Contrast Cases You Will Never Forget

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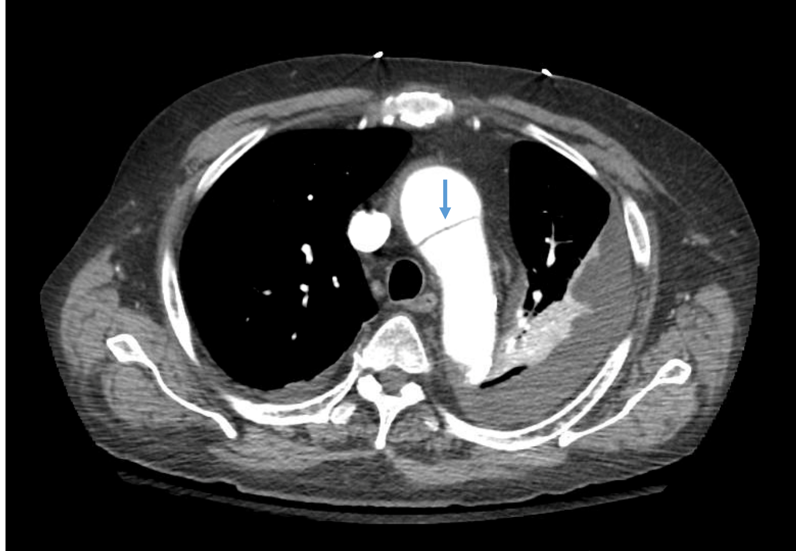
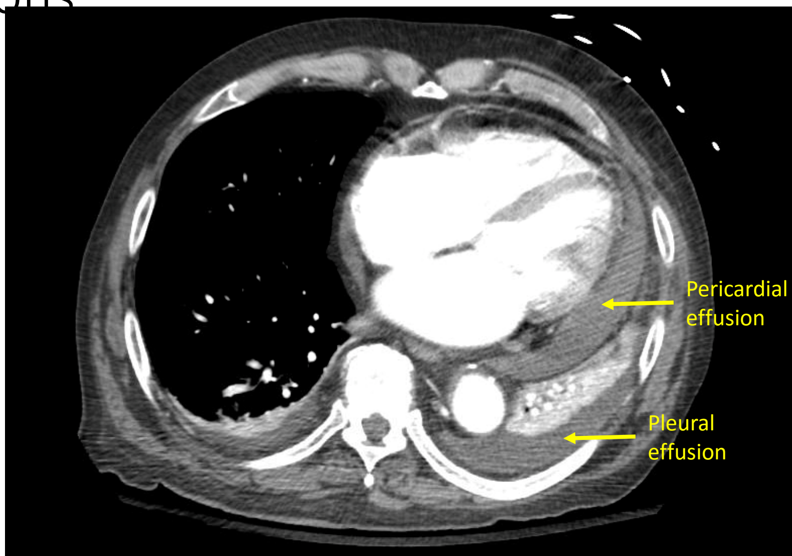
Case 1

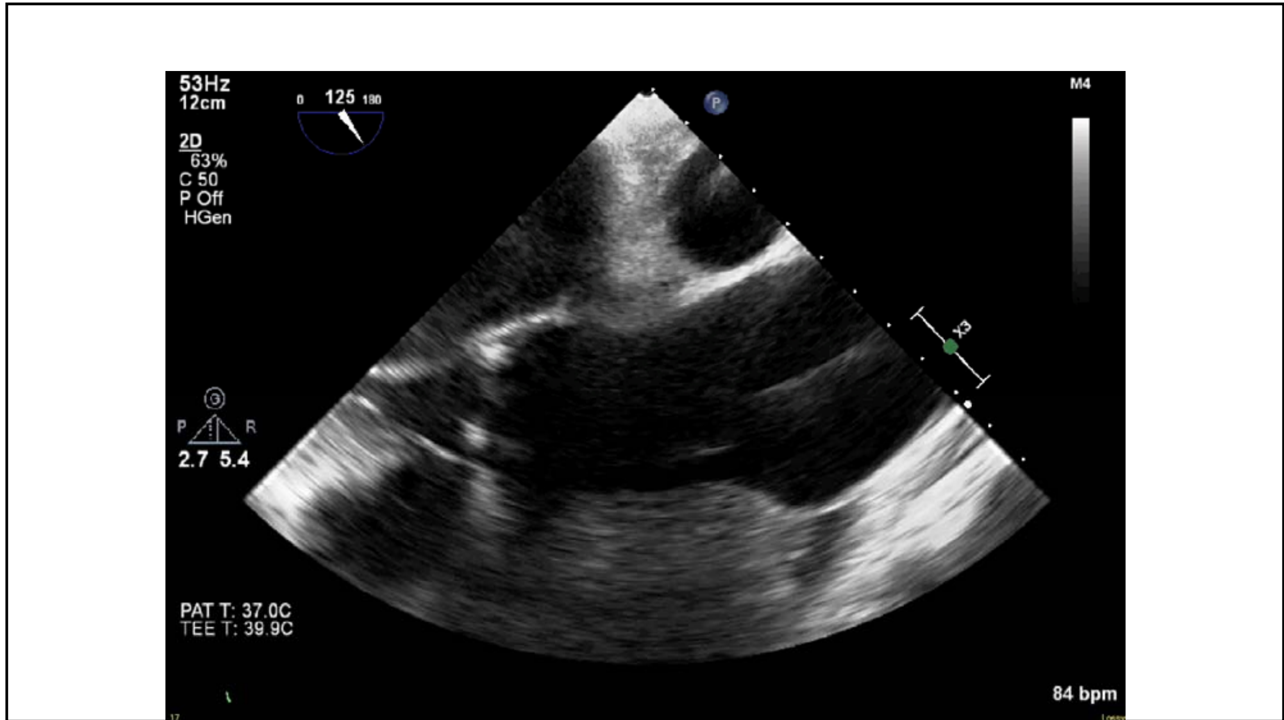
- 76 yr old hispanic man
- History of CVA x 2, Afib, OSA, CKD Stage III, ETOH dependency
- Admitted with worsening DOE (50 feet) and pleuritic chest pain
- Cr 2.0, H/H 12.3/34.8, Alb 2.3, BNP 441, INR 1.9
- CT showed dissection aortic arch and pericardial effusion
- TTE poor quality; TEE ordered to evaluate

CT Scan showing dissection

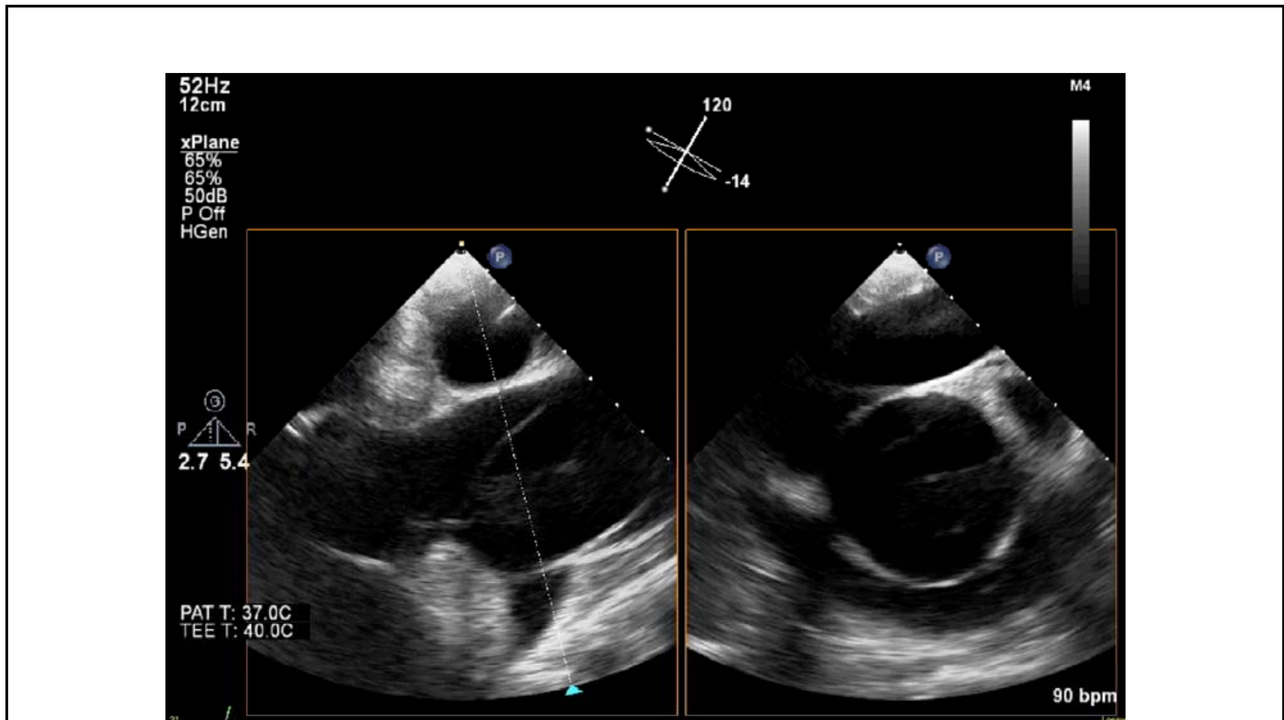


CT scan showing pericardial & pleural effusions

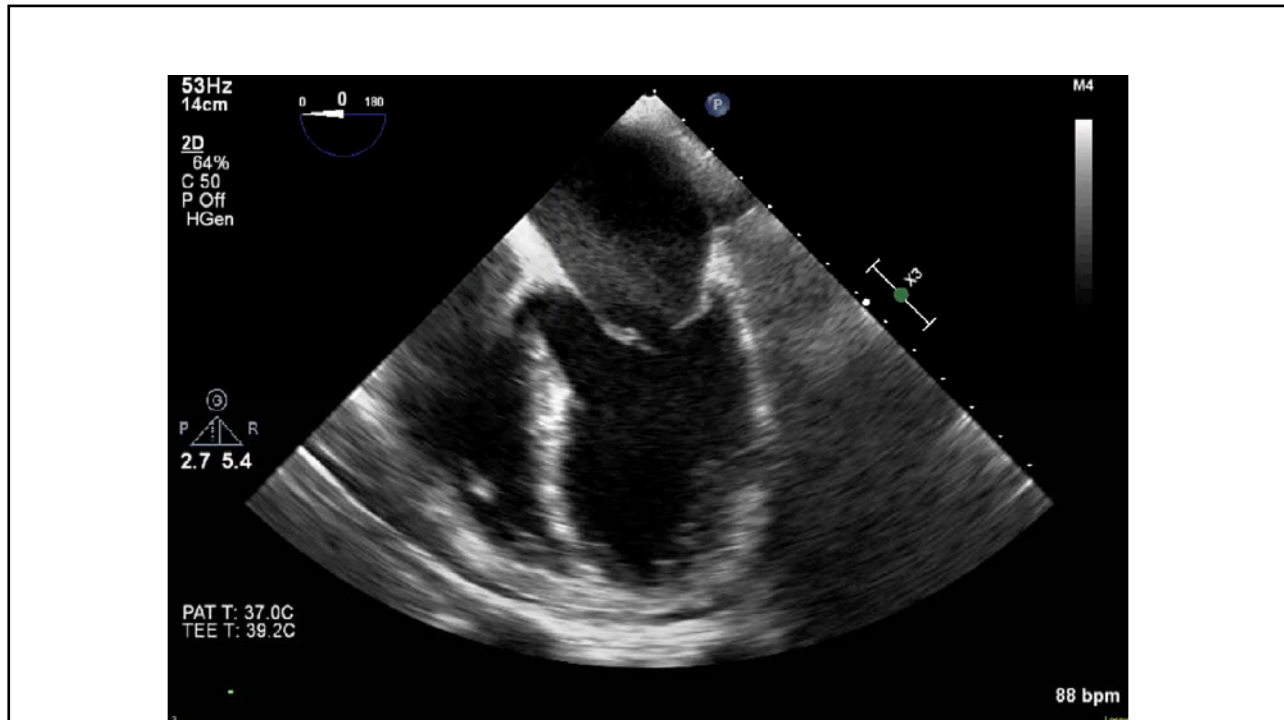




53Hz
12cm
0 125 180
2D
63%
C 50
P Off
HGen
M4
X3
2.7 5.4
PAT T: 37.0C
TEE T: 39.9C
84 bpm

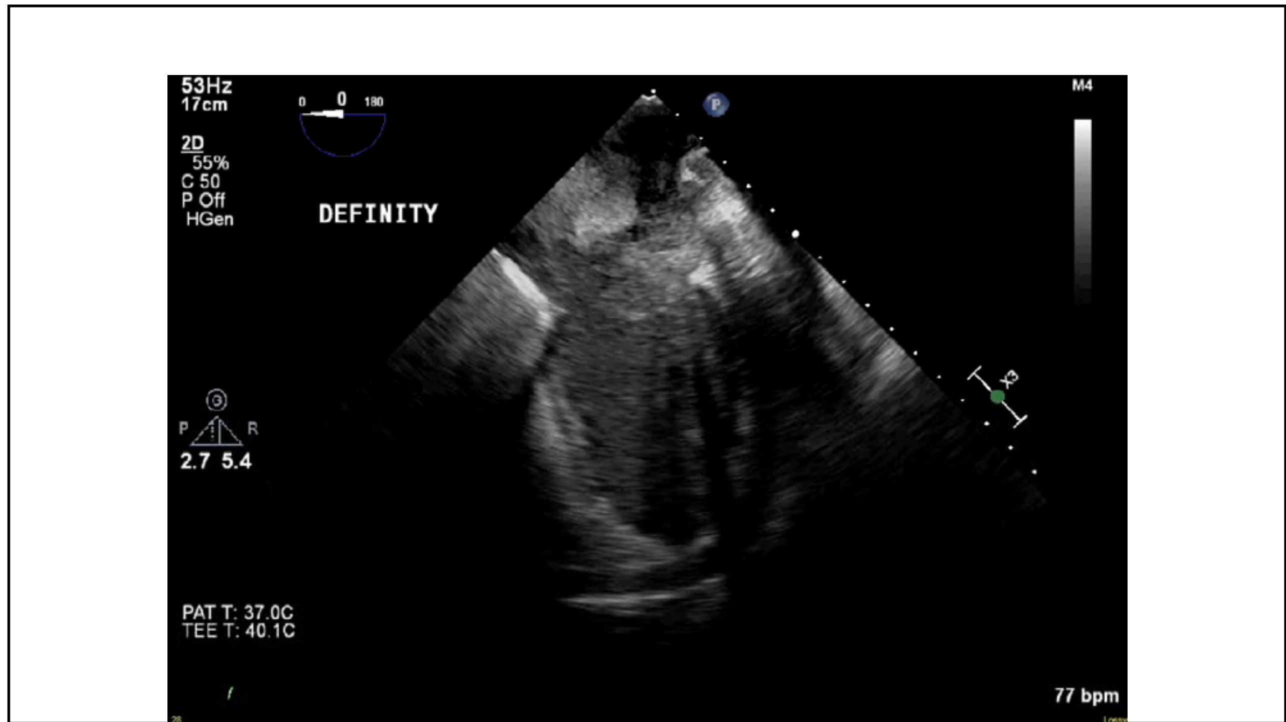


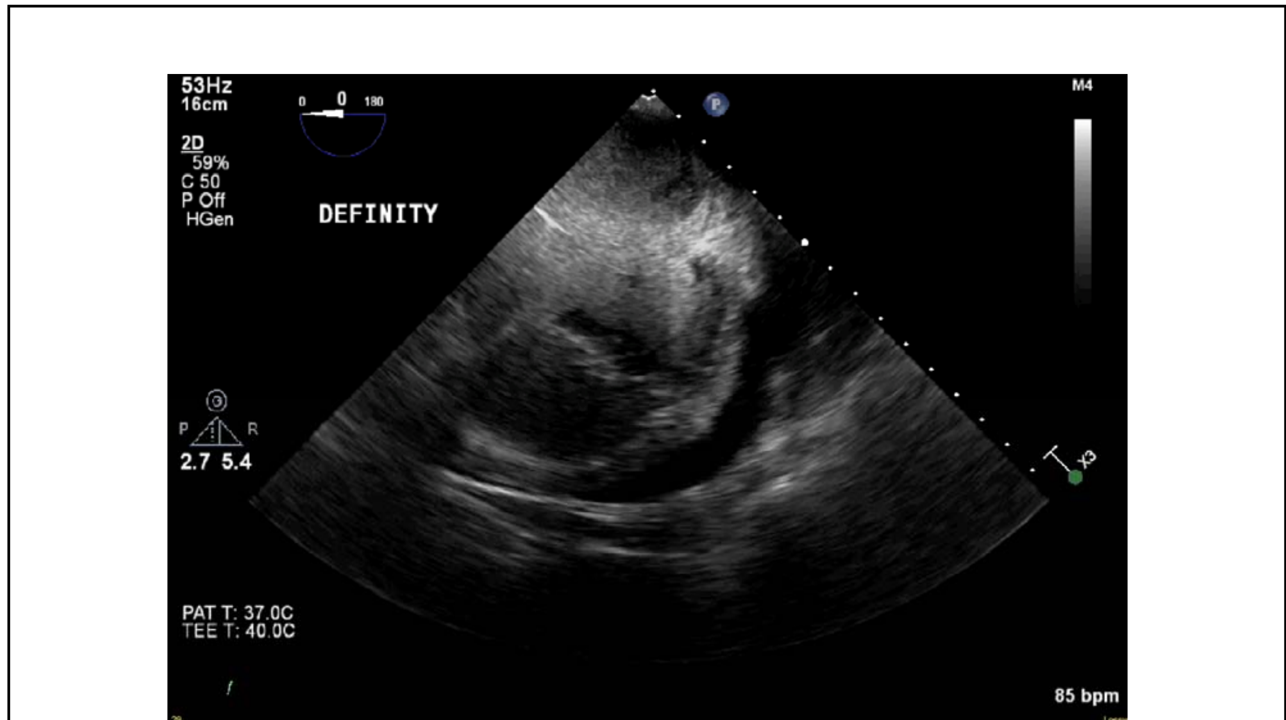
52Hz
12cm
xPlane
65%
65%
50dB
P Off
HGen
120
-14
M4
2.7 5.4
PAT T: 37.0C
TEE T: 40.0C
90 bpm

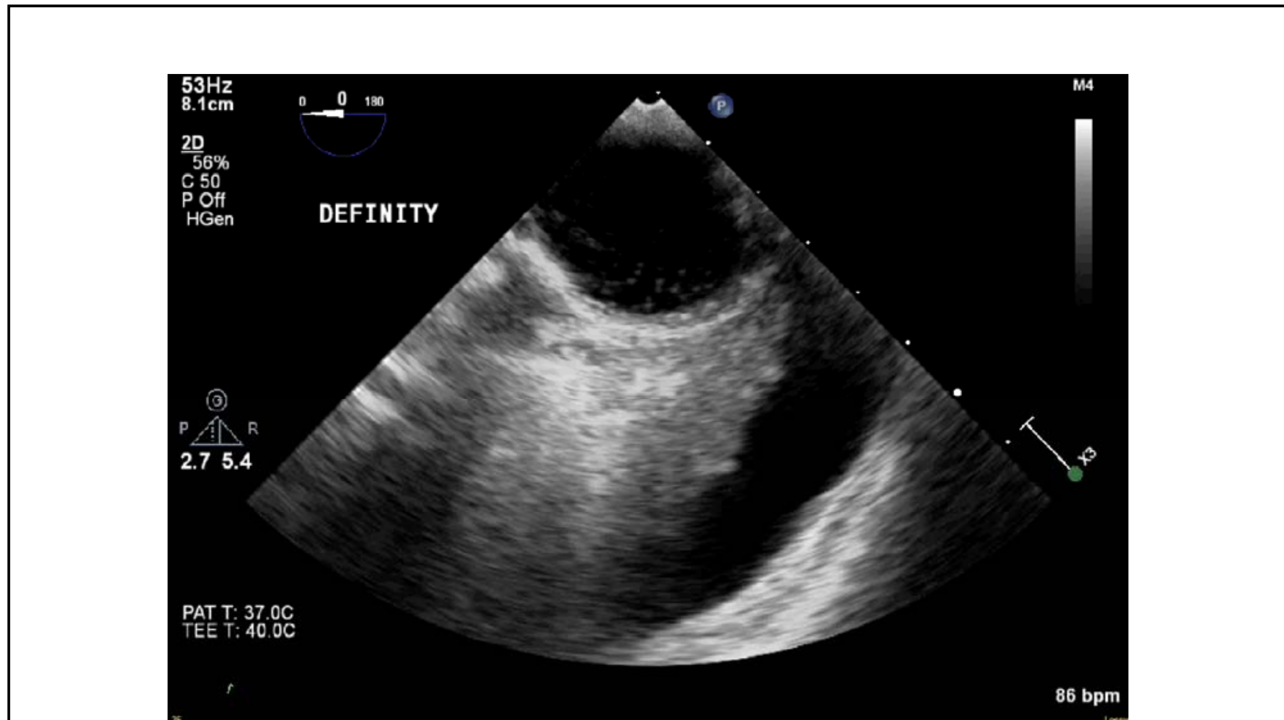


Next Step

- CT surgery was standing by to take patient to the OR for aortic dissection into pericardial space
- However, the dissection had been present and unchanged on CT done 4 years ago
- I decided to administer Definity


53Hz
17cm
2D
55%
C 50
P Off
HGen
DEFINITY
M4
2.7 5.4
PAT T: 37.0C
TEE T: 40.1C
77 bpm


53Hz
16cm
2D
59%
C 50
P Off
HGen
DEFINITY
M4
2.7 5.4
PAT T: 37.0C
TEE T: 40.0C
85 bpm



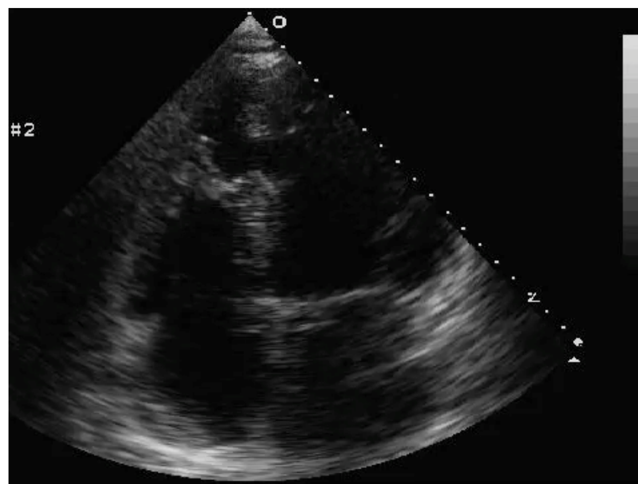
Disposition

- Patient did not go to surgery
- Thoracentesis revealed transudative effusion
- Patient was treated with steroids, improved and was discharged 2 days later

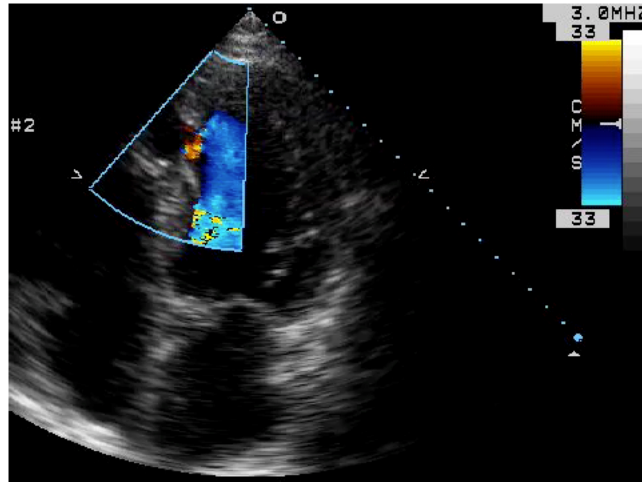
Case #2

- 76 yr old black man
- Admitted with heart failure
- Very poor historian
- No old records available
- 2D echo ordered

Apical 4 Chamber



Apical 4-Chamber with Color Doppler



What is the Diagnosis?

A. Congenital muscular VSD

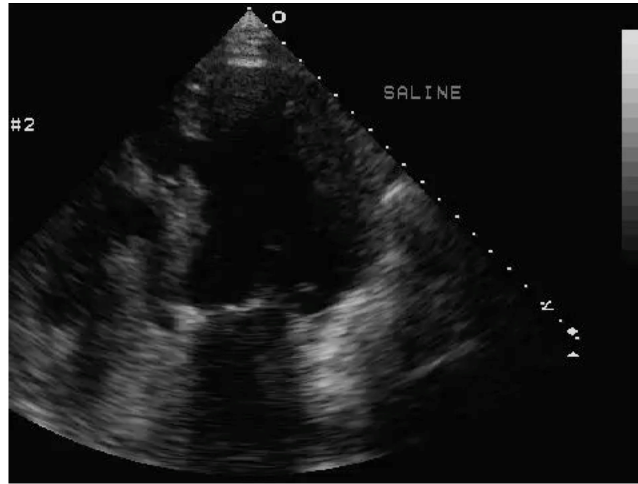
B. Post-MI muscular VSD

C. Complex LV apical aneurysm or pseudoaneurysm

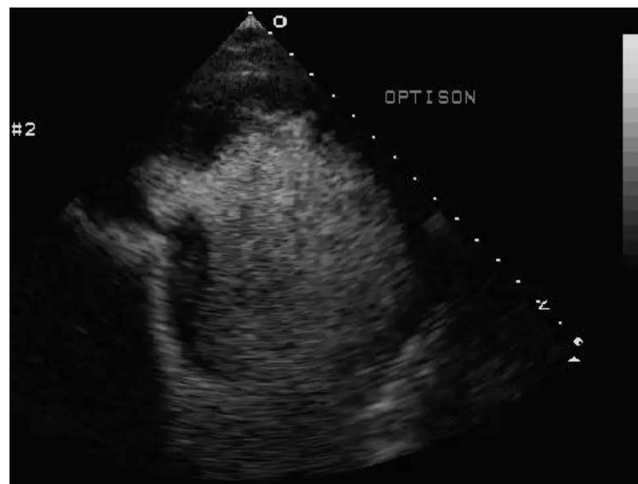
D. Need more information – give contrast

E. Do not give contrast – I do not want to be bothered with an IV

Agitated Saline Contrast



Transpulmonary Contrast



What Have We Learned?

- Saline contrast does not go into the RV apex or across defect
  - Cannot be just a moderator band
  - Does not fit a congenital or post-MI VSD
- Transpulmonary contrast goes into RV apex
  - RV apex (but not rest of RV) is connected to LV apex
  - Surgical RV exclusion patch

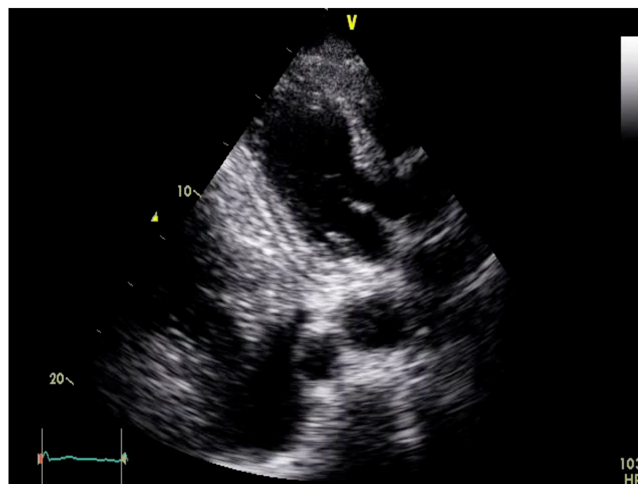
Old Chart Shows Up

- Patient was robbing a convenience store 10 years earlier
- Clerk shot him in the chest
- Bullet penetrated RV and septum and lodged in LV apex
- Surgeon removed bullet and placed a patch to exclude RV apex from rest of RV, connecting it to LV apex
- It is an unusual way of correcting a traumatic VSD

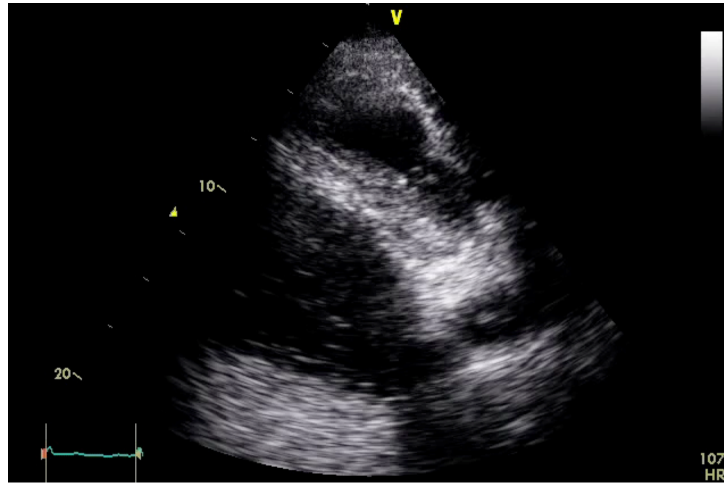
Case 3

- 53 yr old woman
- No prior medical history
- Echo ordered for chest pain
- ECG, troponins negative

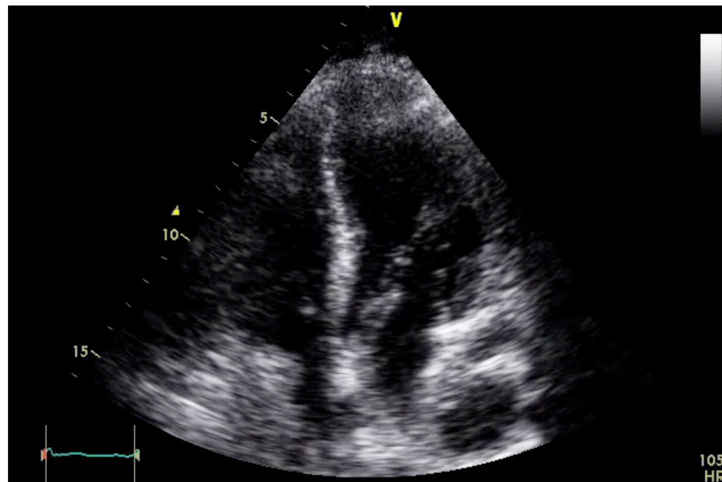
Looks Like a Pleural Effusion - Sort of



Or Maybe Not!



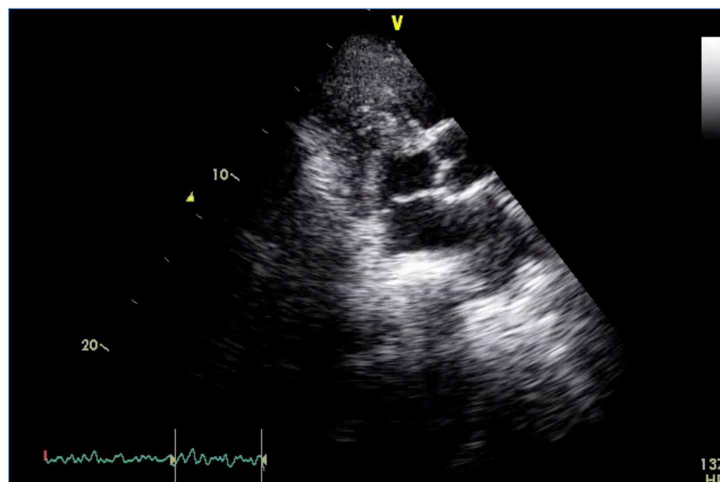
Are there bubbles in the aorta?



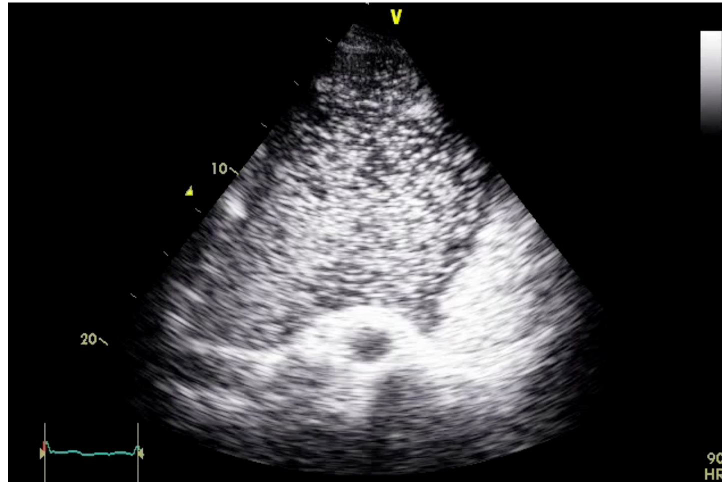
Which Contrast Agent Should We Administer?

A. Agitated saline
B. Optison
C. Definity
D. Lumason
E. Sprite

Oral Contrast - Sprite



Large Hiatal Hernia



My Preferred Oral Contrast Agent