

How to Close Multiple ASDs

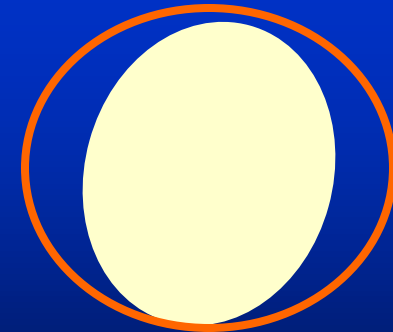
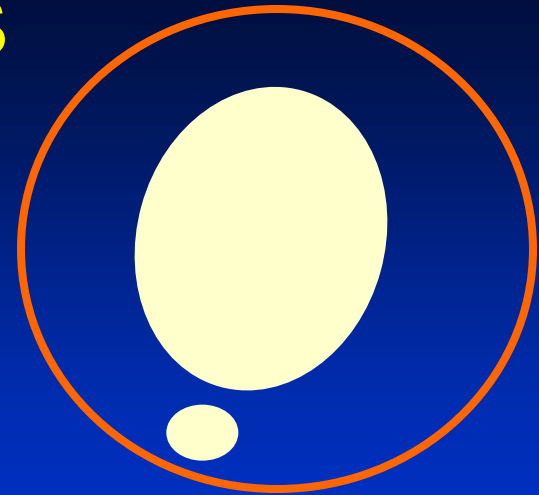
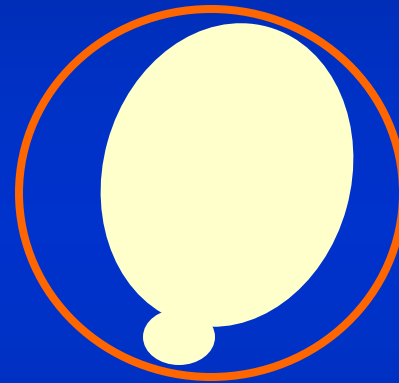
Yun-Ching Fu

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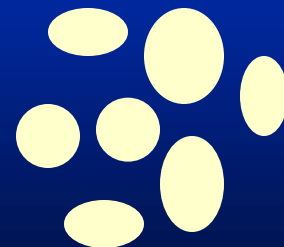
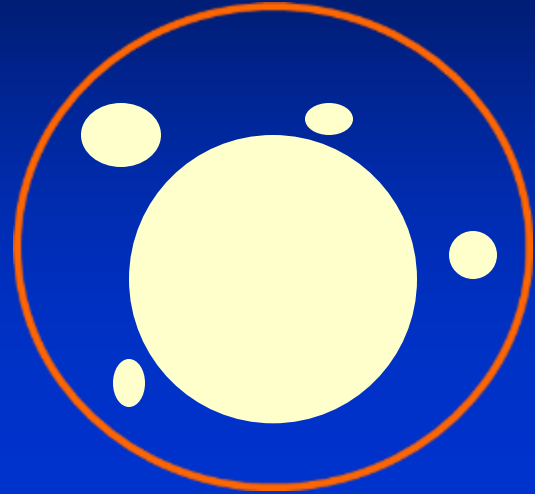
Two ASDs

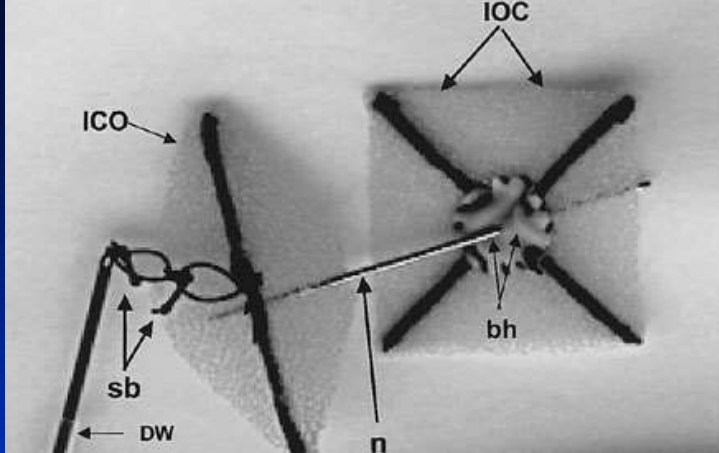
- Distance $< 6-8$ mm
 - An device from the bigger hole to cover the smaller hole
 - Balloon sizing to fuse into one hole
- Distance $> 6-8$ mm
 - use 2 separate devices



Multiple ASDs

- A central big hole surrounded by multiple small holes
 - A big Amplatzer septal occluder hopefully covers all holes
- Multiple small holes
 - “patch-type” devices

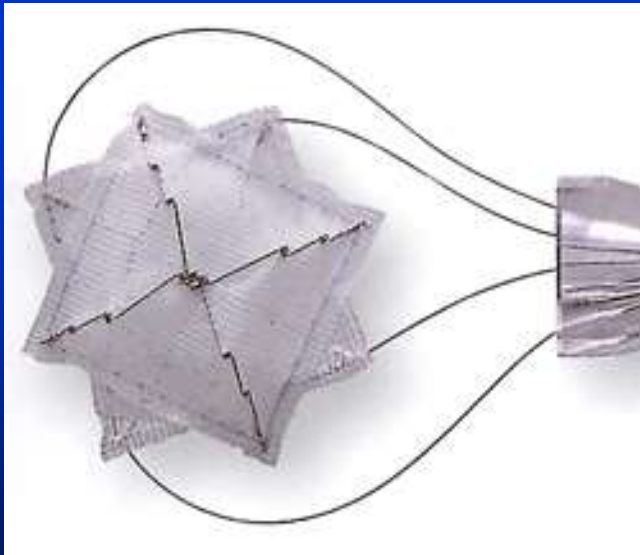




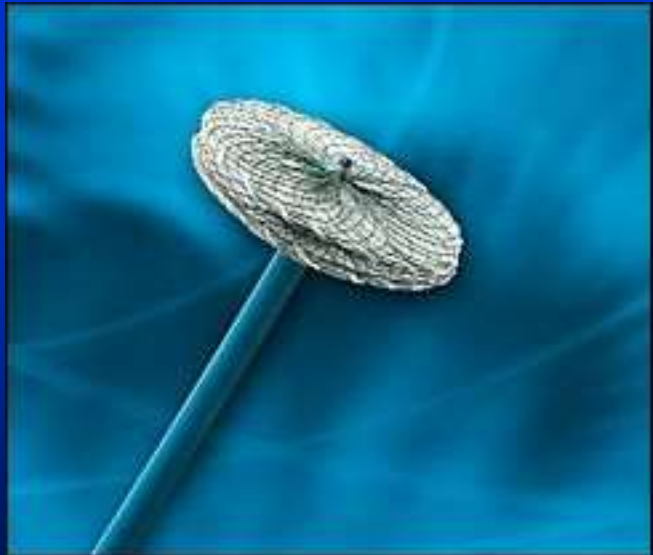
Buttoned device



Helex Device



CardioSEAL



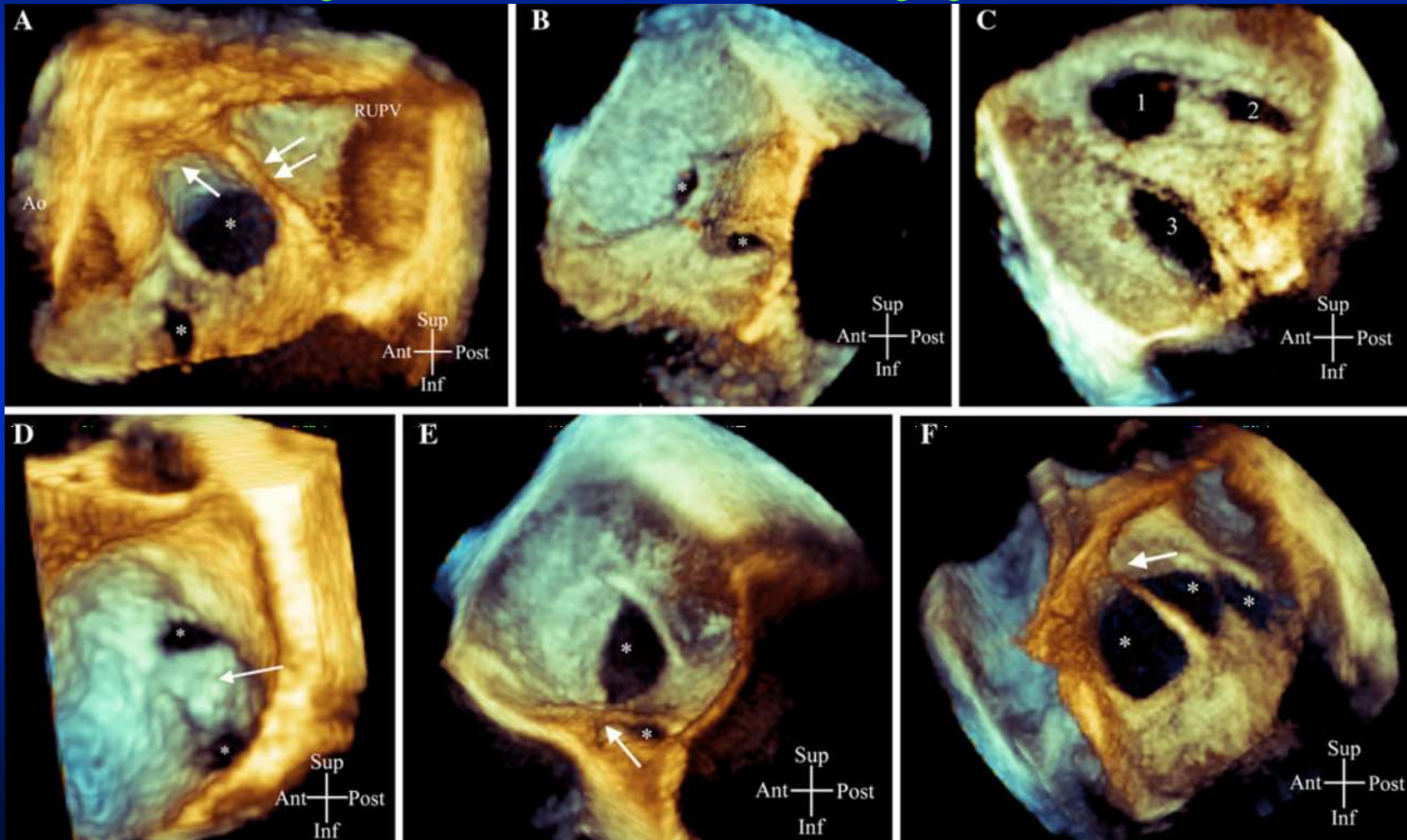
Amplatzer cribriform

Echocardiographic guidance



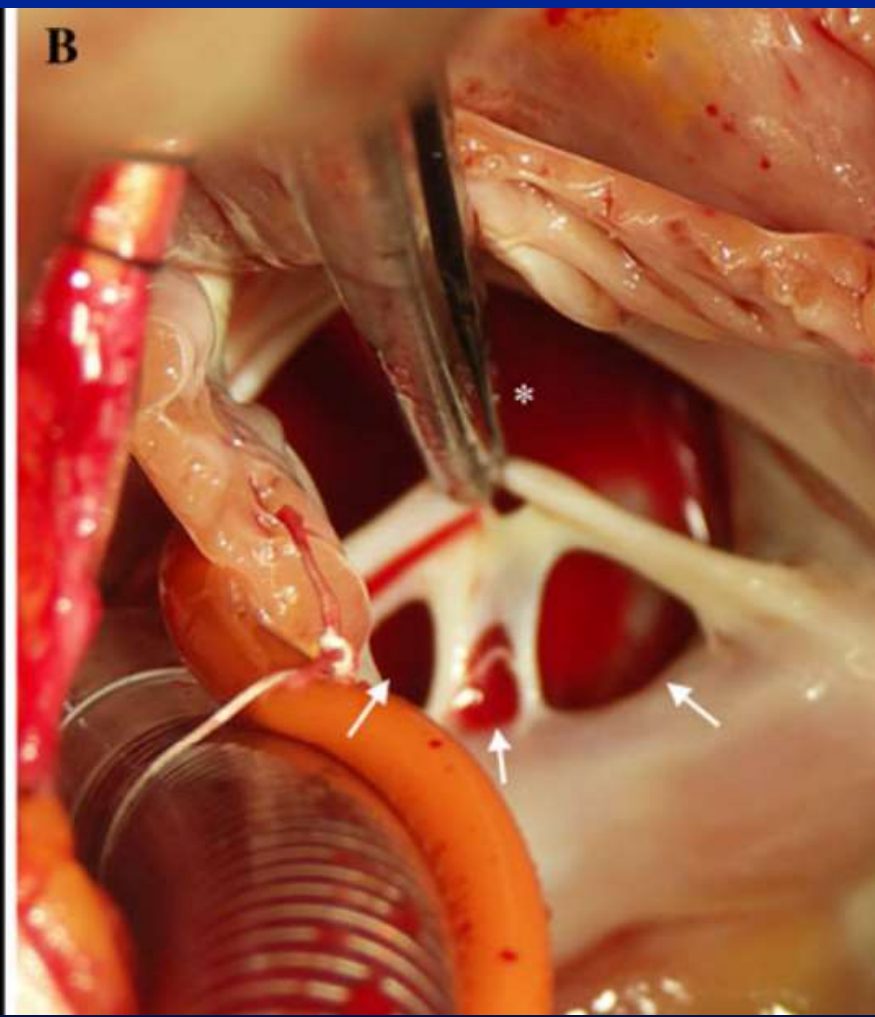
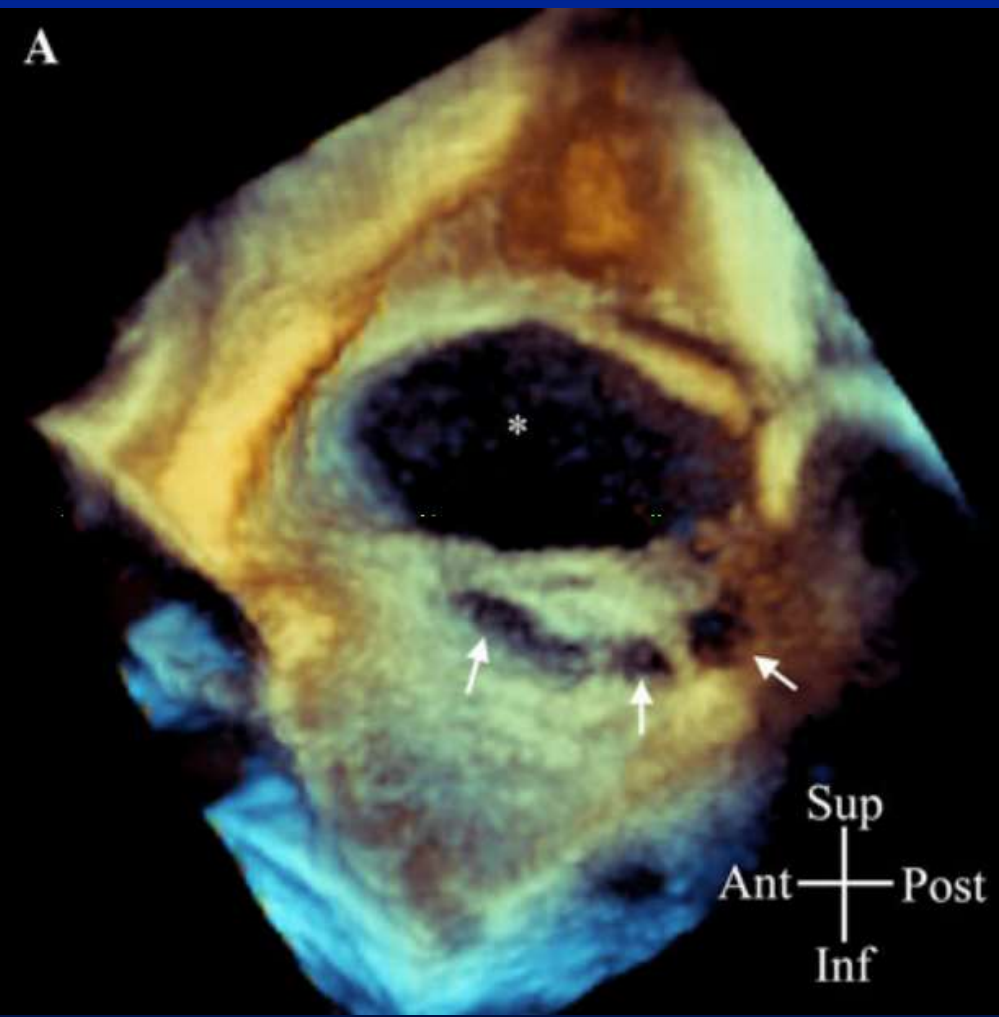
Clinical advantage of real-time 3-D TEE for transcatheter closure of multiple ASDs

Taniguchi M et al. *Int J Cardiovasc Imaging*. 2013;29:1273-80



Clinical advantage of real-time 3-D TEE for transcatheter closure of multiple ASDs

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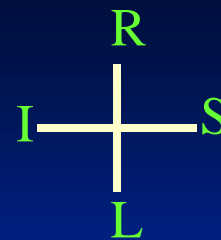
Fig. 5 Guidance of transcatheter closure of multiple ASDs. **a, b** The catheter was passing through the smaller defect. **c** 3D TEE demonstrated the relations among the Amplatzer atrial septal occluder (ASO) devices with easily understandable images. Preprocedural left

atrial en face image of this patient is shown in Fig. 1c. Three defects were closed using 18 mm (ASO1), 16 mm (ASO2), and 24 mm (ASO3) devices. Abbreviations as in Fig. 1

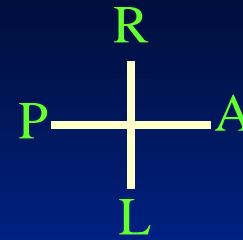


- 9 y/o girl
- 24 kg
- Multiple fenestrated ASDs
- $Q_p/Q_s = 2.45$
- exercise intolerance

ICE (bi-caval view)



ICE (short axis)

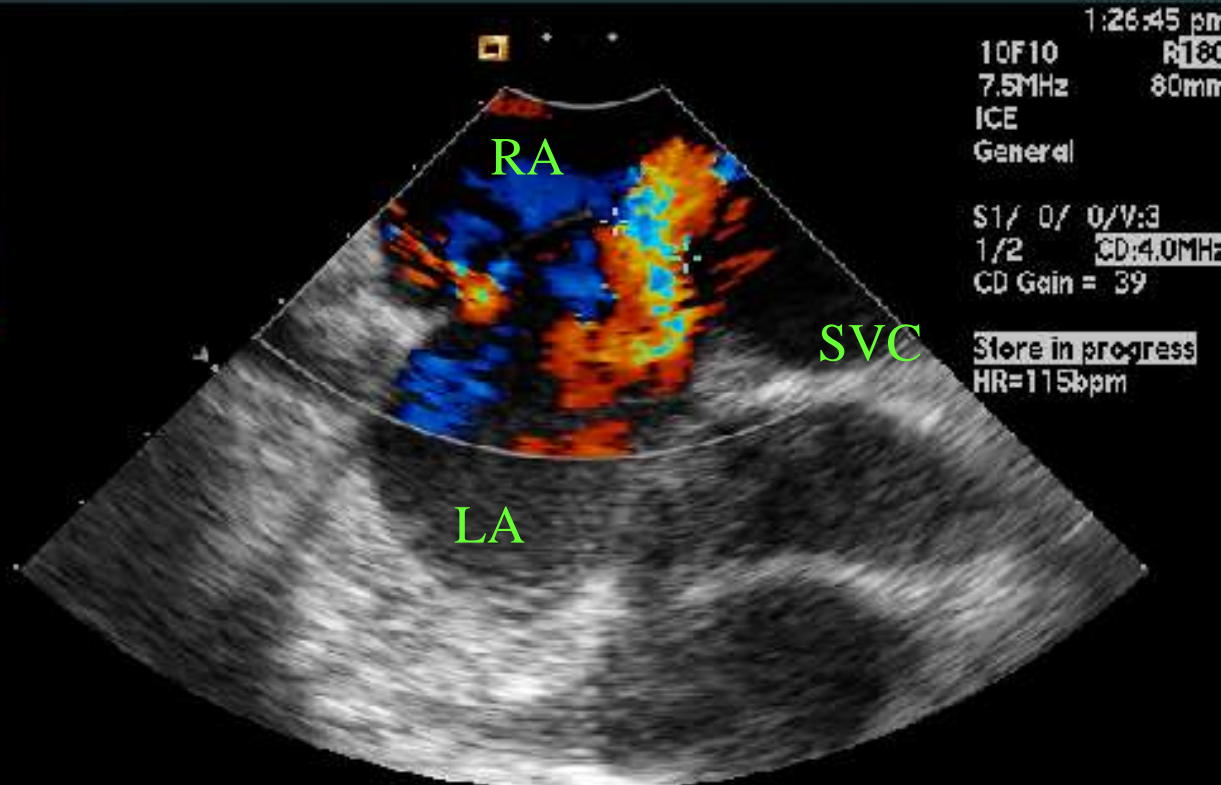


ICE (intracardiac echo): multiple fenestrated ASDs

ASD LIN YZ: 1360282J: SUN
VGH-TC

12 Aug 05

12 Aug 05



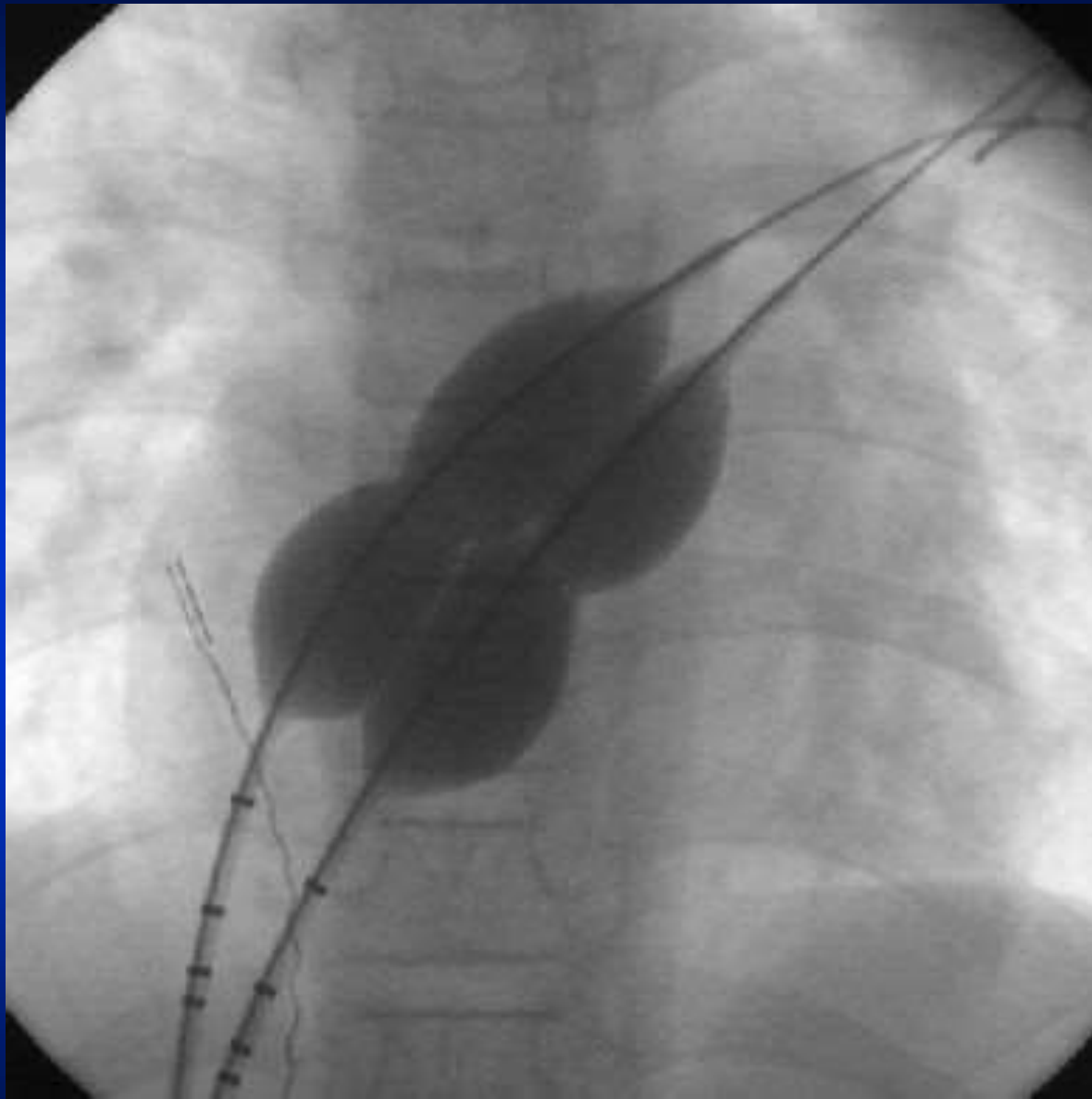
Dist = 0.86cm



Delete Set

Lock Set

Dual L/R



- **Sup-ant holes: biggest one 11 mm**
- **Inf-post hole: 7 mm**

ASD LIN YZ: 1360282J: SUN
VGH-TC

12 Aug 05

55

CT

55

2:26:51 pm

HR=101bpm

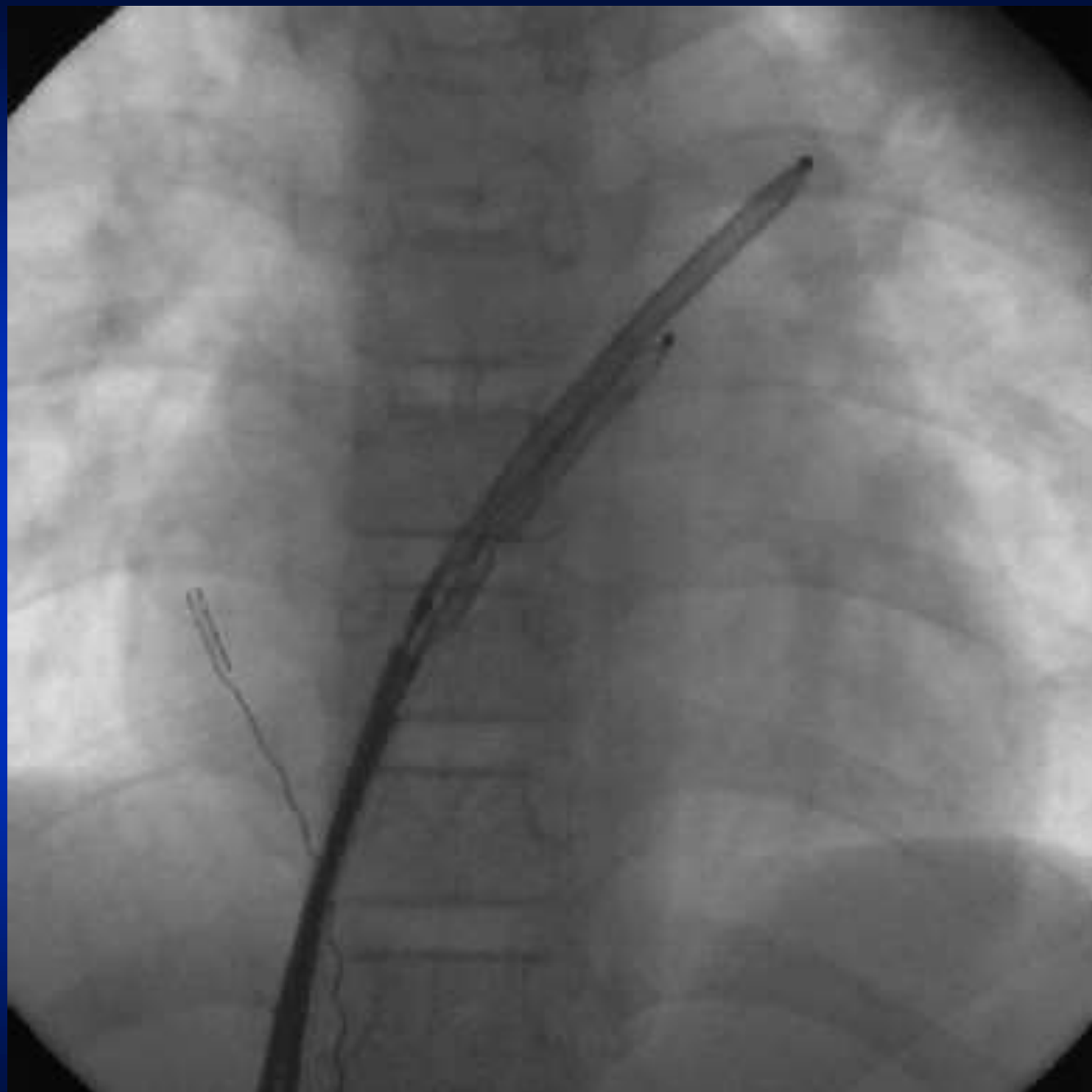


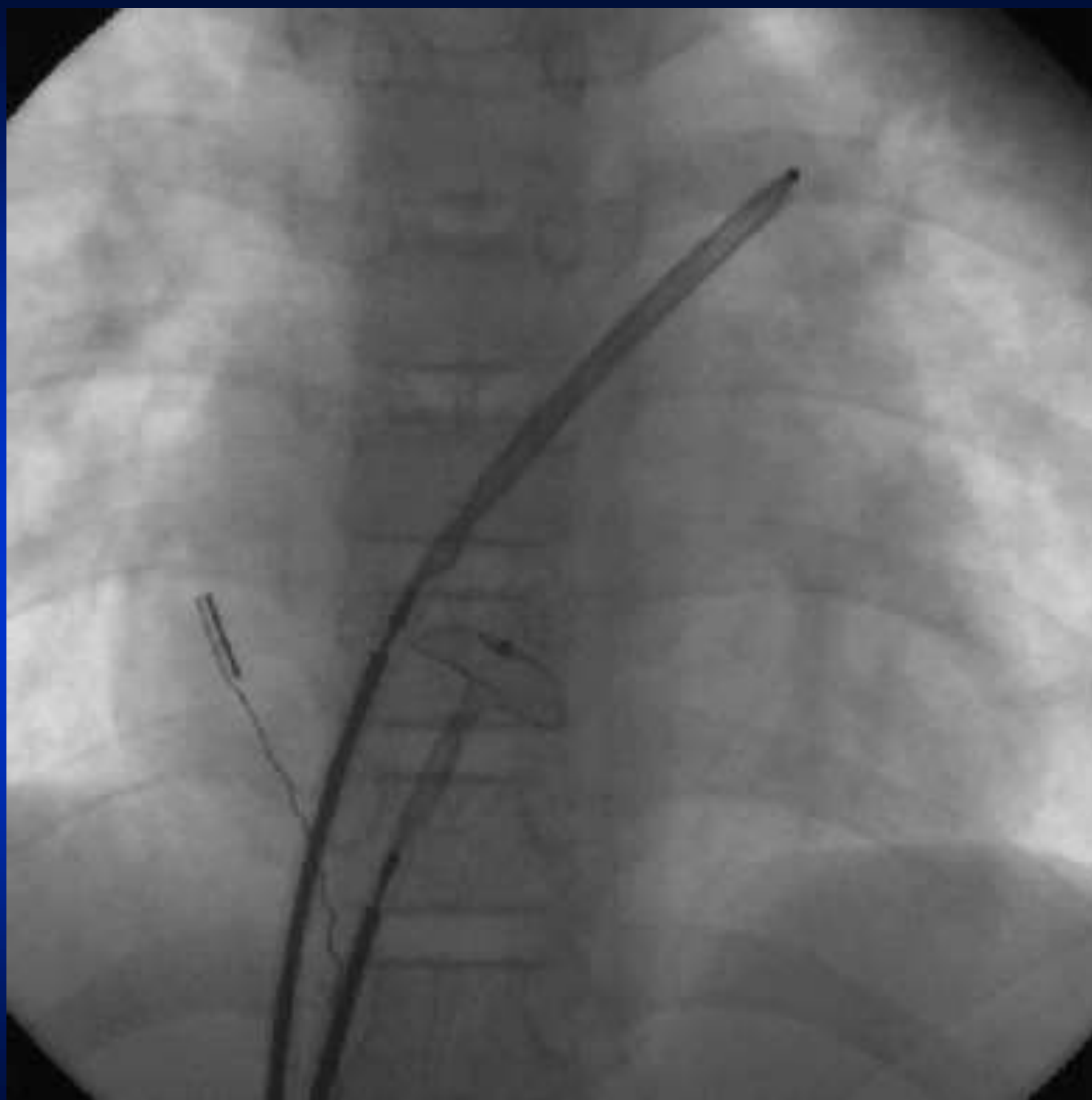
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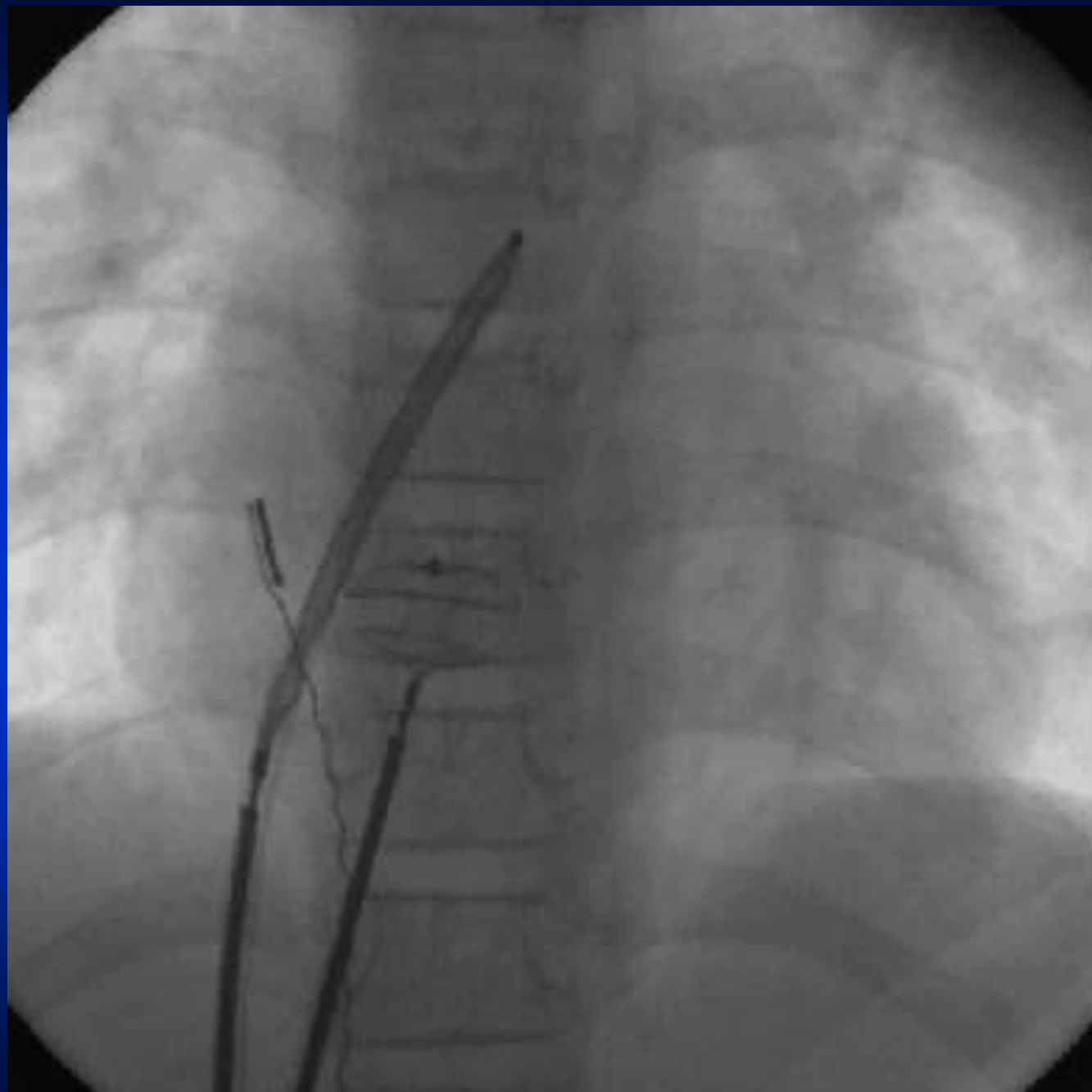


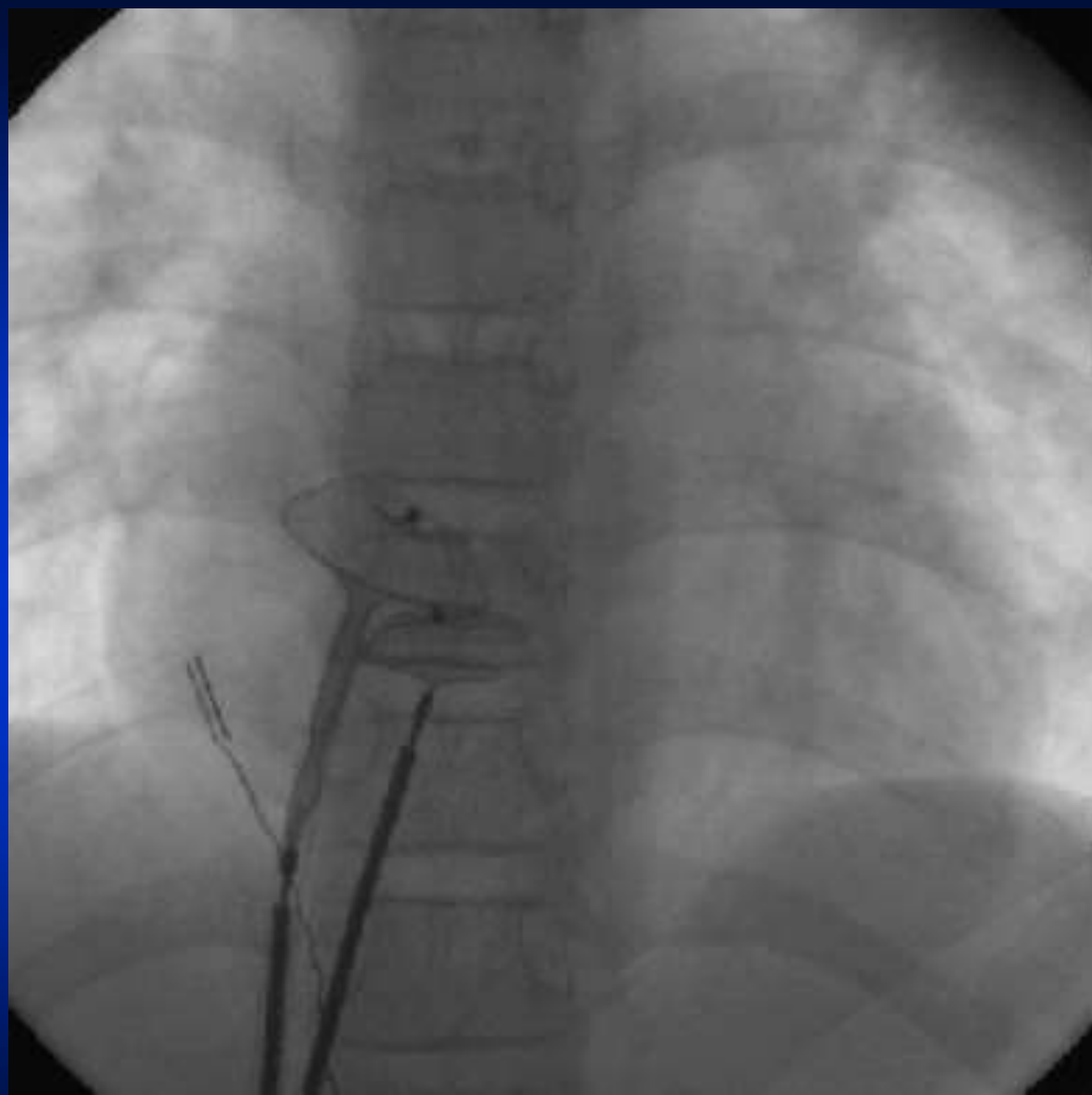
CD Pan

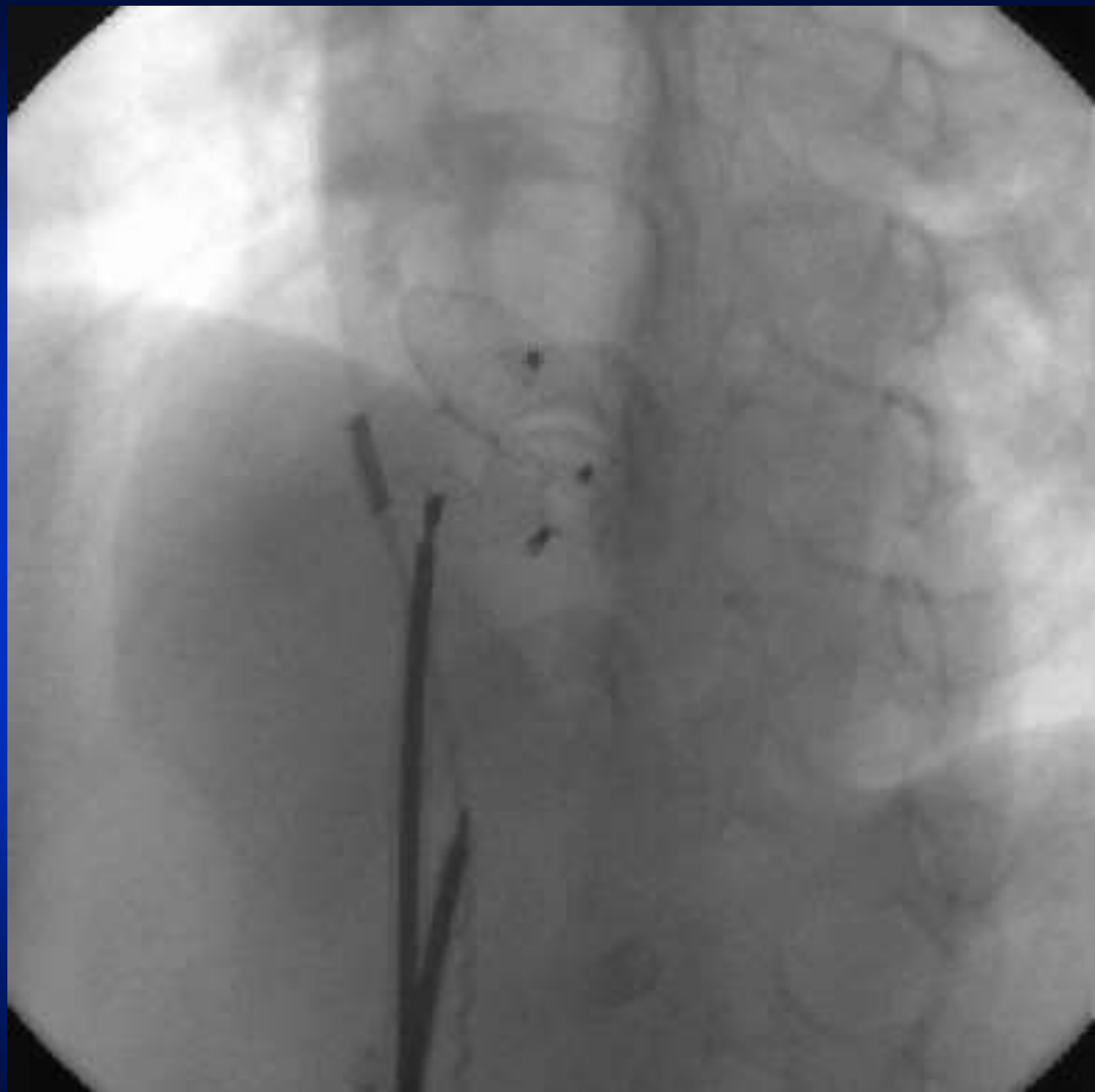
CD Pos Size

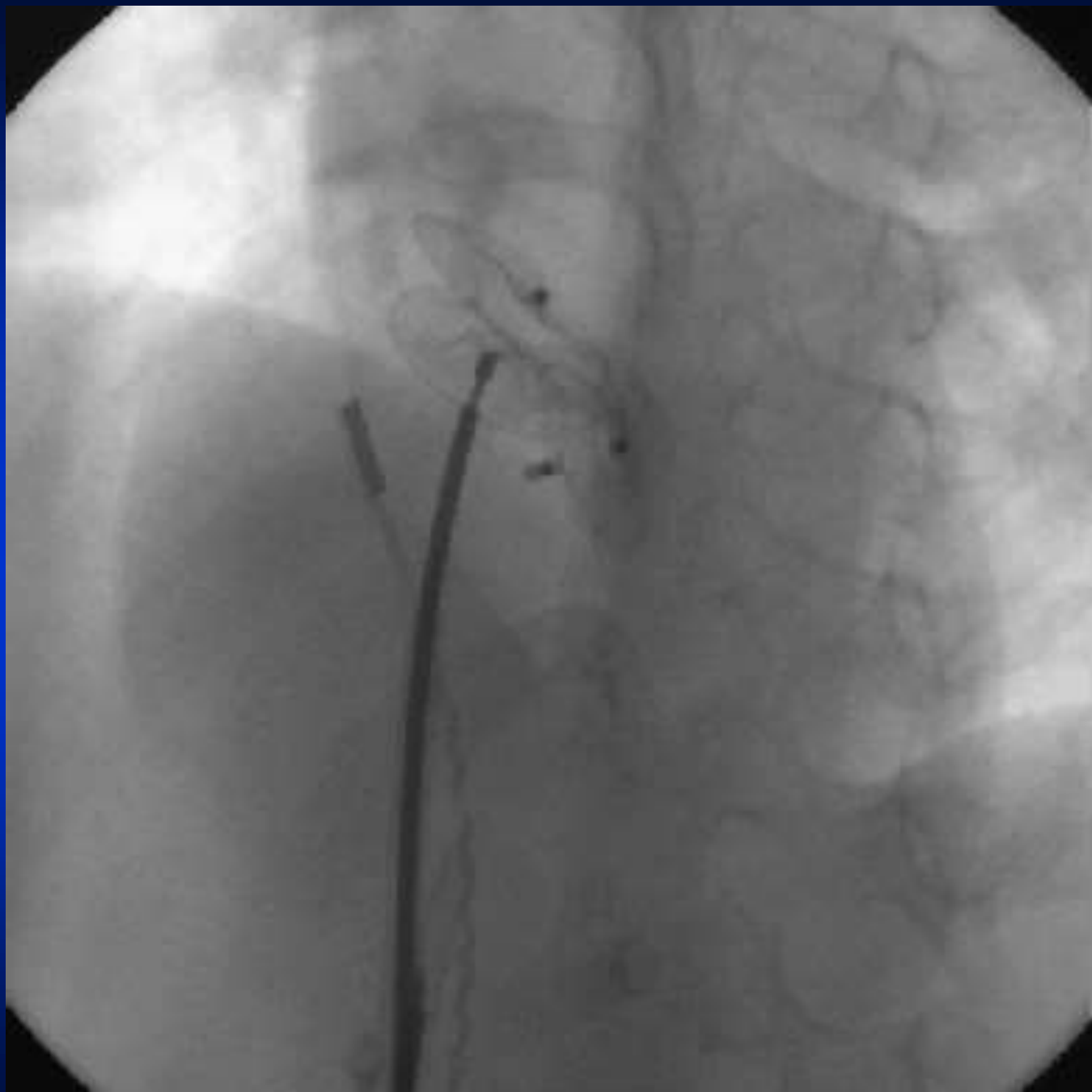




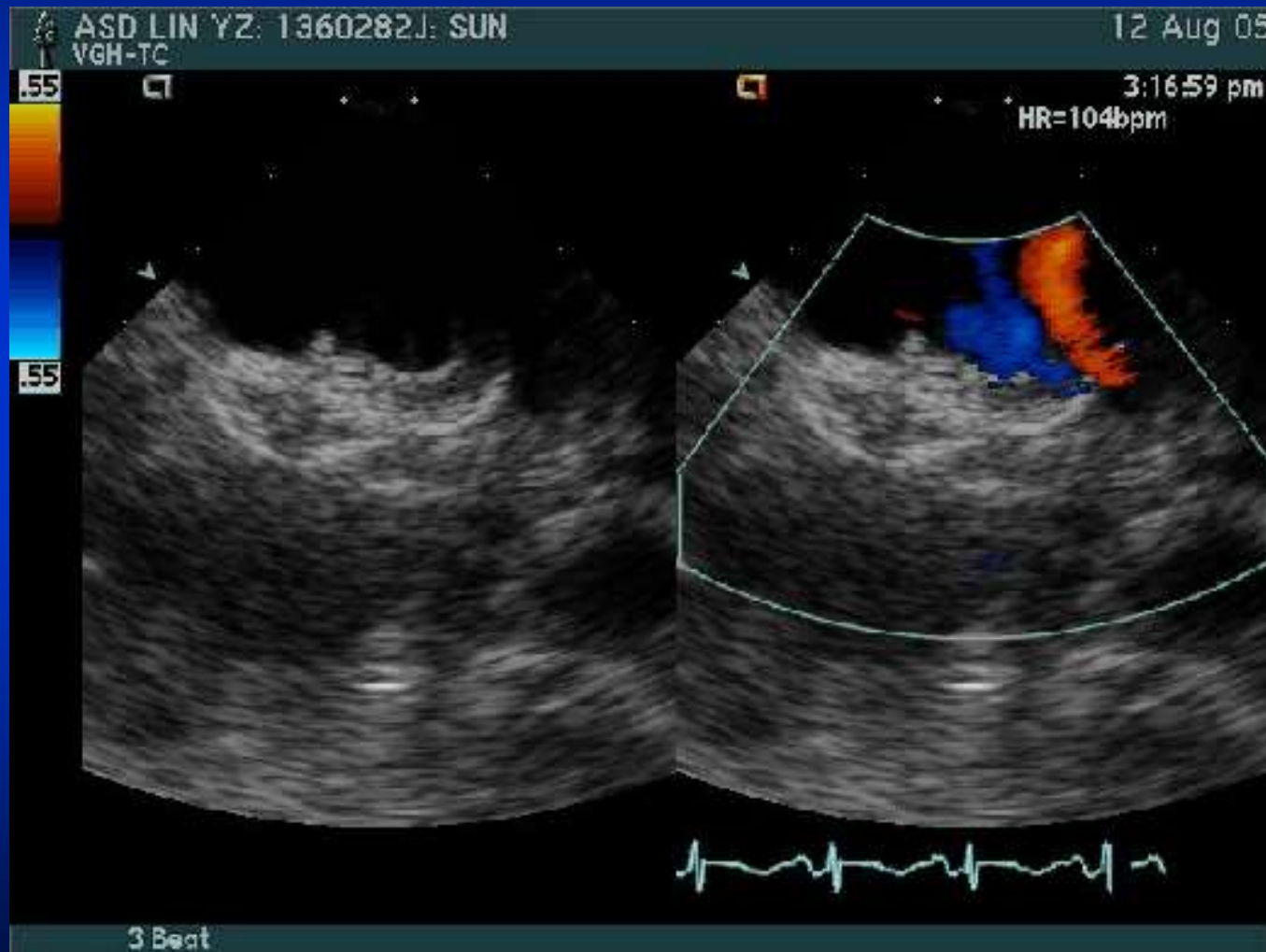




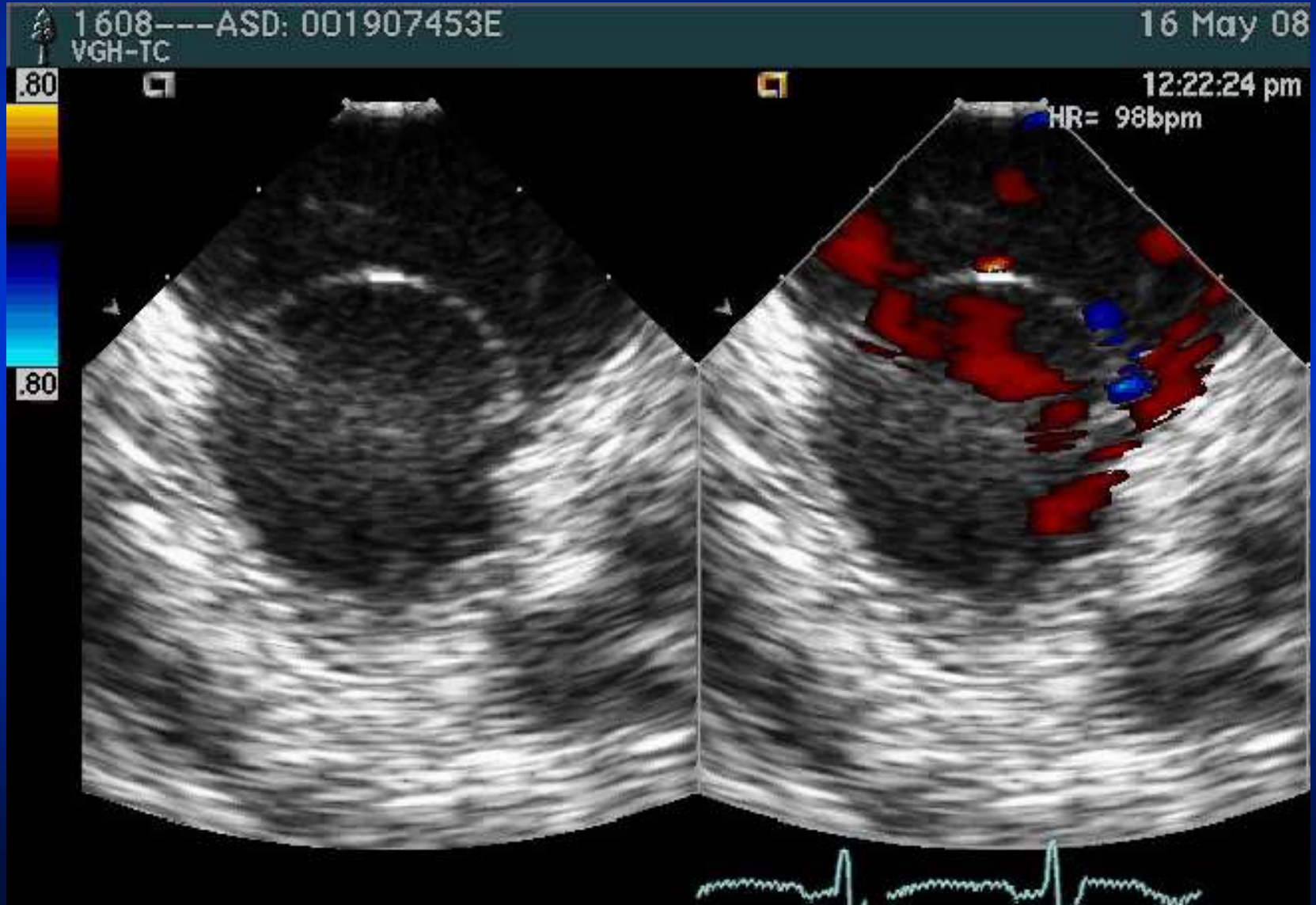
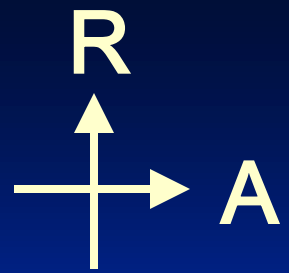




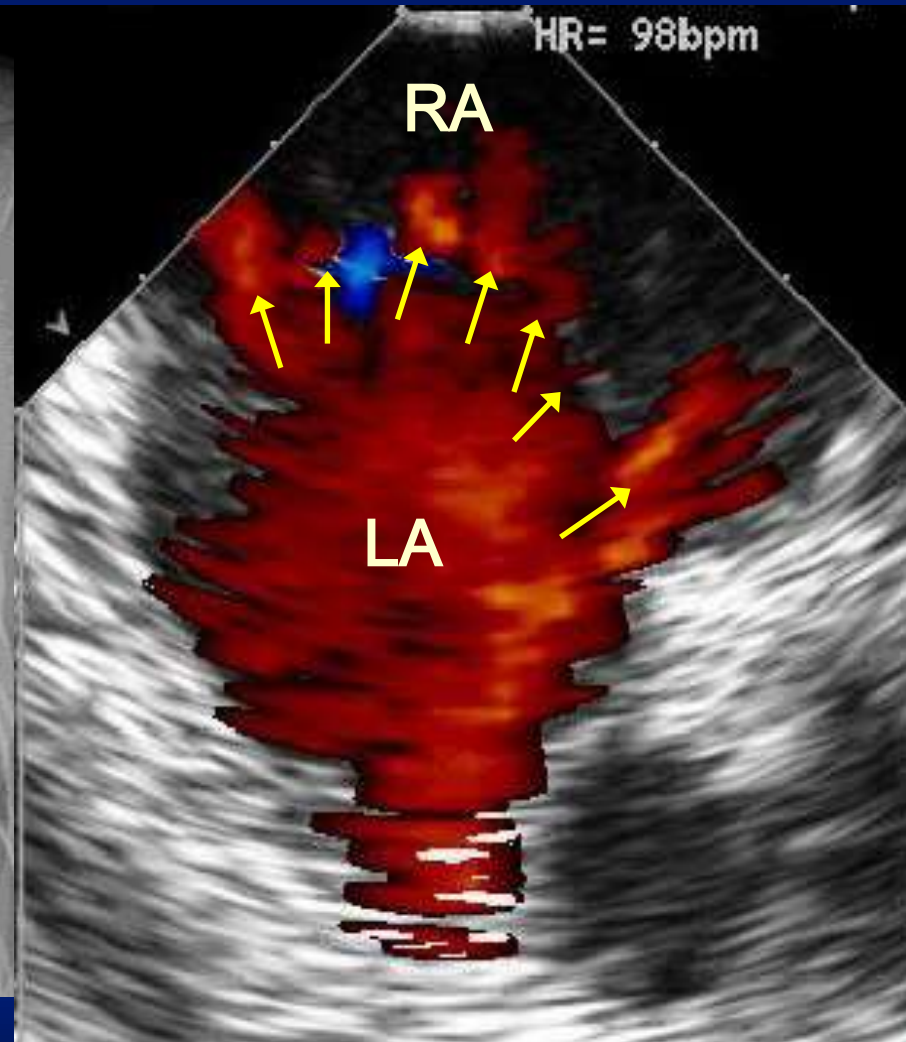
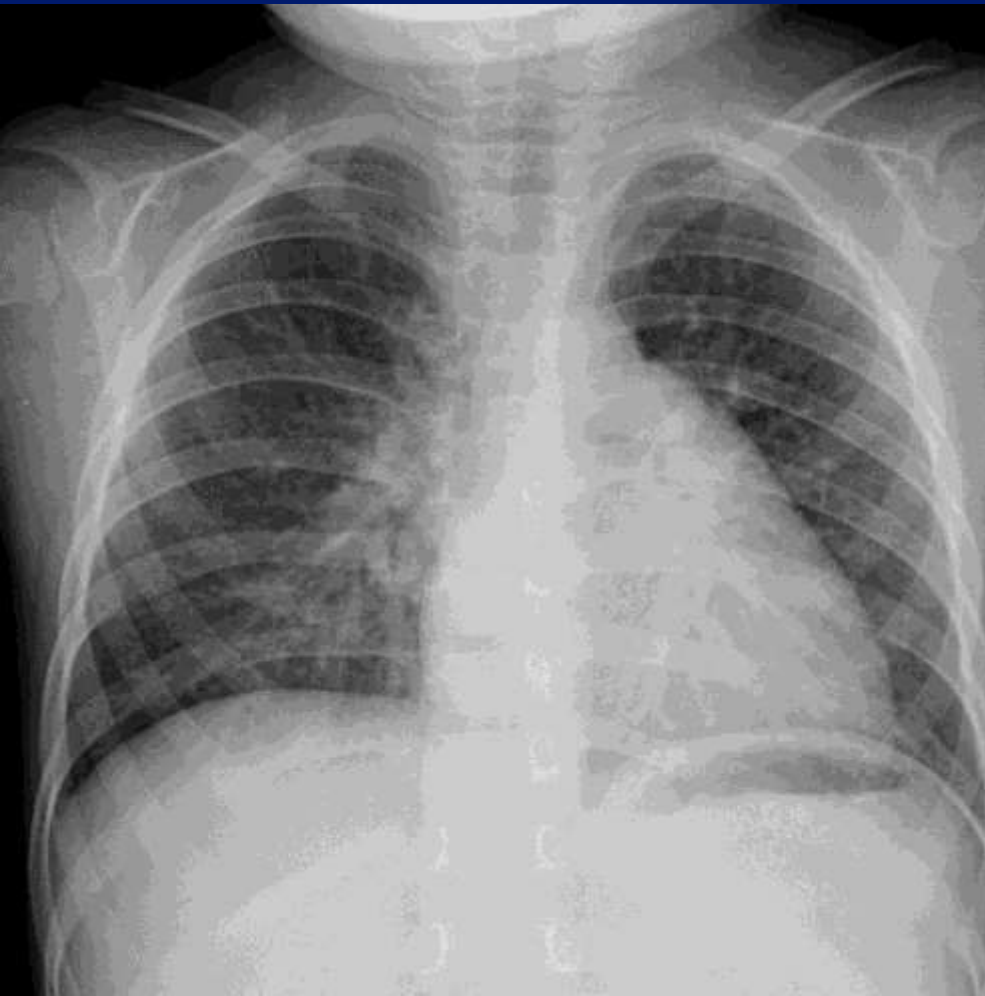
Multiple defects were completely closed with 2 devices (7 + 12 mm)



4 y/o boy ICE (short axis view)



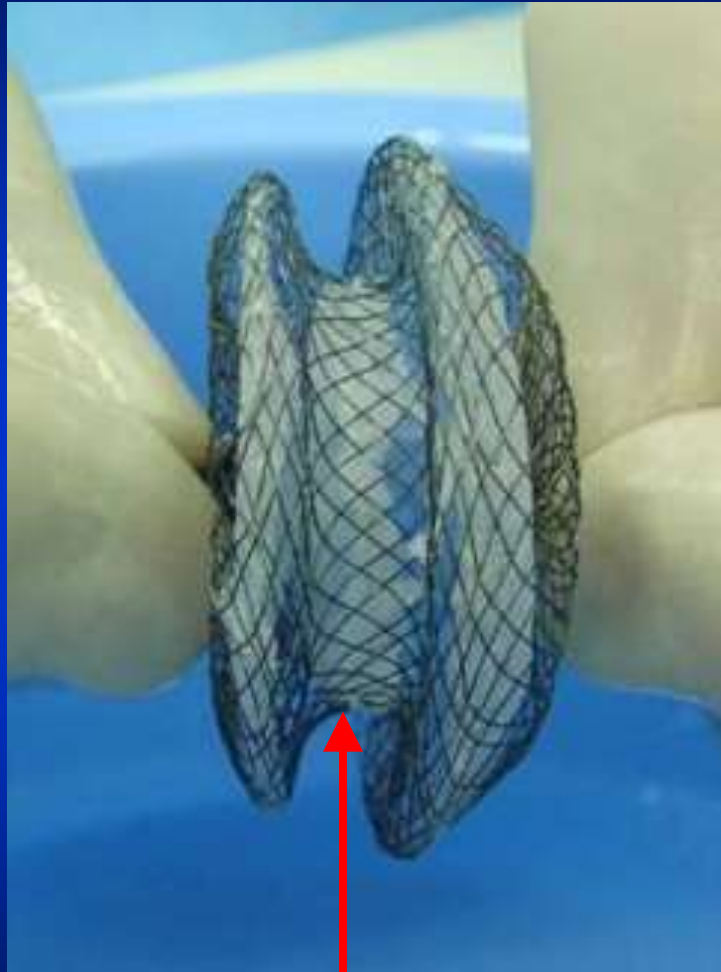
Multiple fenestrated ASDs



What's the difference between the two beauties in the ancient China



Amplatzer septal occluder



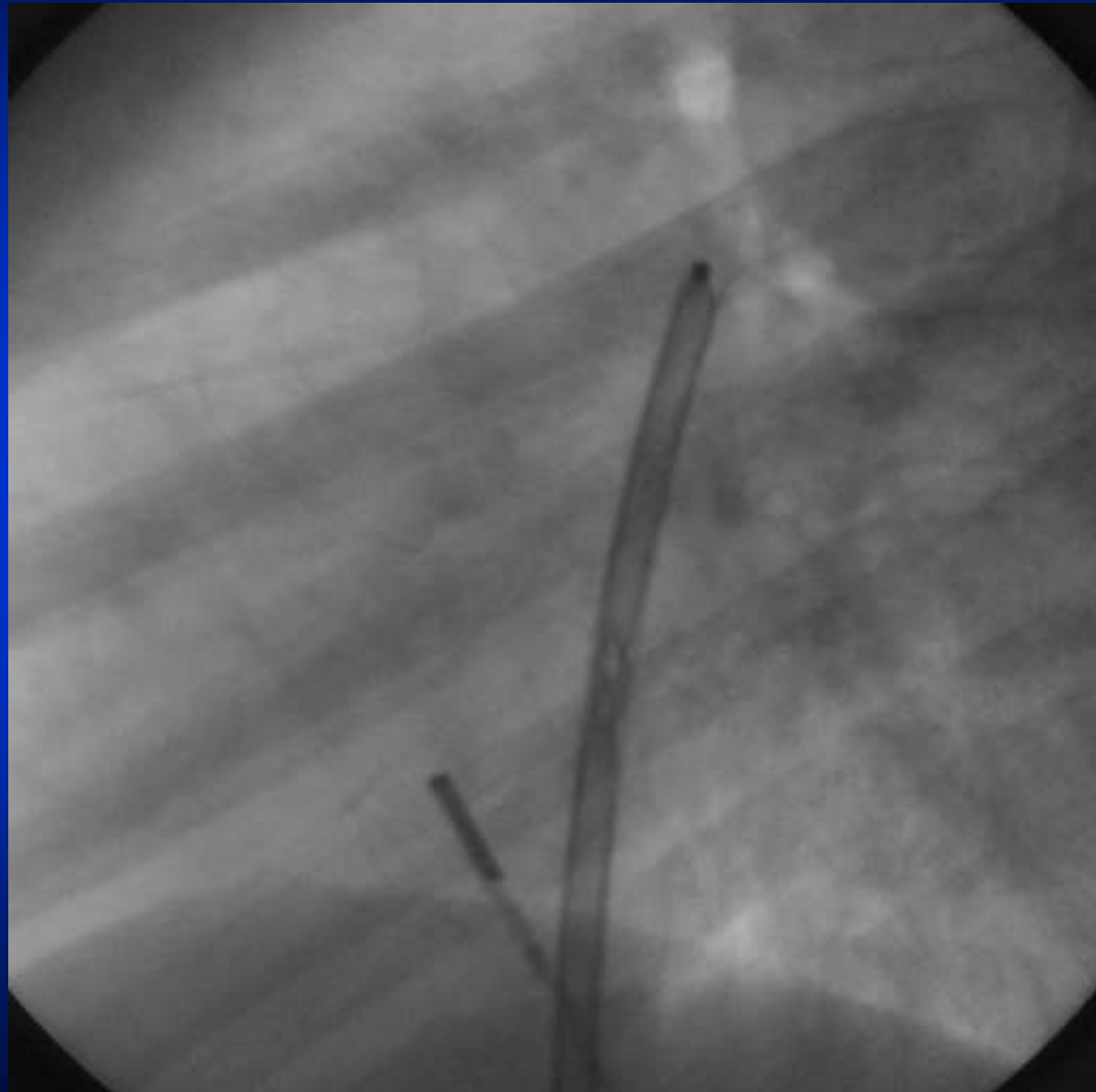
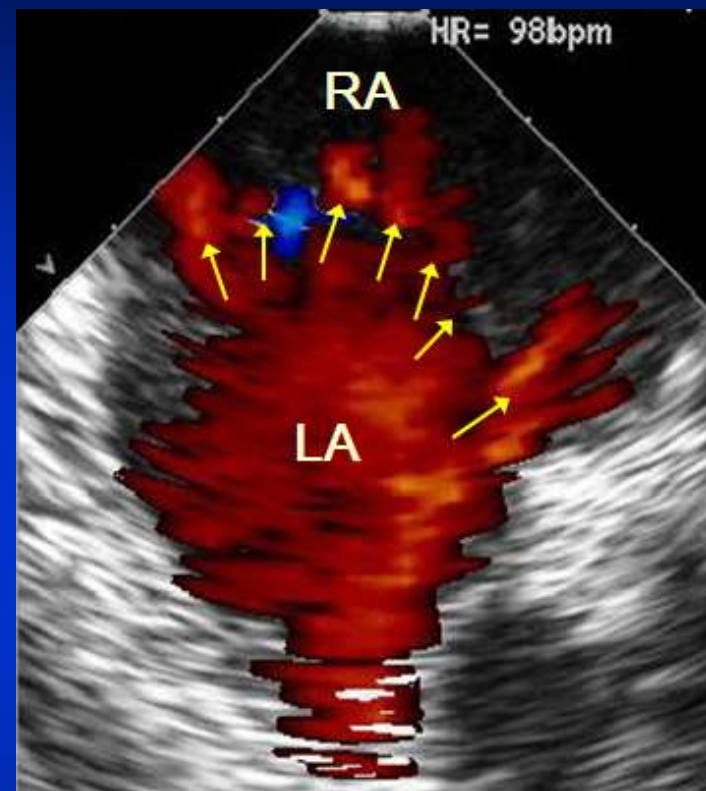
環肥

Cribriform

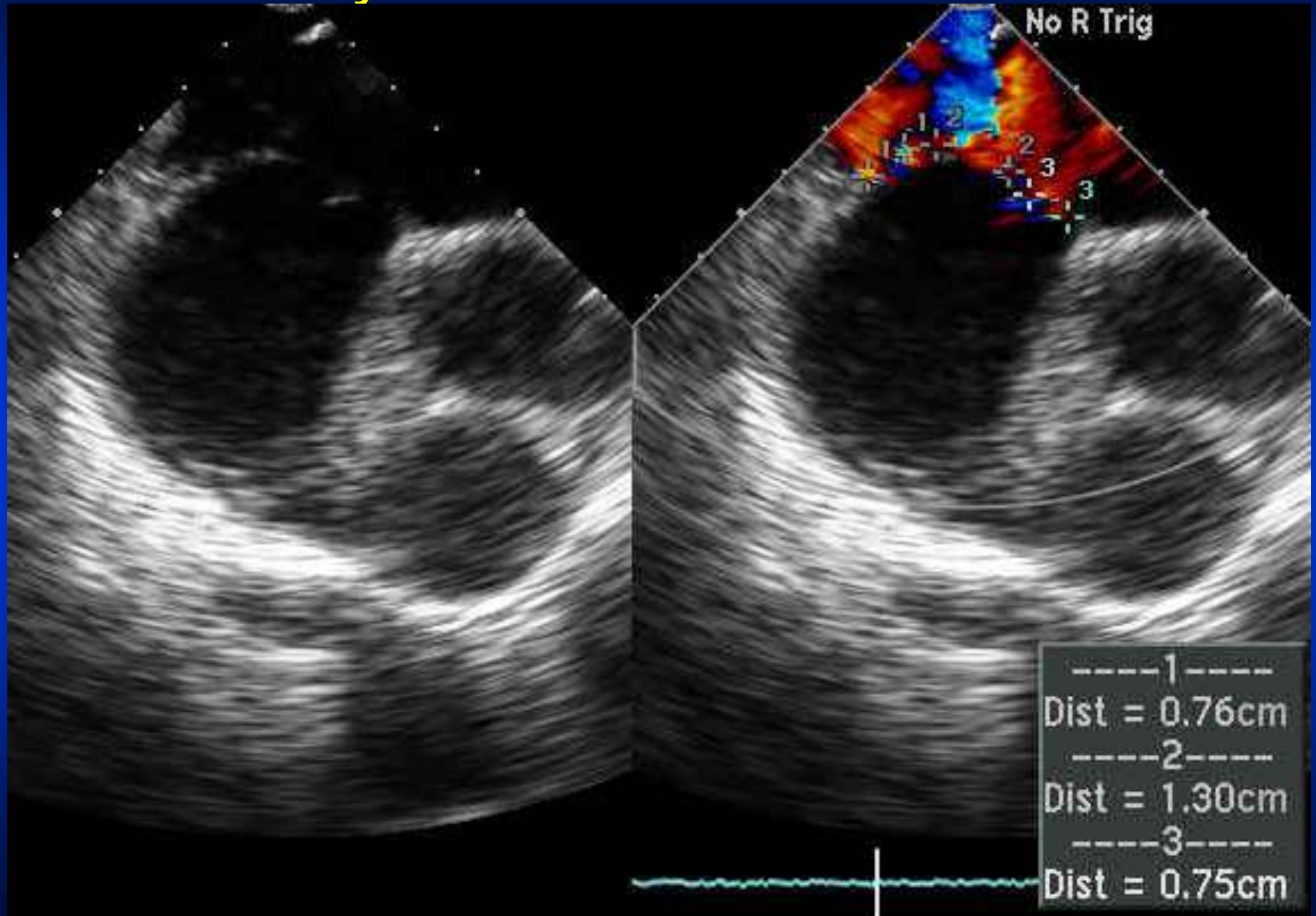


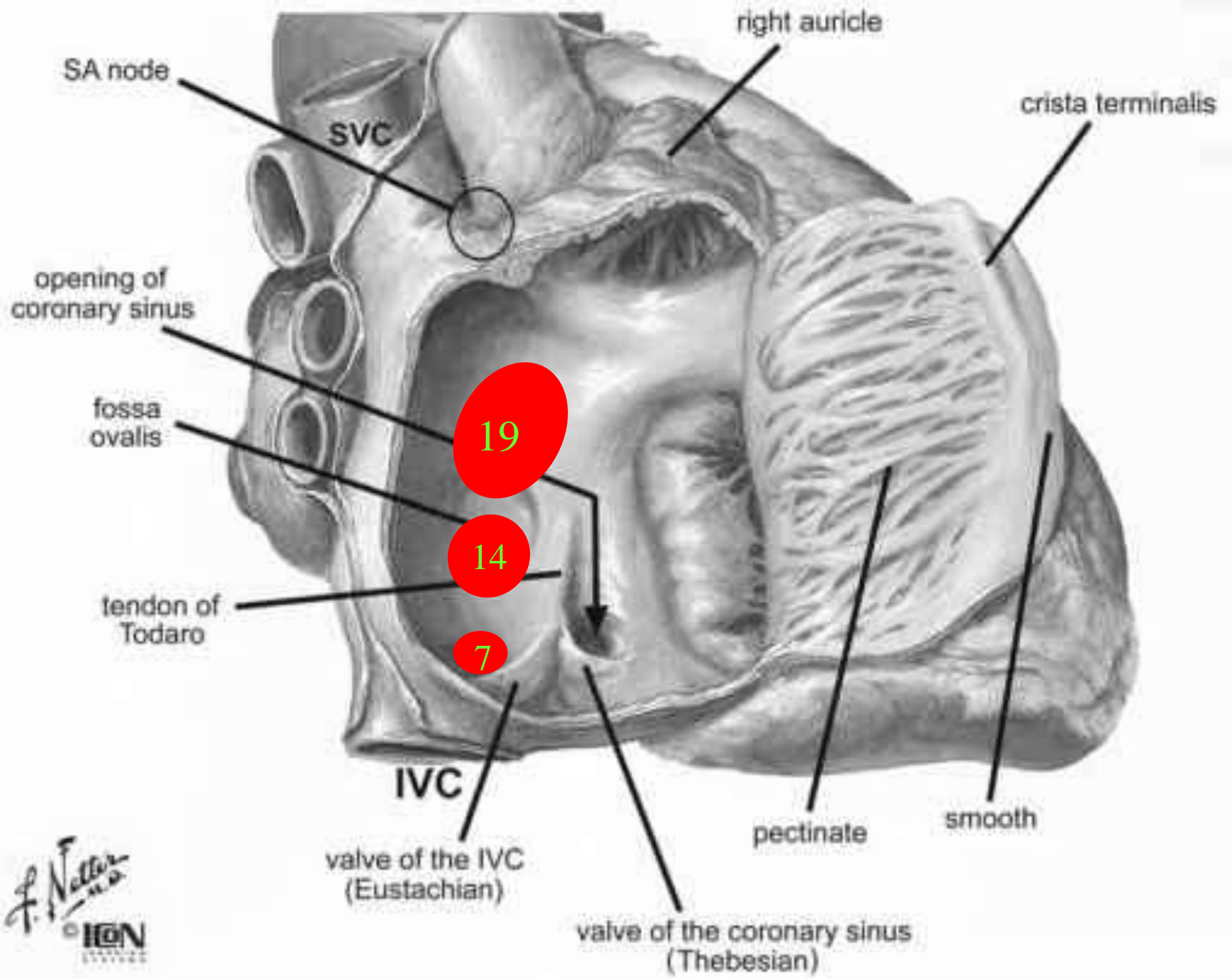
燕瘦

25 mm cribriform device

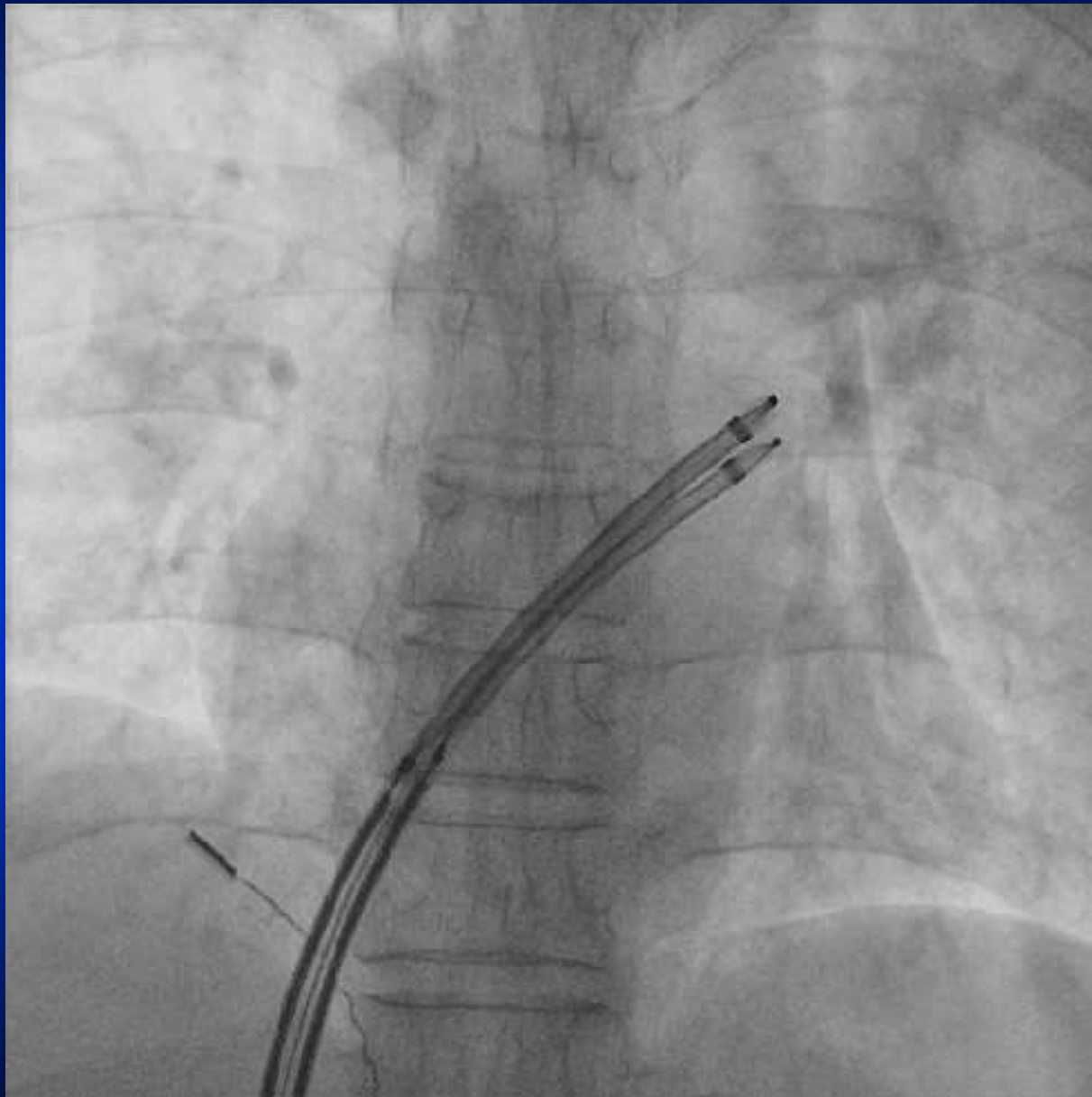


65 y/o woman with 3 holes

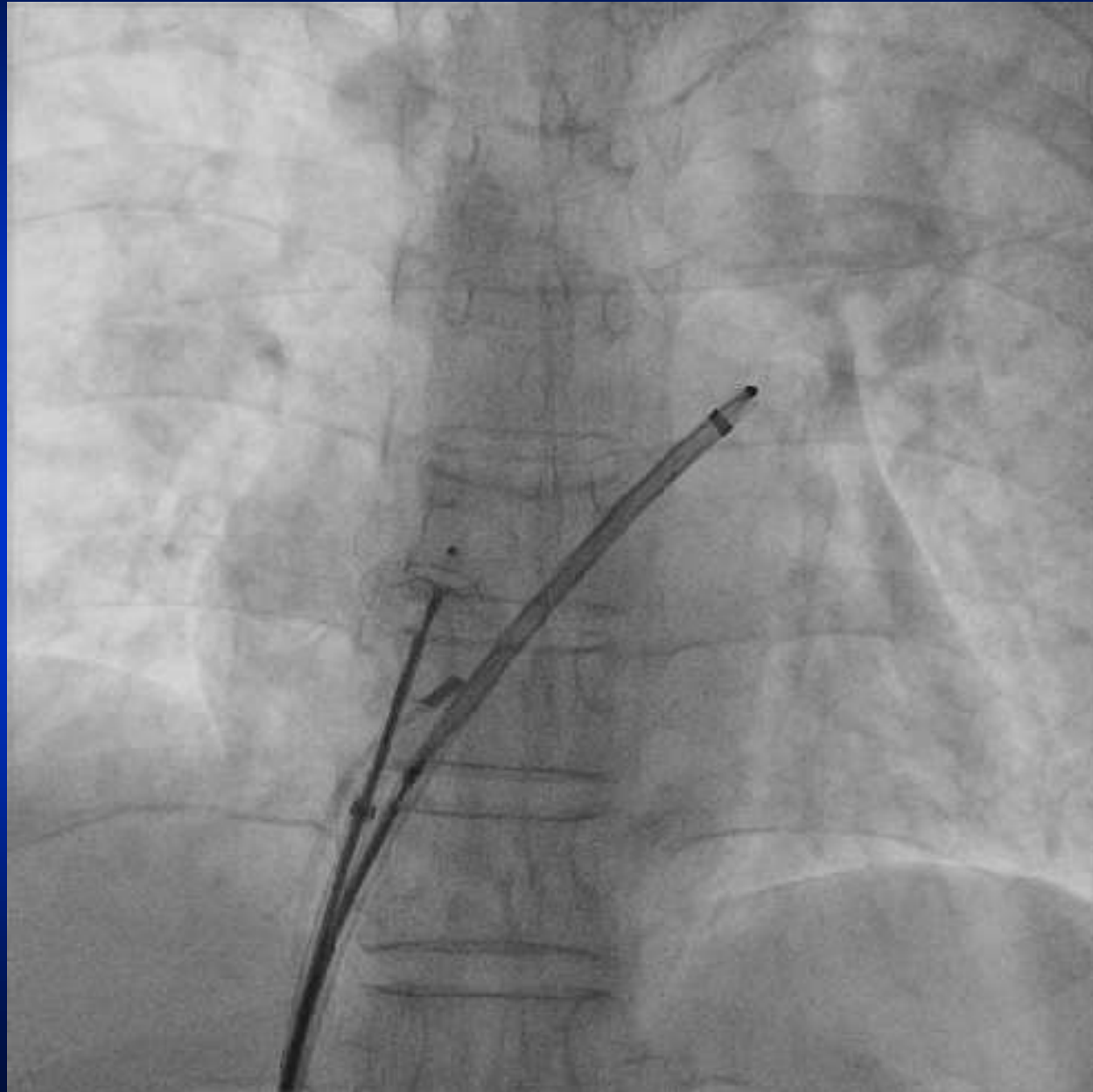




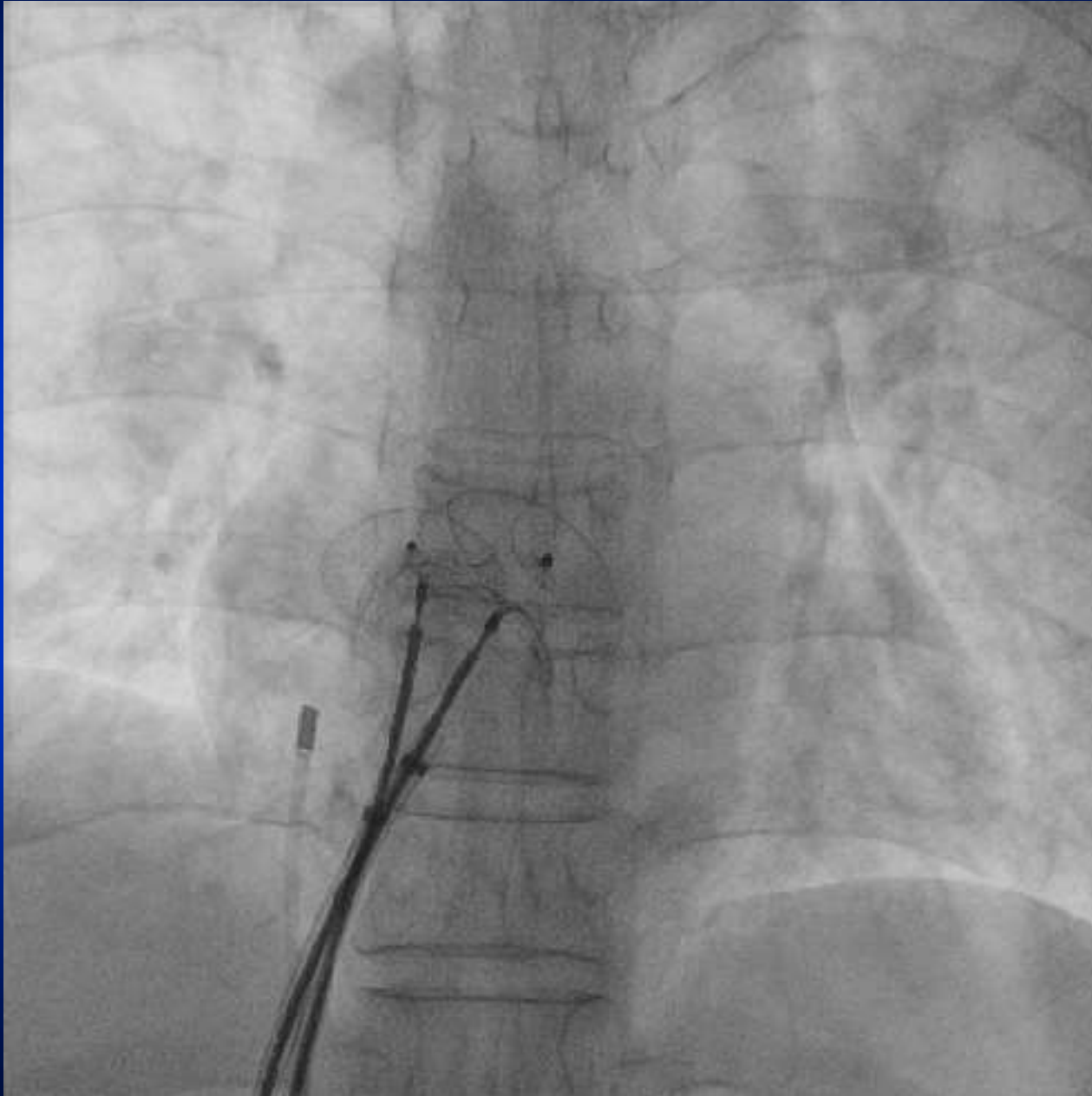
Deployed 1st device (14 mm)



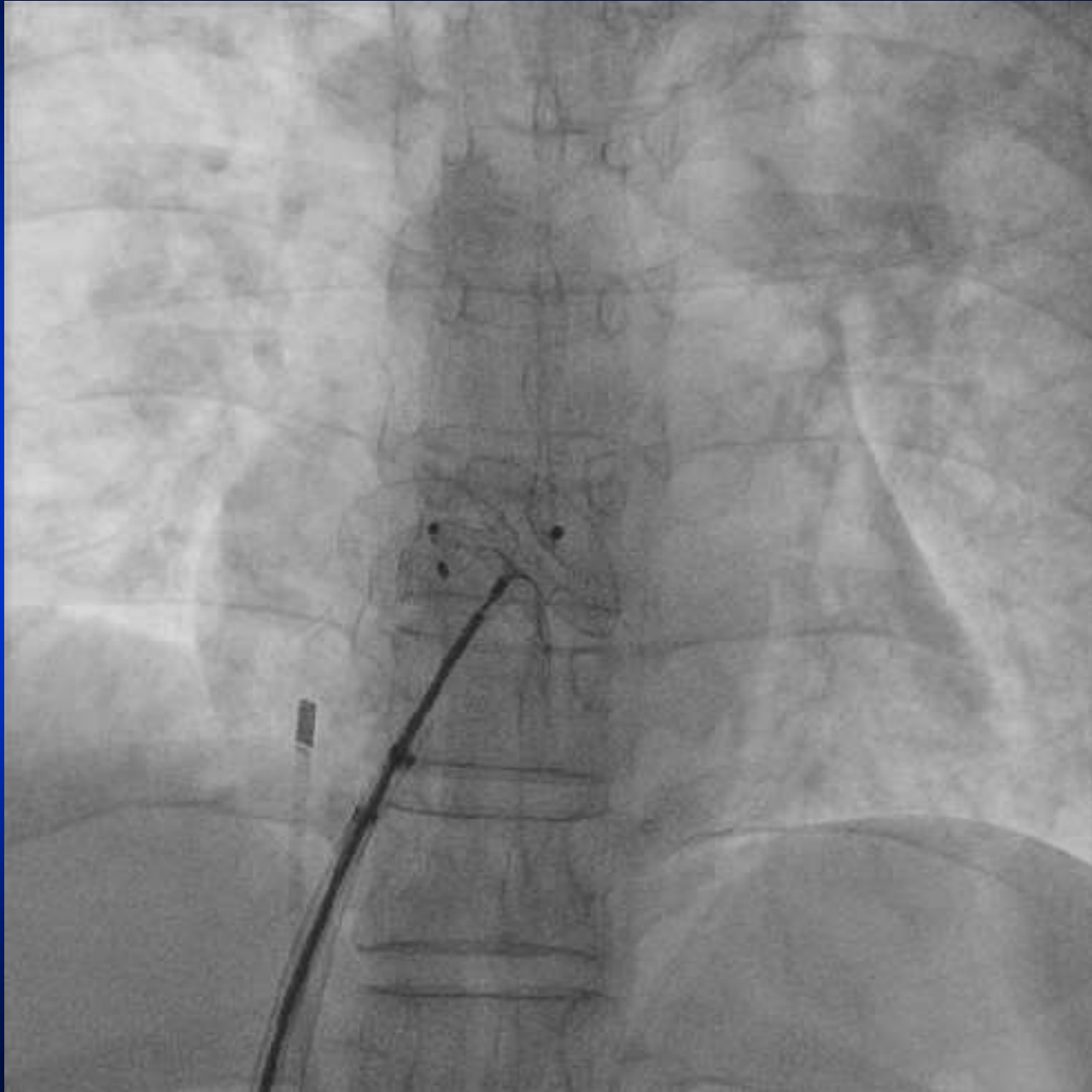
Deployed 2nd device (19 mm)



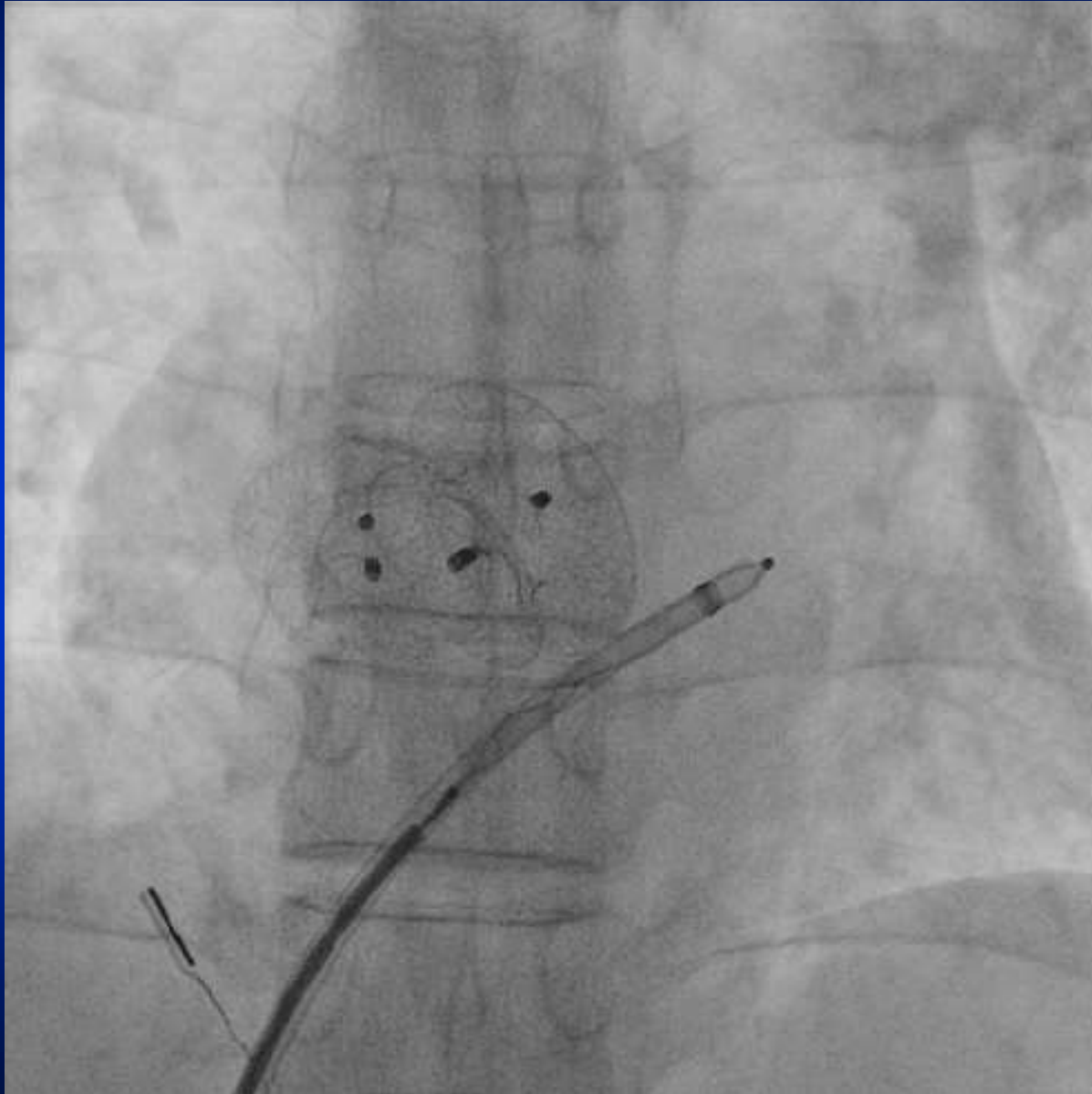
Released 1st device



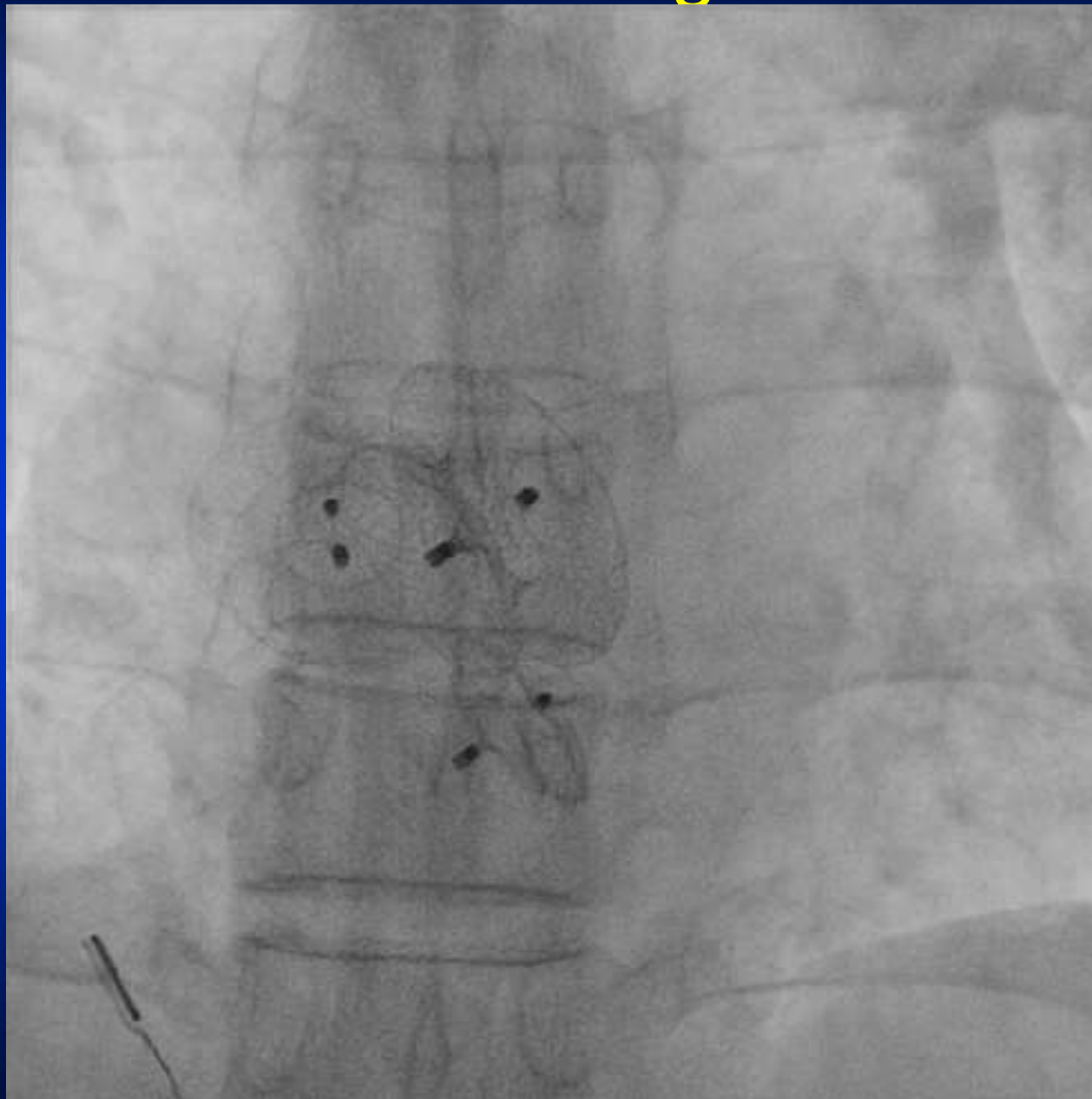
Released 2nd device



Deployed 3rd device (7 mm)

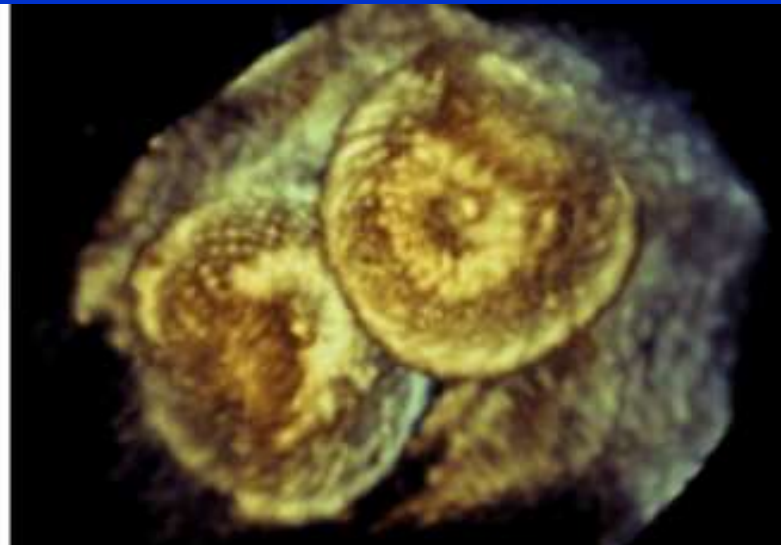
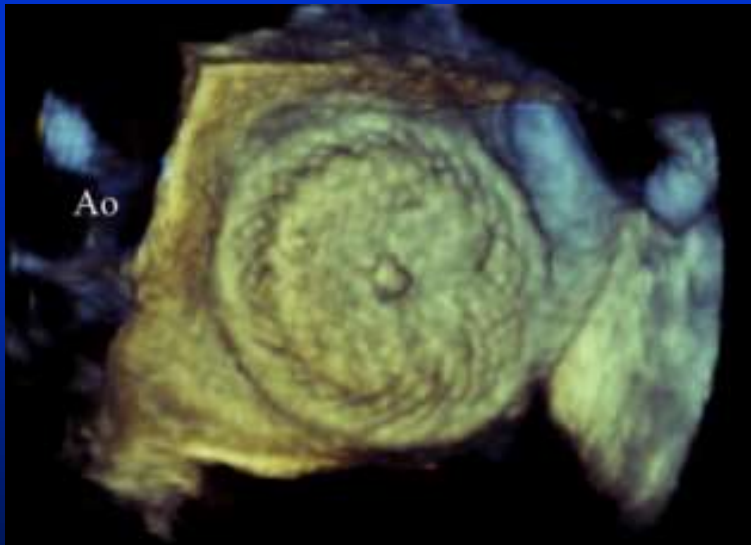


Final cine showing 3 devices



Conclusion

- With meticulous evaluation and plan, most multiple ASDs can be closed safely and effectively using one or multiple devices.





Thank You

감사합니다

Kamsahamnida

