Left Ventricular Non-compaction

- Standard therapy with ACE-I and beta blockers
- No coumadin: rapid clearance of contrast from trabeculations
- Progression of symptoms despite optimal therapy (NYHA IIIa)
- Dyssynchcrony conformed (HARP analysis of circumferential strain)
- Biventricular ICD implanted
- NYHA I, 2 months after CRT
40 year old male with longstanding exertional chest pain

- Symptoms started in childhood with strenuous activity
- Patient avoided competitive sports
- First Coronary angiogram at age of 18, performed for abnormal GXT
- Large arteriovenous malformation was reported, without discrete connection
- Patient now presents with symptoms of CHF and new wall motion abnormality by echocardiography
Coronary Angiogram
What next?

- **A**: Nothing, likely infracted area supplied by AV malformation
- **B**: CMR to assess viability
- **C**: Cardiac CT to better define nature of AVM and assess viability
CMR: trueFISP, TurboFLASH Late Gadolinium Enhancement and First Pass Perfusion
Cardiac CTA
Cavernous mural LV hemangioma

- Standard therapy for CHF
- Chest pain resolved as entire involved segment is now infracted
22 year old with syncope

- Nuss Procedure at age 14 for correction of pectus deformity
- Developed allergic reaction to sternal metal bar, which had to be removed
- Syncopal episode during a vigorous soccer training followed by seizure and no detectable pulse
- CPR initiated immediately by bystanders
- NSR and stable BP upon arrival of paramedics
Nuss Procedure
What next?

- A: ICD implant while in hospital
- B: DC with ICD vest
- C: Further testing
Echocardiography

V1 = -4.51 m/s
PG1 = 81.5 mmHg
V2 = -4.56 m/s
PG2 = 83.2 mmHg

PW: 1.75 MHz  θ = 74°

m/s
Diagnosis: Extrinsic Compression of the RV by a Fibrous Band

- No ICD
- Patient underwent thoracoscopic removal of fibrous tissue
- No detectable RV intracavitary gradient with rest and stress