My worst case of ASD closure

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Serious complications in catheter closure of ASD

- Erosion
- Device Embolization
- Complete heart block
- Air embolism
- Pulmonary vein obstruction
- Iatrogenic mitral valve regurgitation

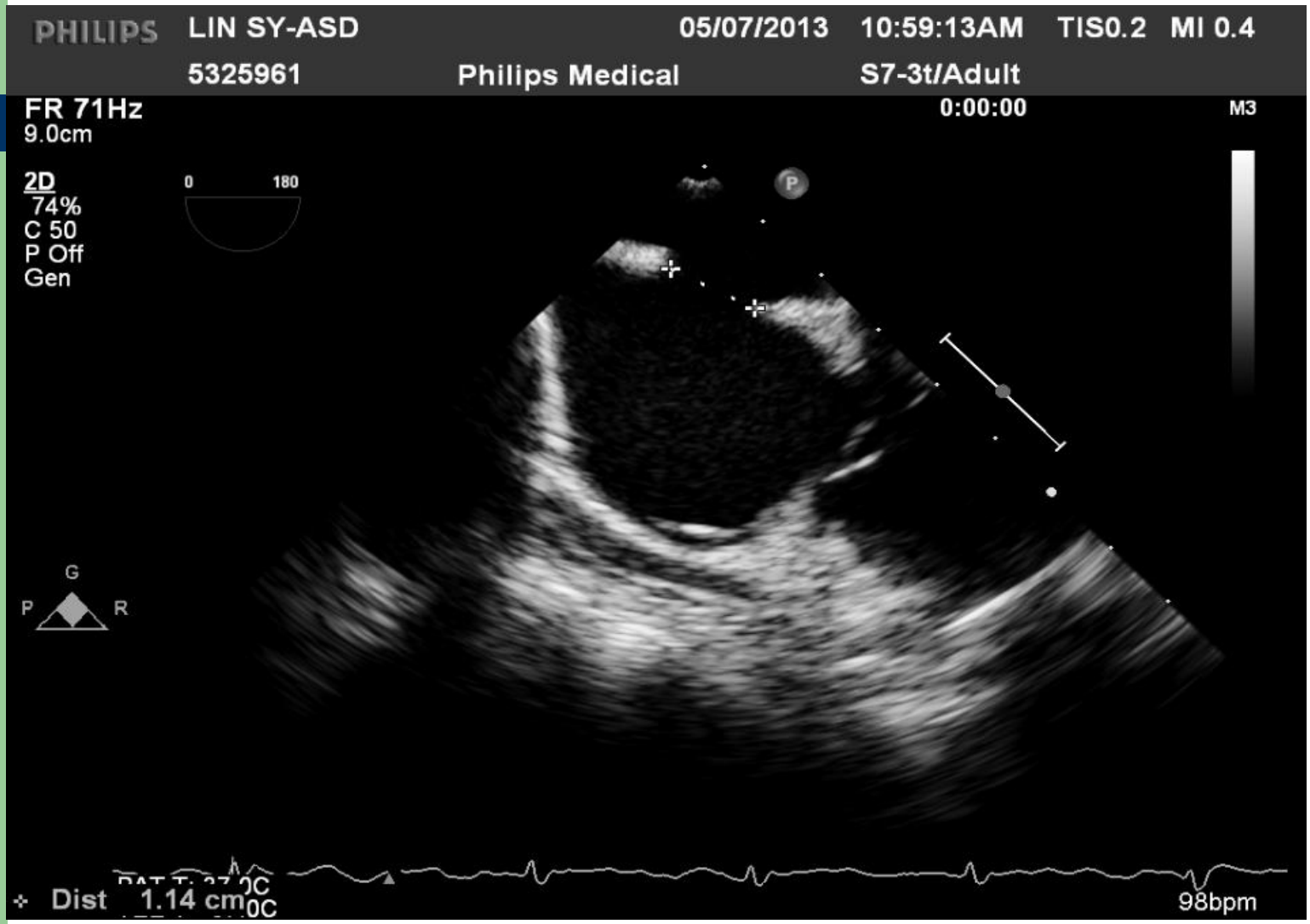
My worst case I

1. Age,6.8 years, sex: male, 18.6Kg,110cm
2. ECHO:RV and RA enlargement
3. PDA s/p coil closure with interrupted IVC

My worst case II

- Hemodynamic study
  - Qp/Qs =3
  - PAP 31/13 mean 22 mmHg

- TEE images
  - maximal diameter 13.2 mm
  - aortic rim 2.8 mm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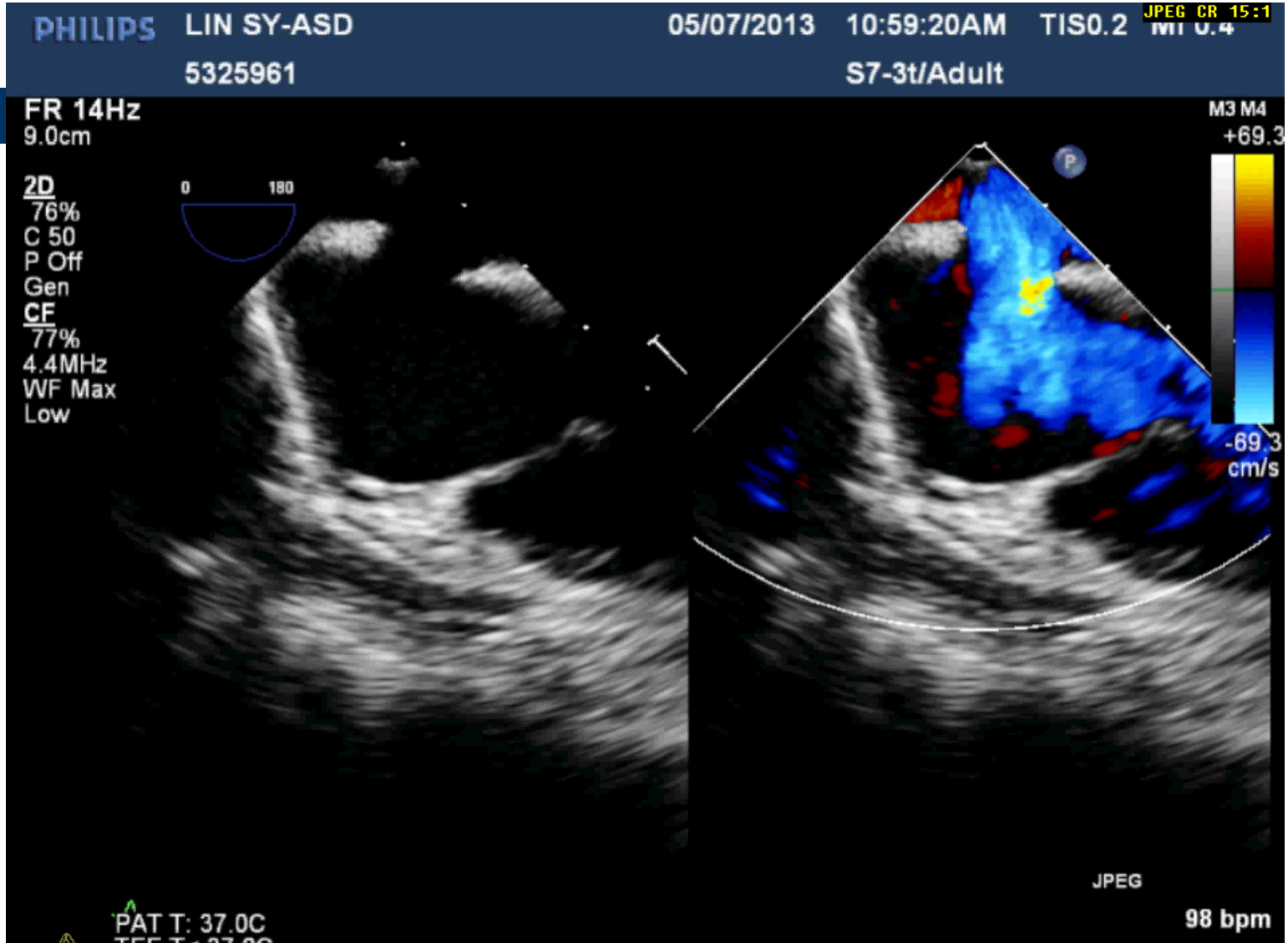
P
G
P
R
Dist 1.14 cm
98bpm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cm/s
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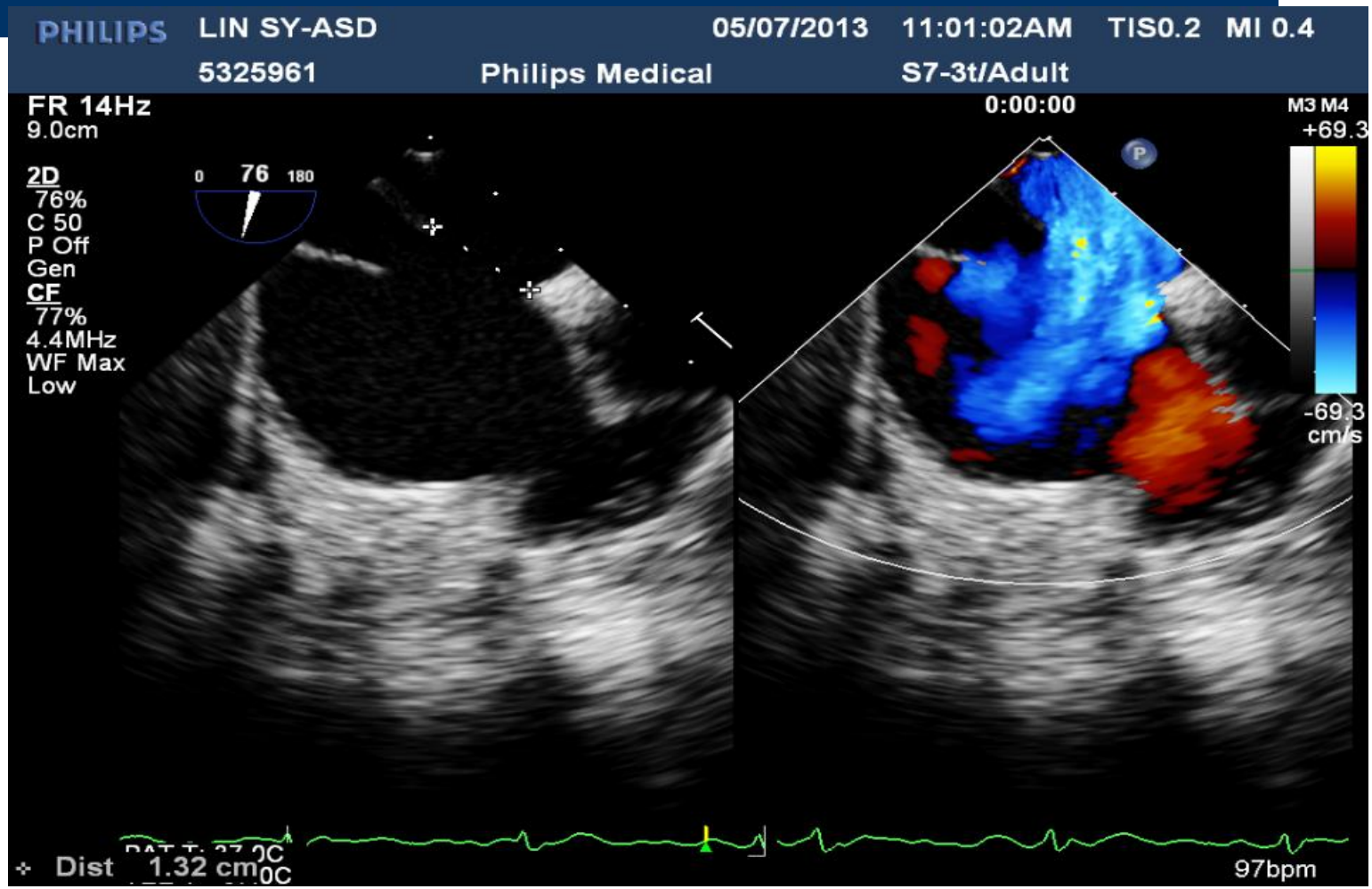
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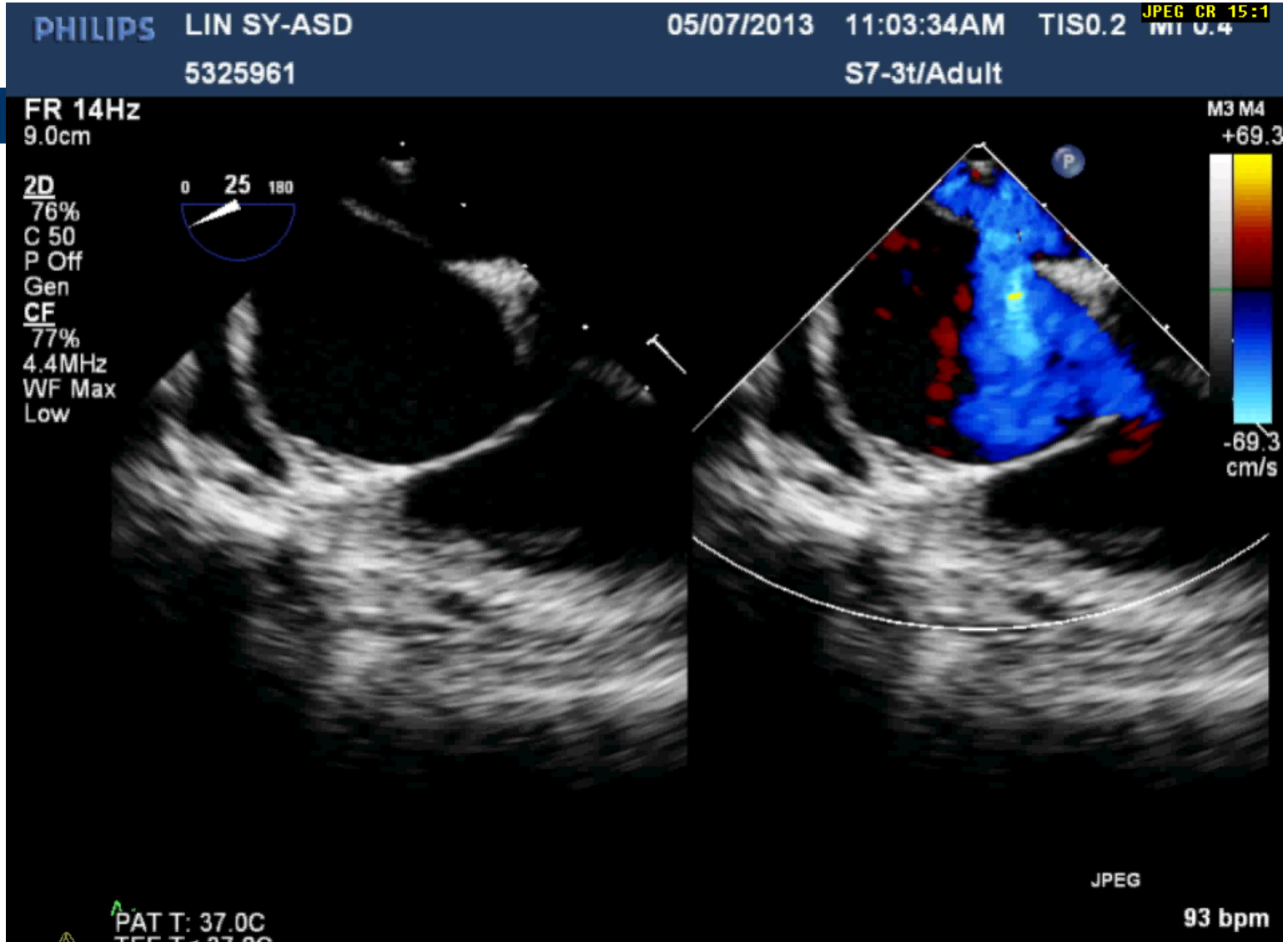
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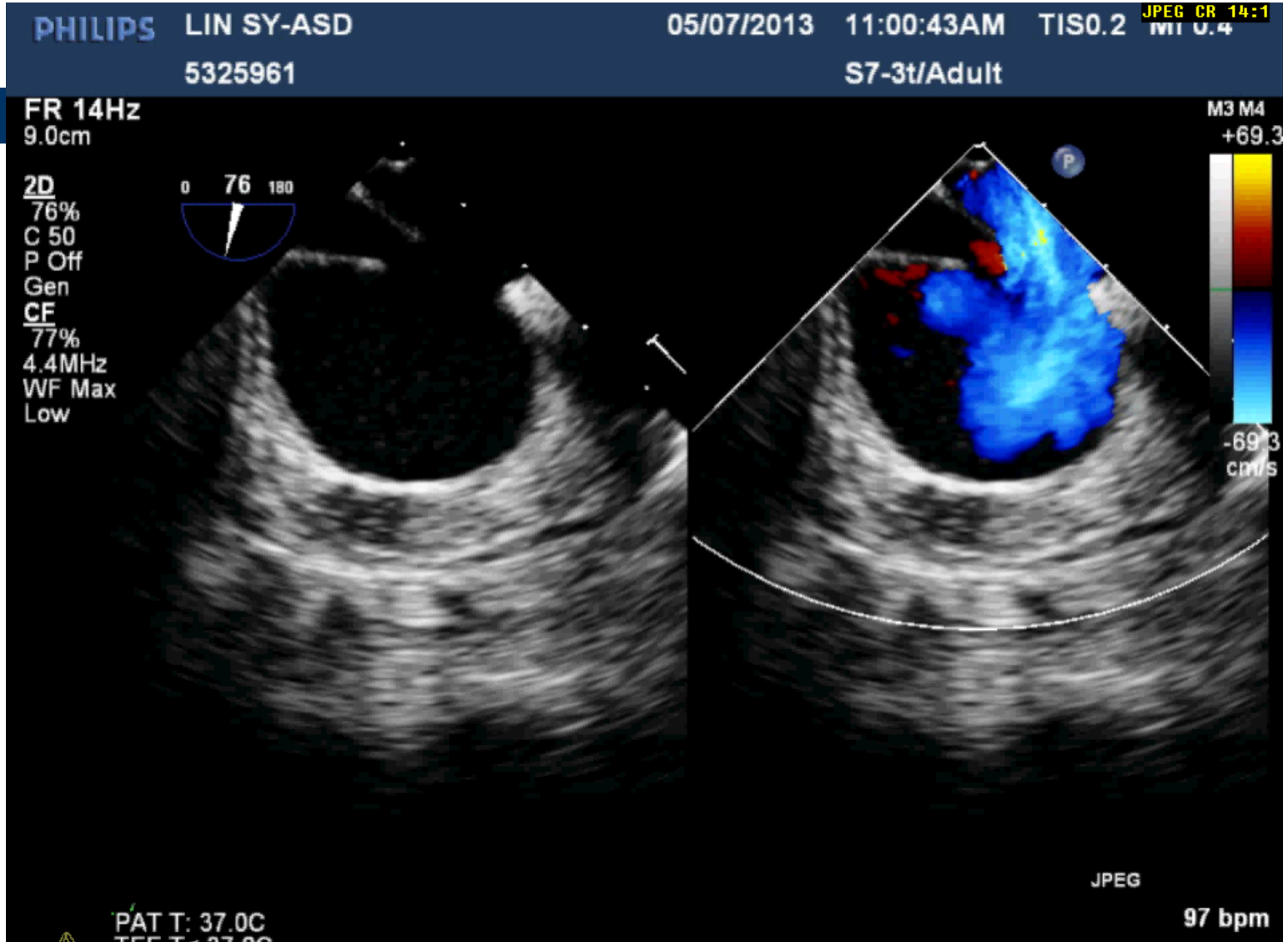
93 bpm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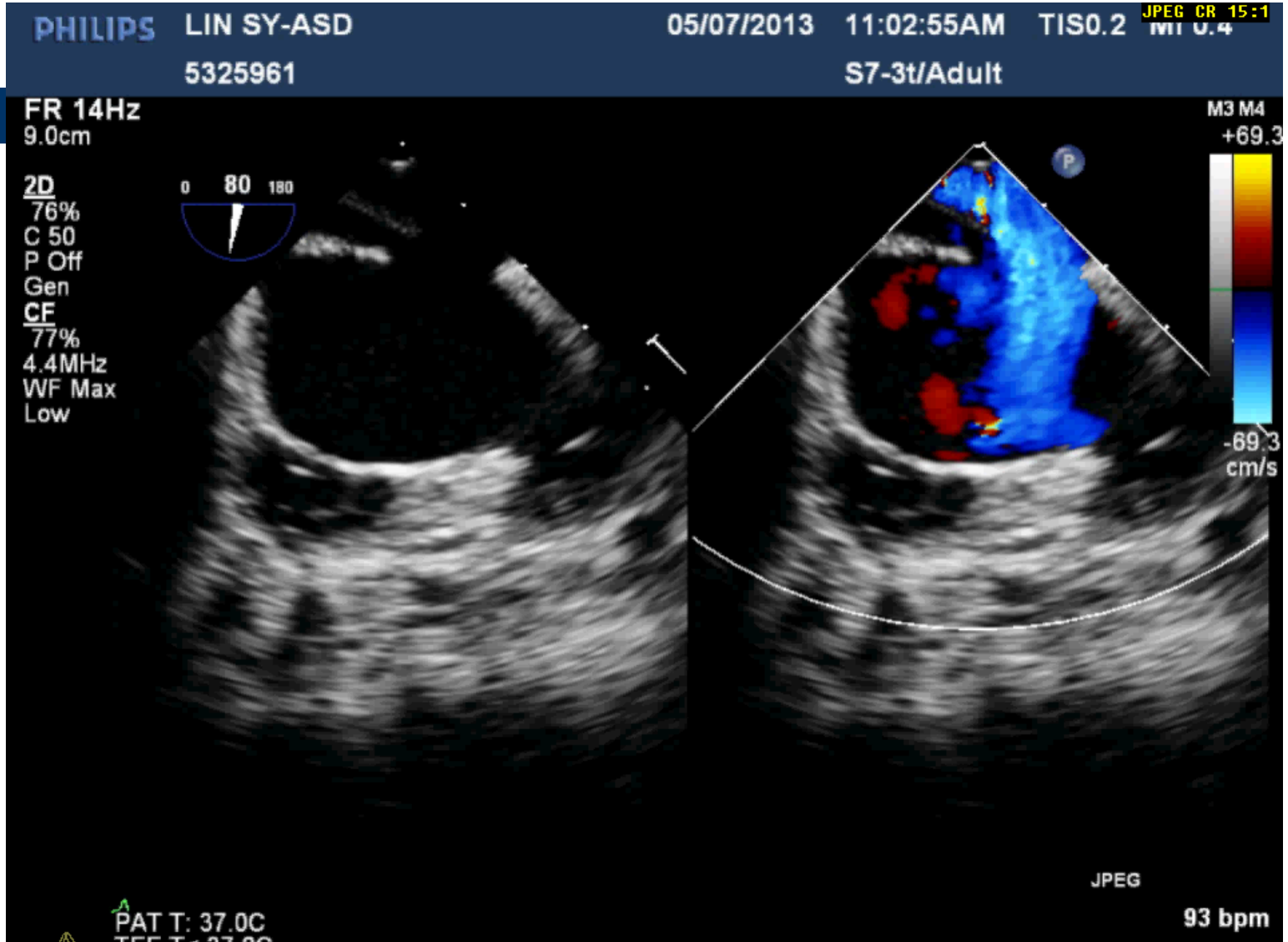
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+69.3
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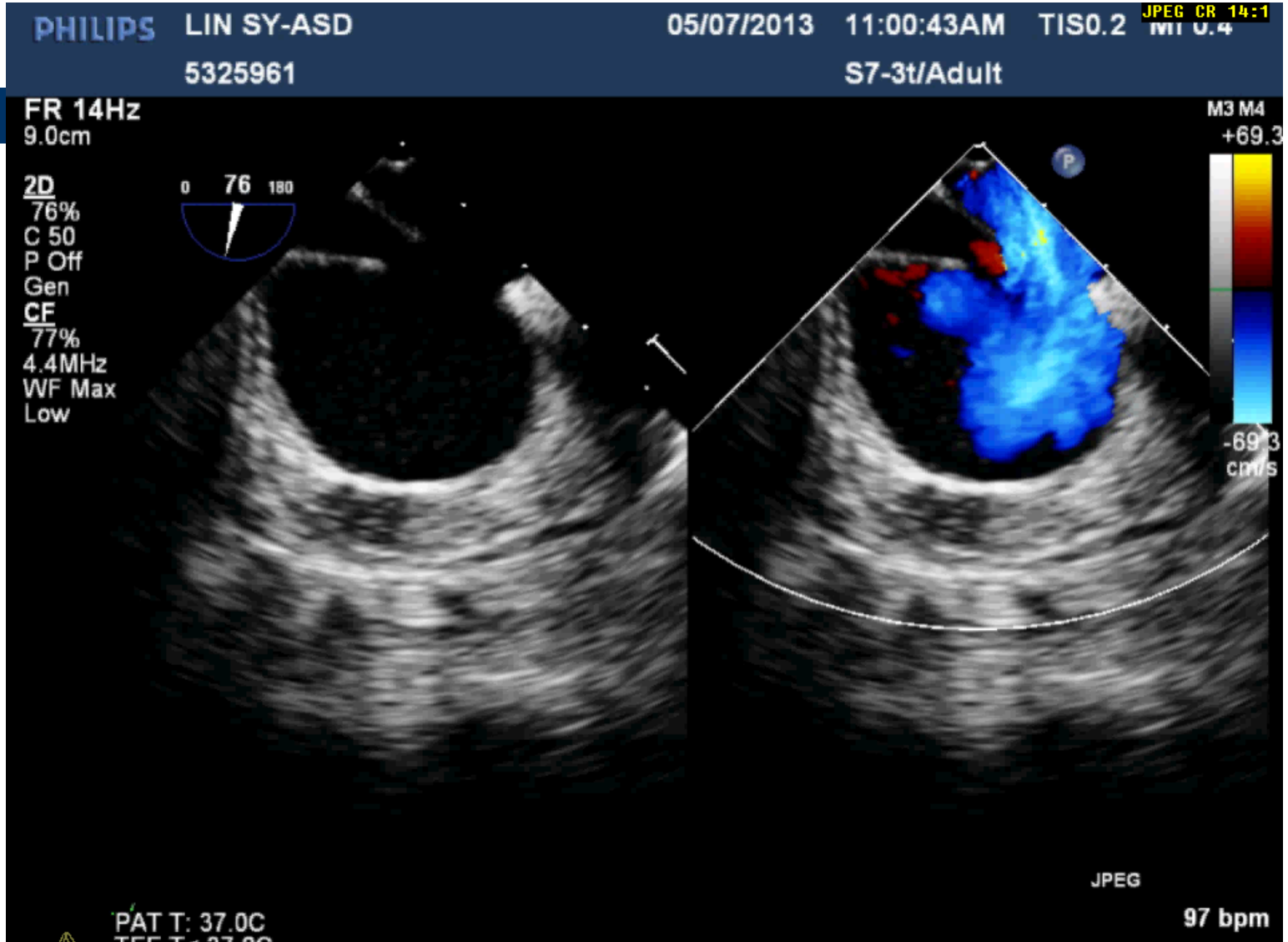
cm/s
JPEG
93 bpm
PAT T: 37.0C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+69.3
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cm/s
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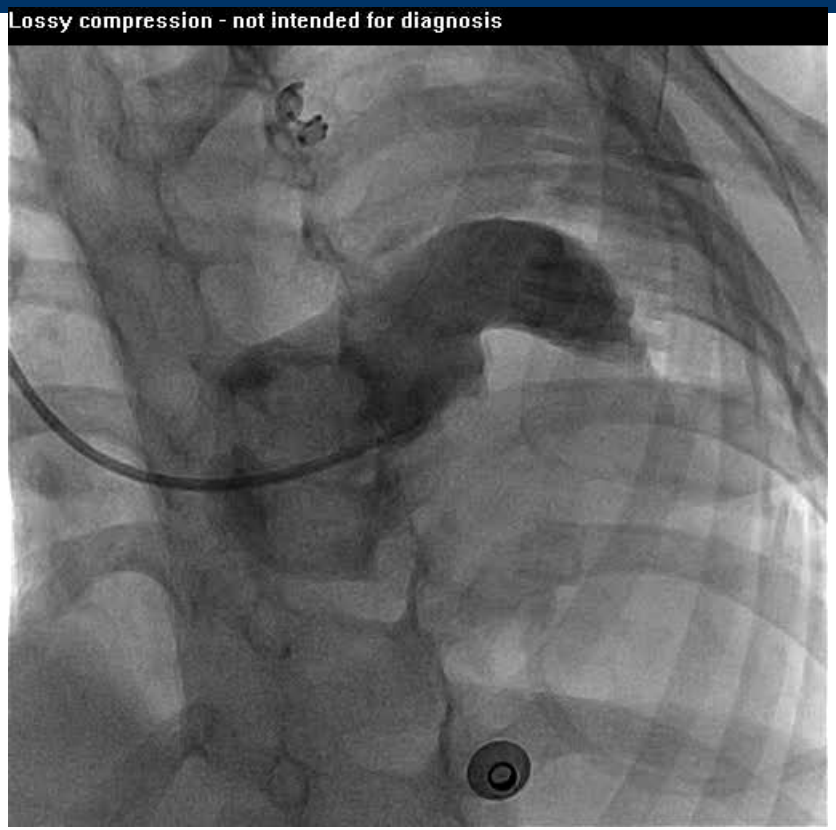
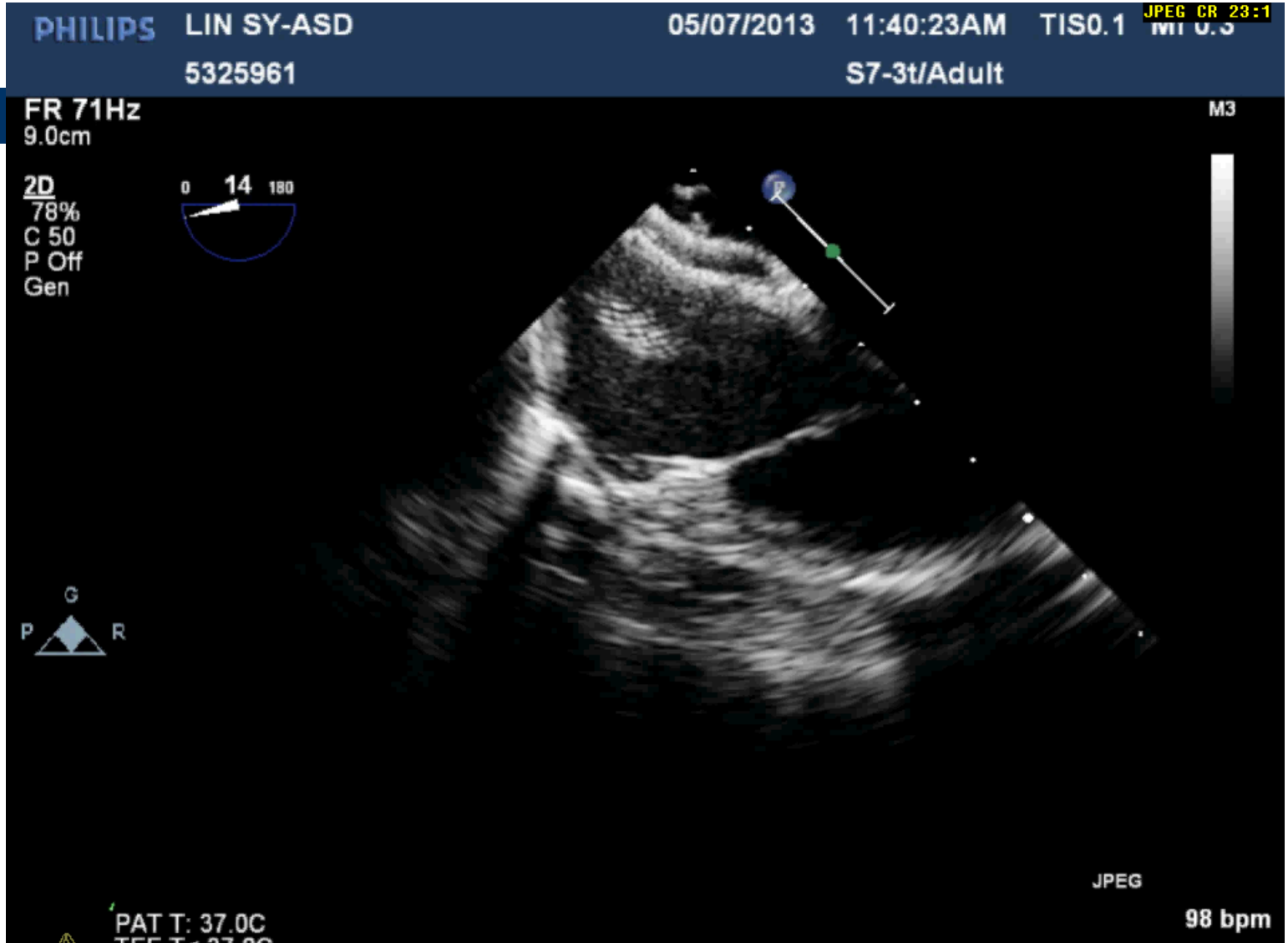
97 bpm

LA angio



My worst case III

- Deploy an 16 mm Amplatzer device form right jugular vein
- under TEE guidance
- No balloon sizing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G
P
R
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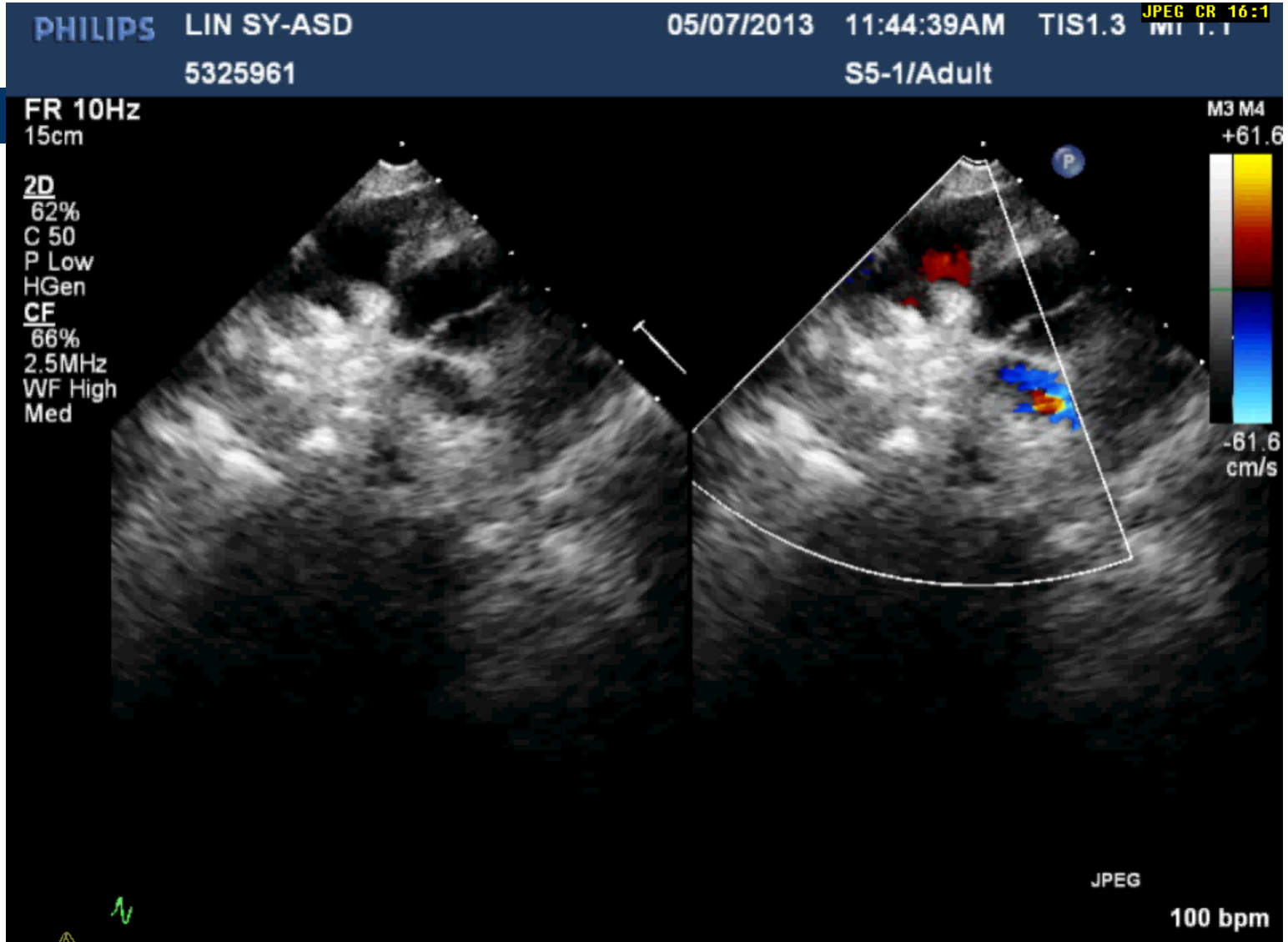
PAT T: 37.0C
98 bpm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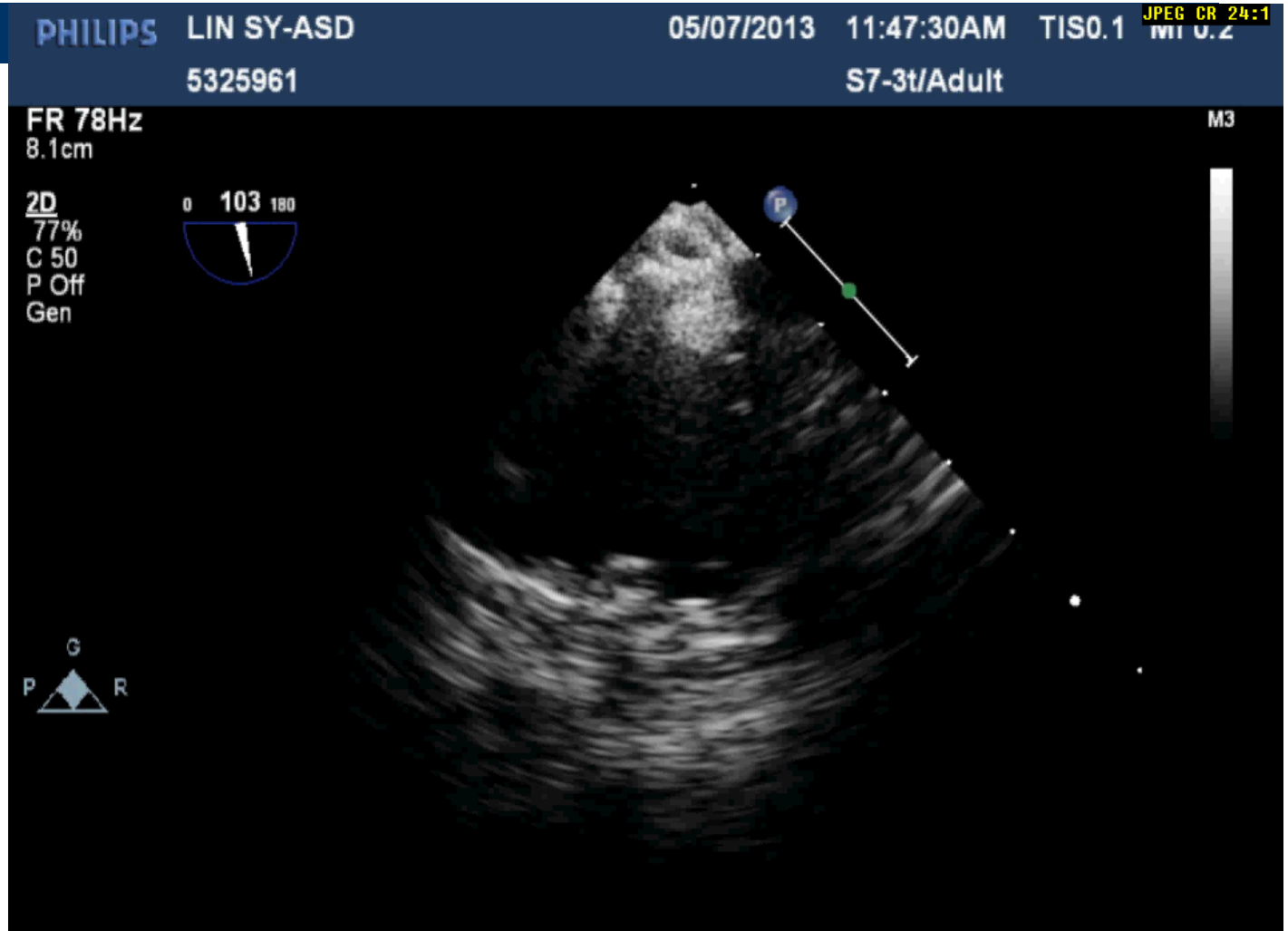
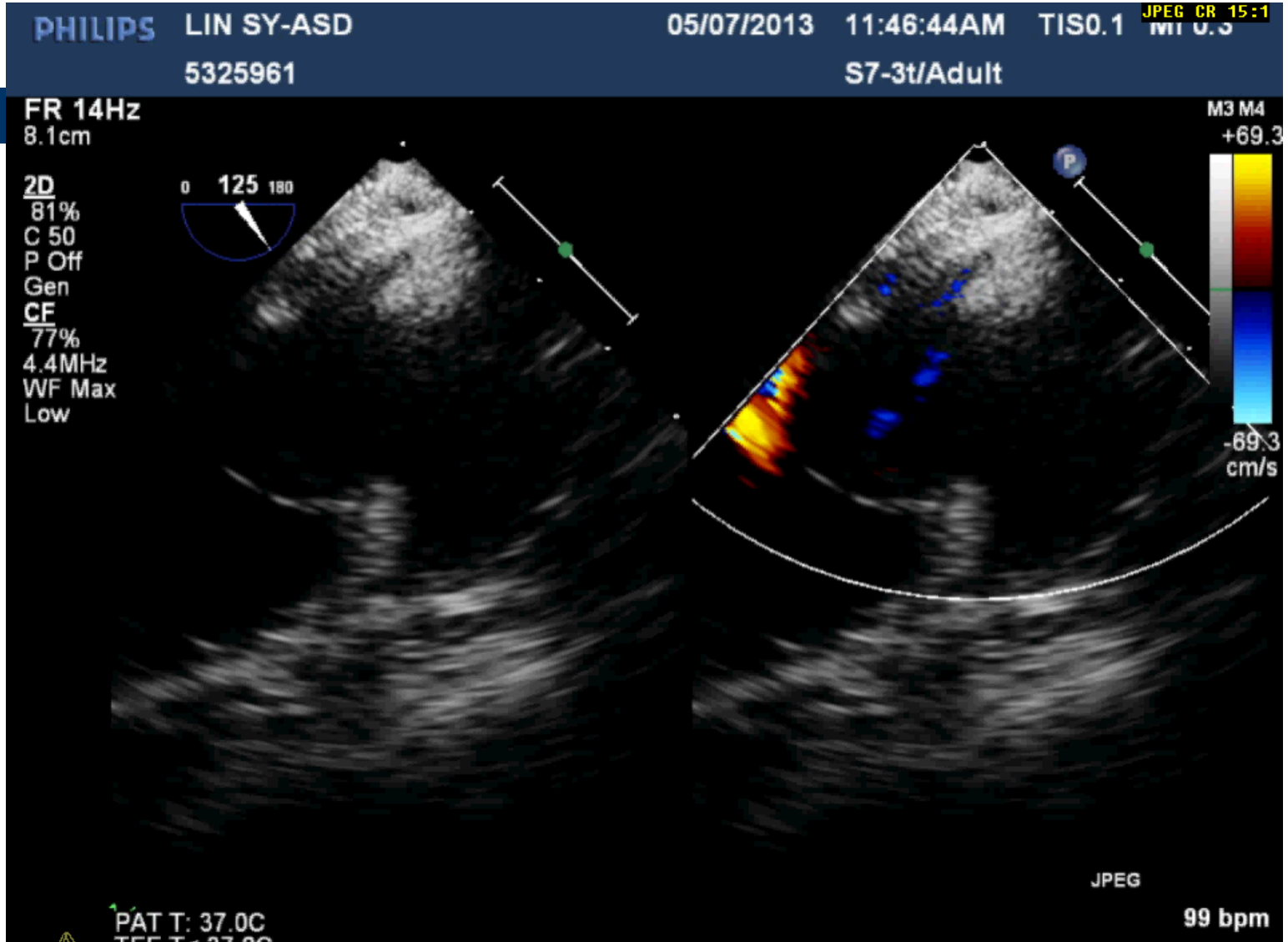
C 50
P Low
HGen
CF
66%
2.5MHz
WF High
Med
M3 M4
+61.6
-61.6
cm/s
JPEG
100 bpm

Immediately after device detachment

- Device herniated to LA near SVC rim
- Snaring device from SVC
- Could not resheath the device to the 8F delivery sheath.
- Device fell down to LA then onto mitral valve

After detachment

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Gen
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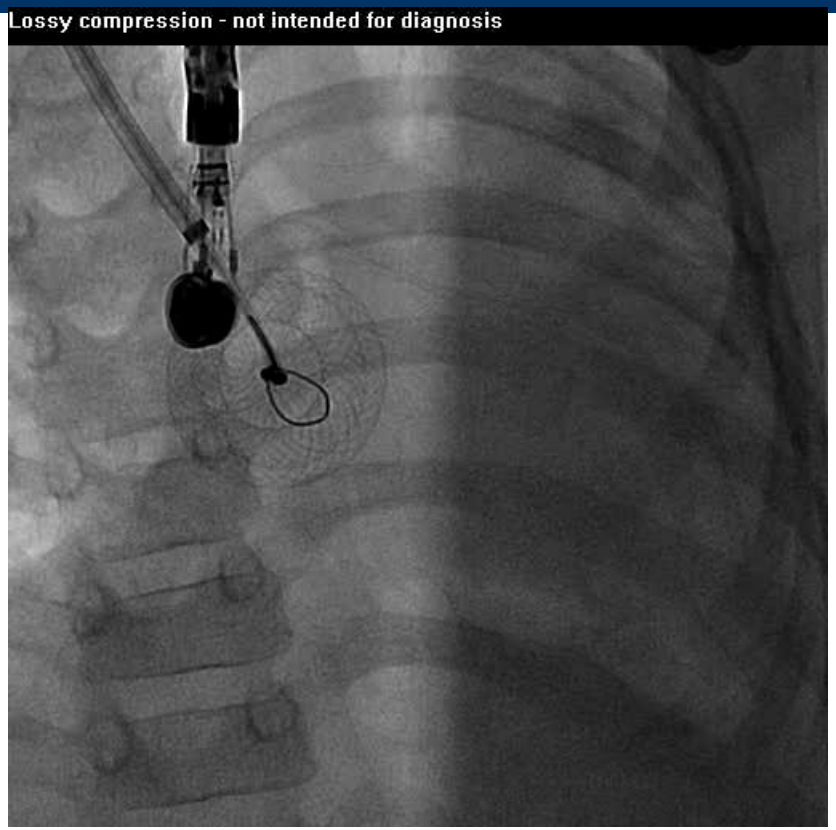
77%
4.4MHz
WF Max
Low
0
125
180
M3 M4
+69.3
-69.3
cm/s
JPEG
PAT T: 37.0C
99 bpm

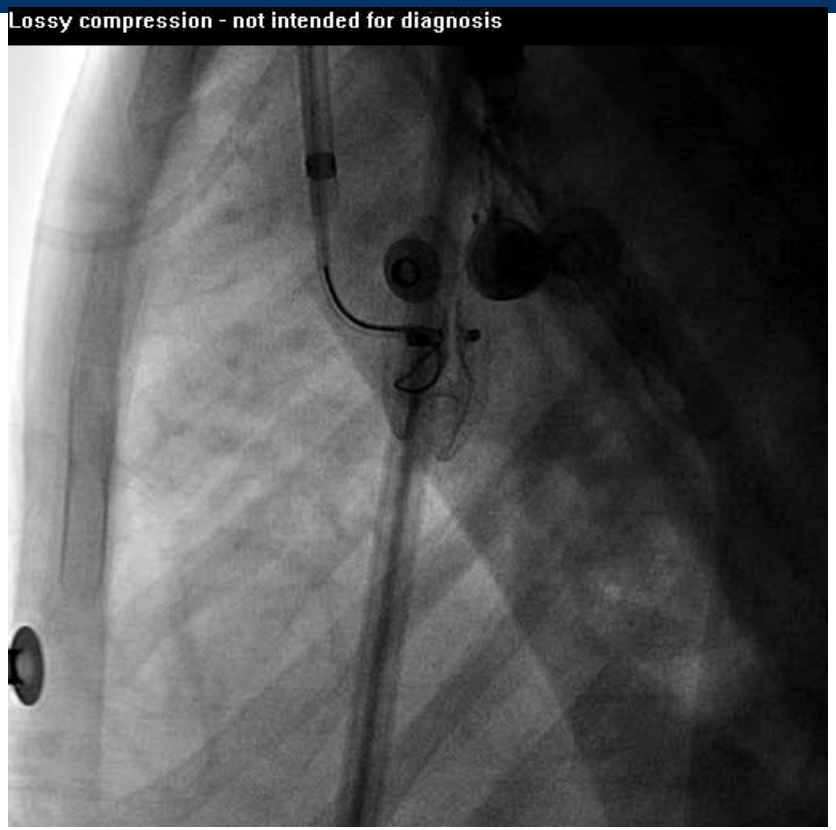
SVC rim was not sandwiched

- The SVC rim was not sandwiched by the device after detachment.
- Right disc herniated to LA

Herniation of right disc to LA

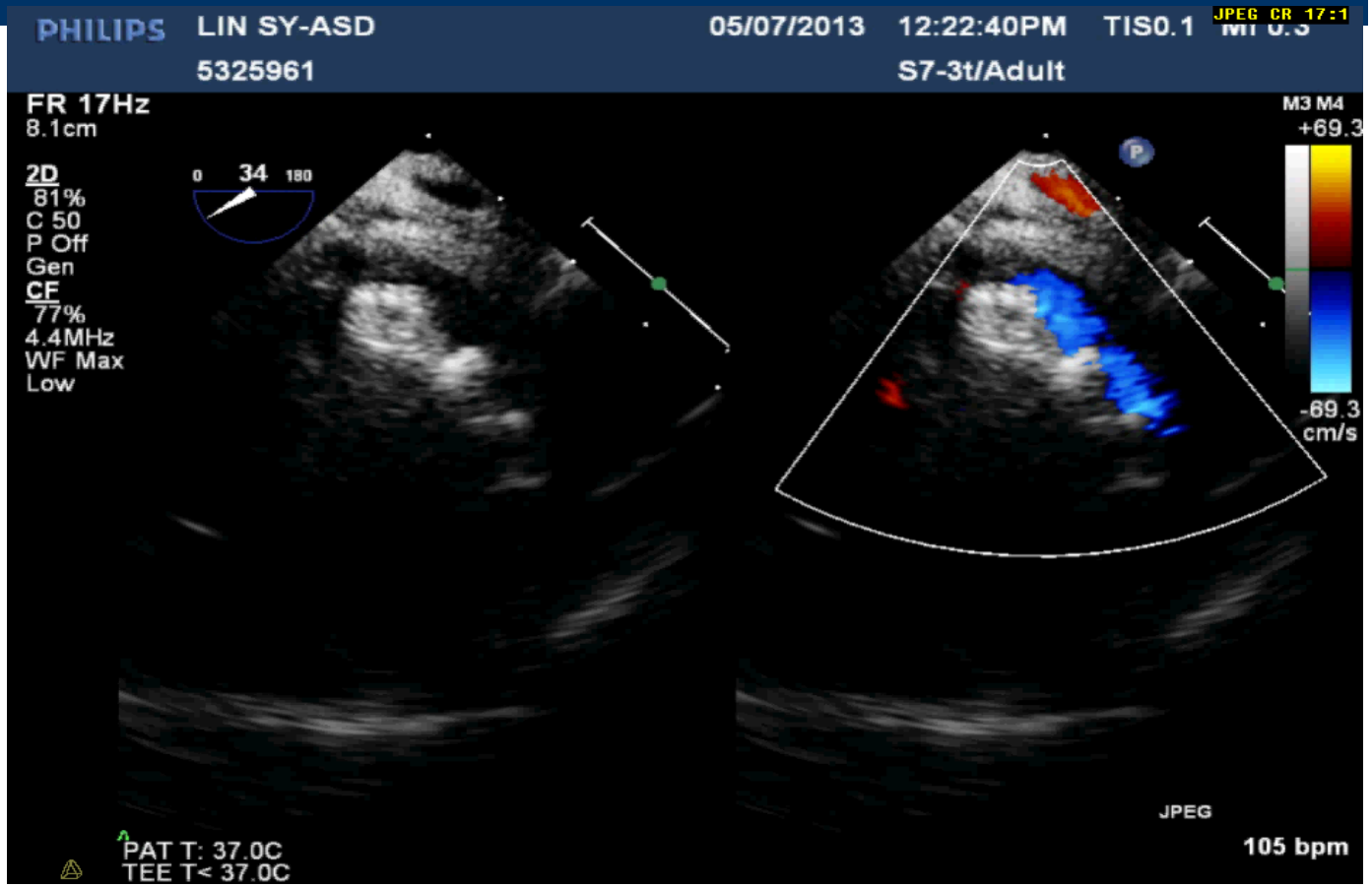
Attepts to snare the device

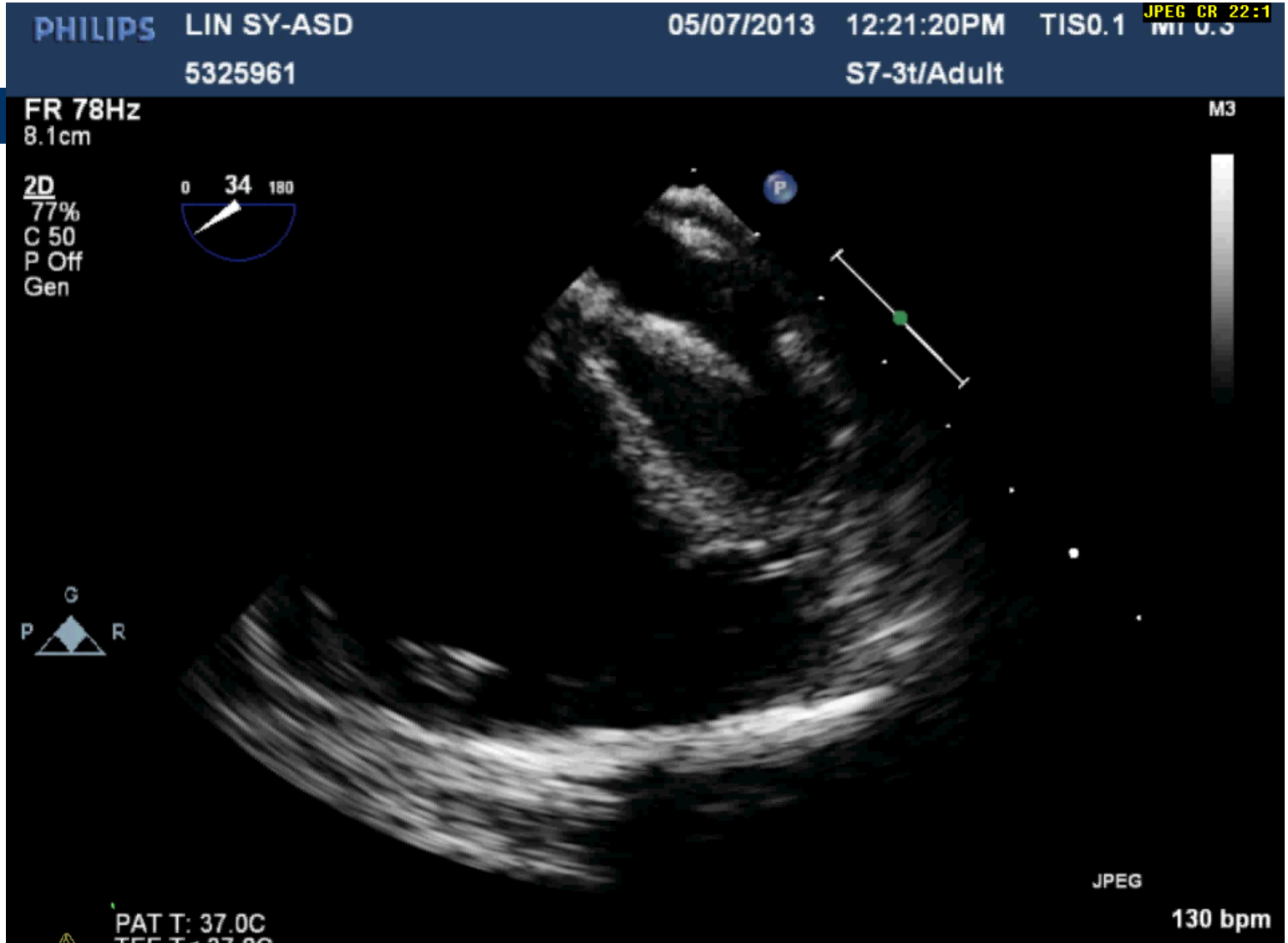



Lossy compression - not intended for diagnosis

Snare the screw of right disc

Device migrated to mitral valve

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M3
2D
77%
C 50
P Off
Gen
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34
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G
P
R
JPEG
PAT T: 37.0C
130 bpm

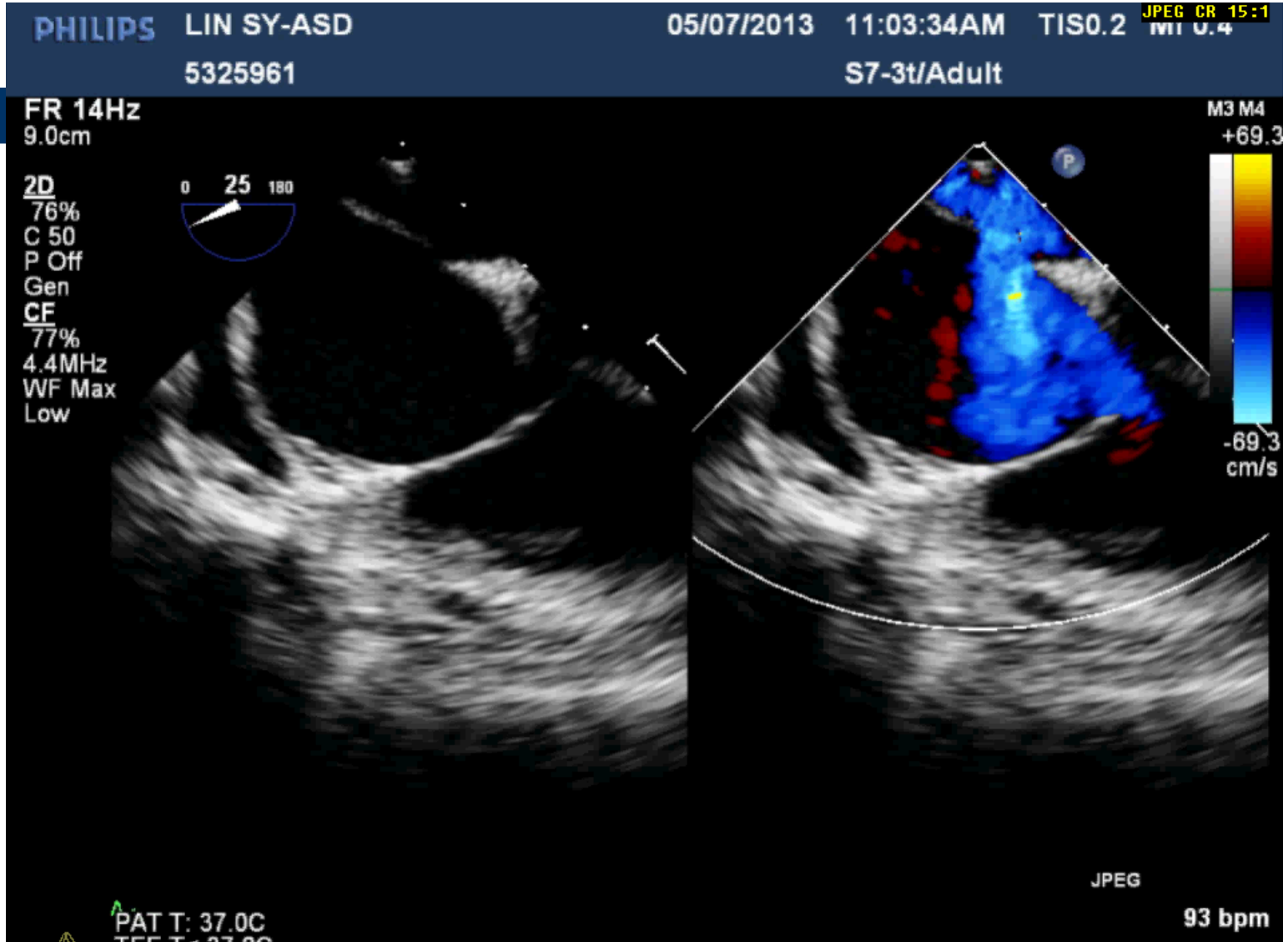
then

- Snaring the device from mitral valve was not successful & seemed difficult.
- Call a surgeon for emergent operation
- A surgeon showed up in 2 minutes
- While arranging operation, systolic BP decreased from 85 to 60 mmHg.
- Attempting retrieval not successful
- Emergent operation in the cath Lab.

Mistakes I made in this case

- More attempts should be made to stabilize the device to prevent device entanglement with mitral valve.
- A 1-2 size bigger sheath should be use for retrieving the device.
- Underestimation of the defect size by TEE?
- Balloon sizing?

- Thank you for your attention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