

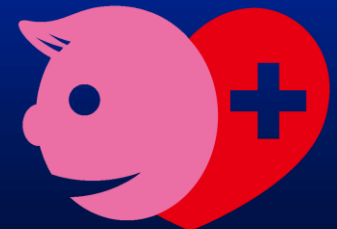
# Transcatheter closure of supracristal VSD with the Amplatzer duct occluder

傅雲慶

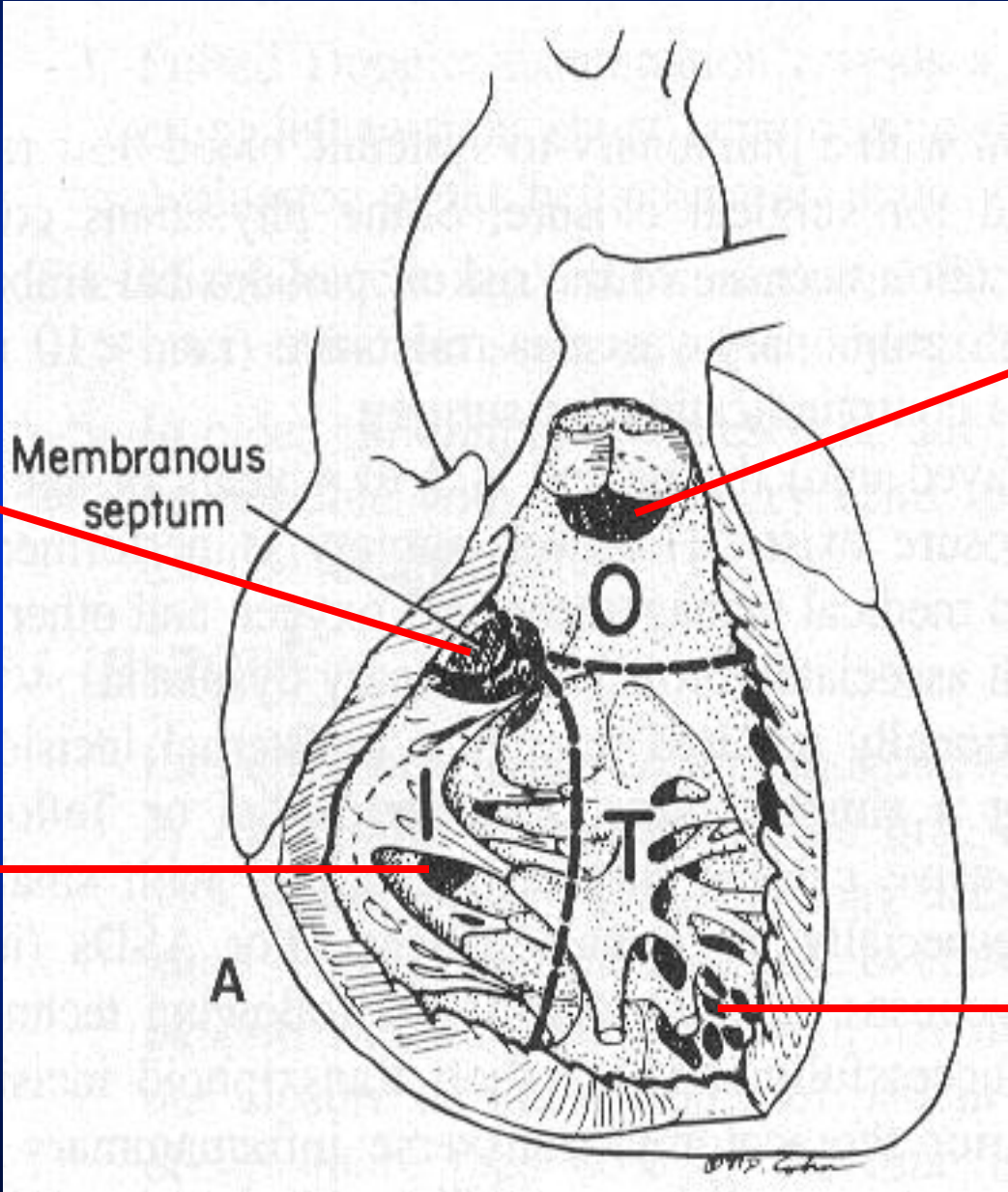
Yun-Ching Fu

台中榮民總醫院

Taichung Veterans General  
Taiwan



# Kirklin classification of VSD



II (70%)

Membranous septum

I (6-30%)

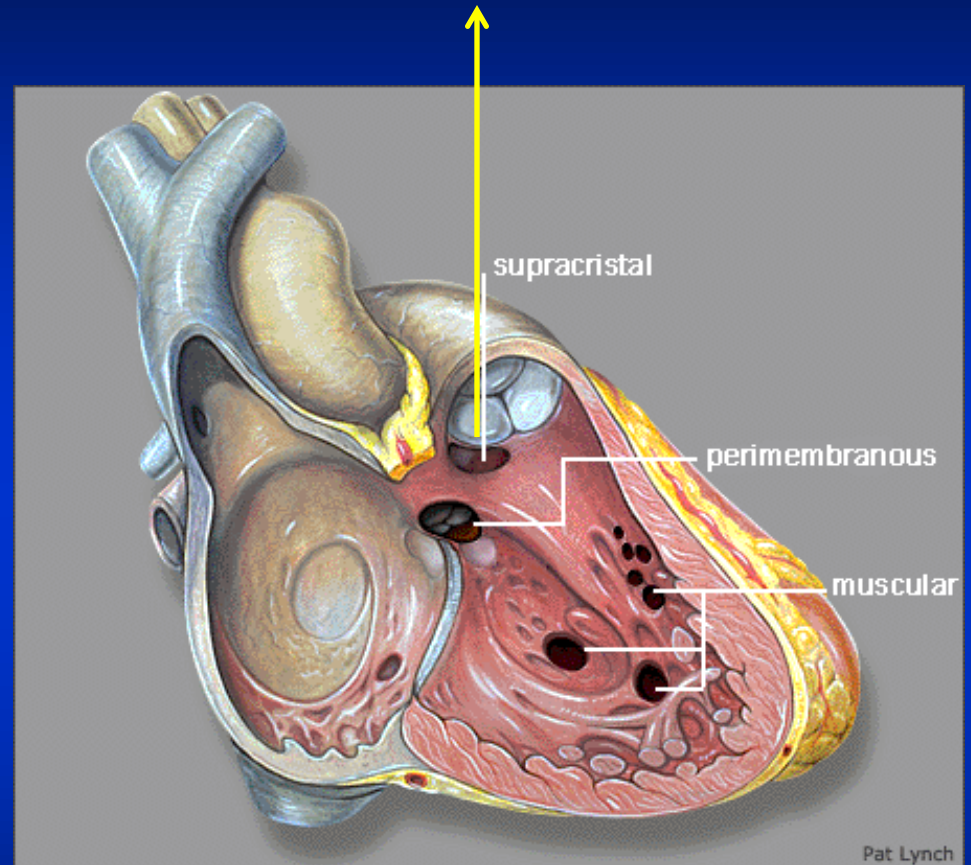
III (5-8%)

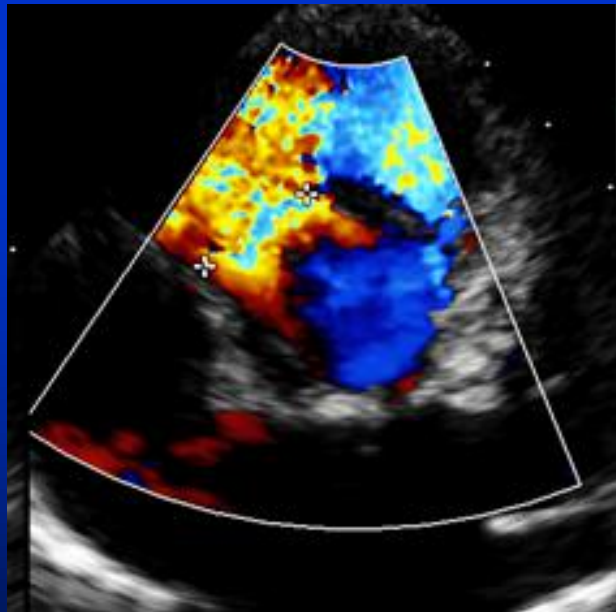
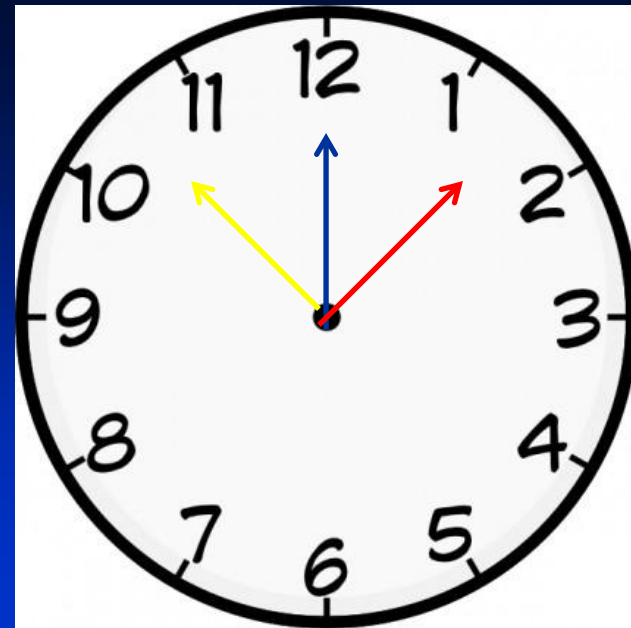
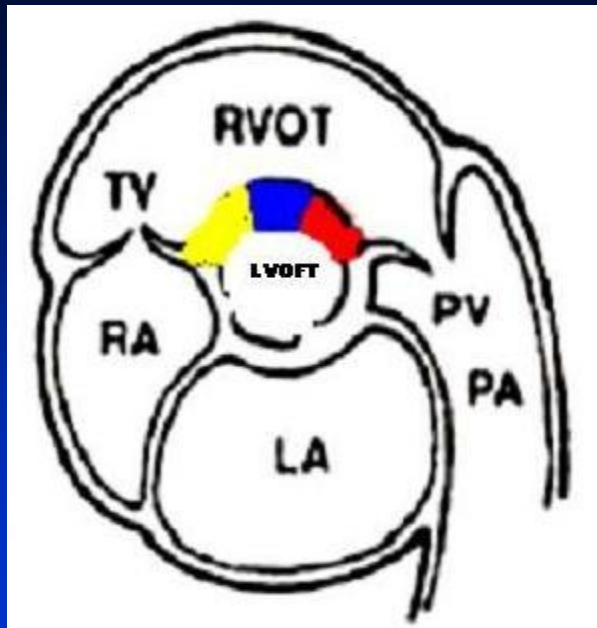
A

IV (5-20%)

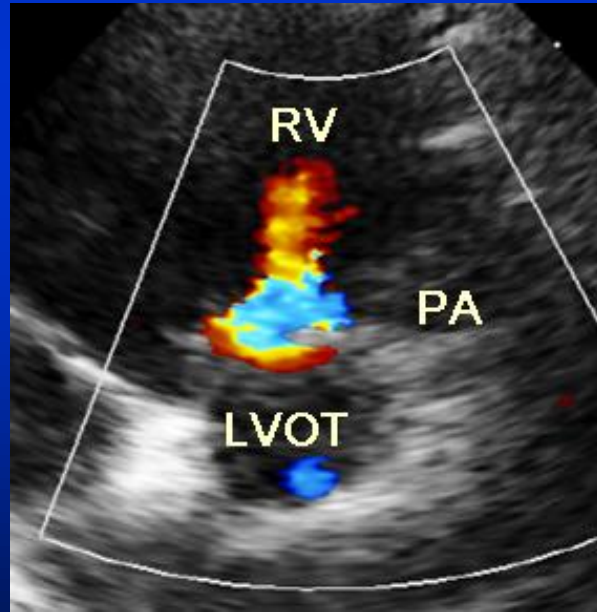
# Synonym of type I VSD

- Supracristal
- Conal
- Subpulmonary
- Subarterial
- Doubly committed
- Oriental
- High
- Intracristal?

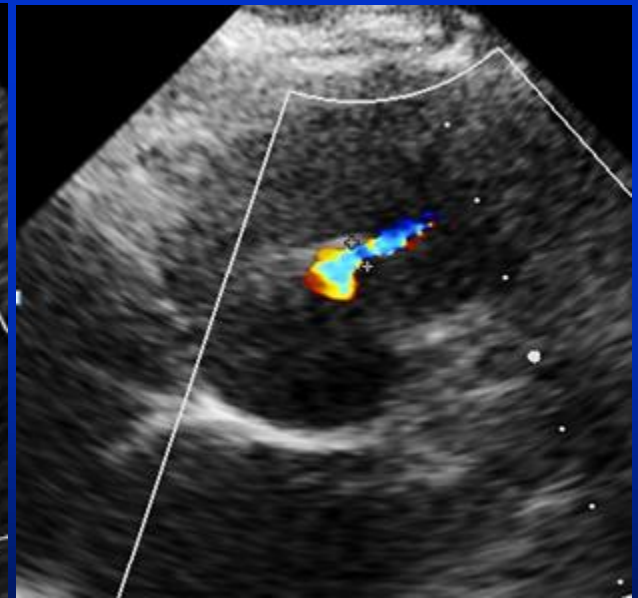




perimembranous

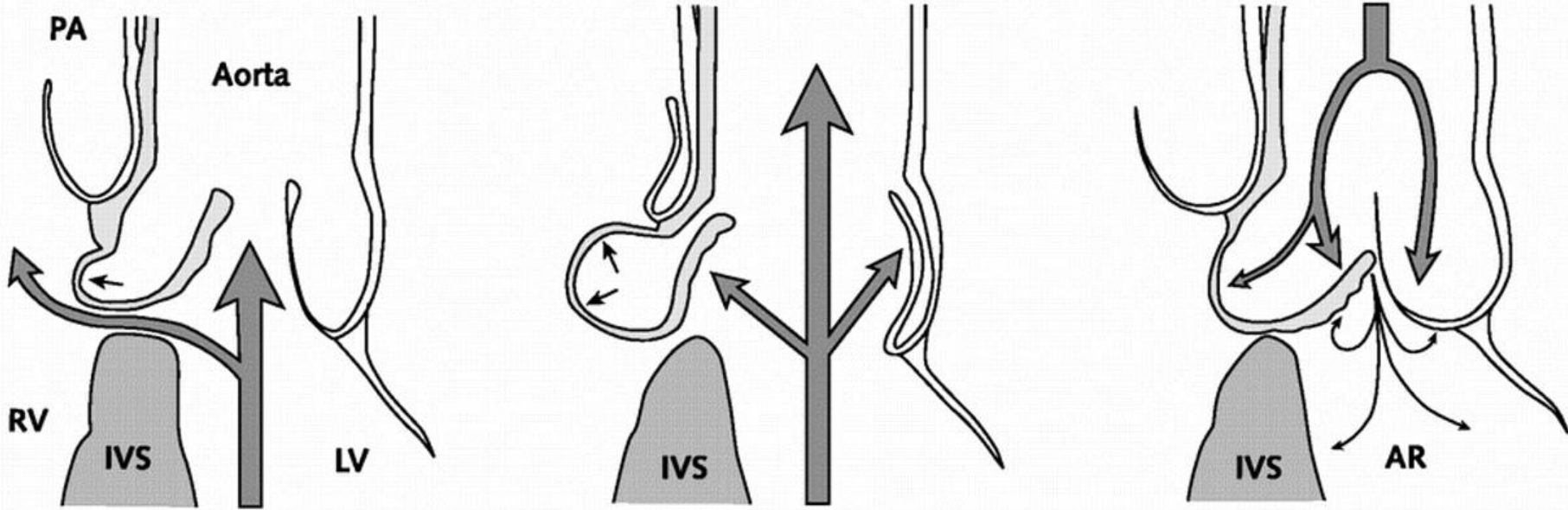


intracristal



supracristal

# Poor AO rim -> RCC prolapse



Valsalva  
aneurysm

AR

# Treatment of type I VSD

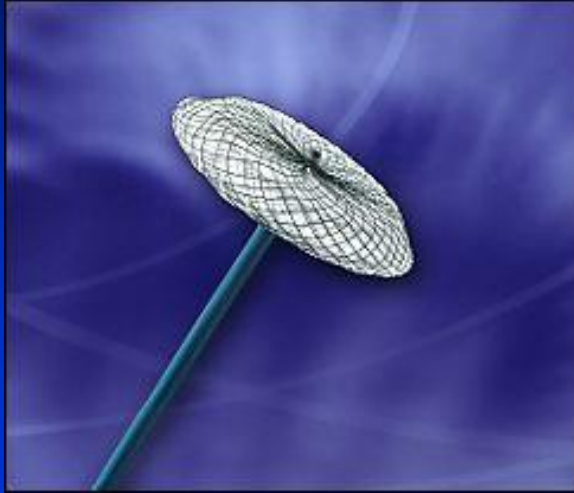
- Surgery is the first choice
- Device closure
  - Impinge aortic valve ->AR?
  - Is it possible?
  - What kind of device?

Theoretically asymmetric device may be a good choice

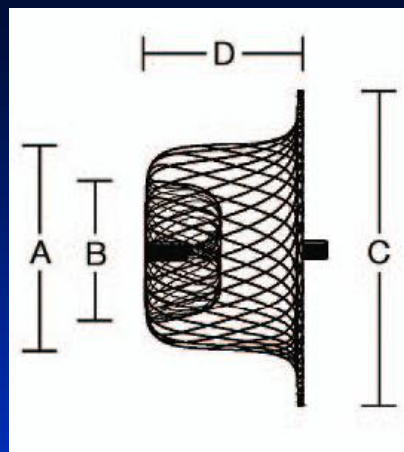


Cera™ Membranous VSD Occluder (Asymmetric)

# Available devices in Taiwan







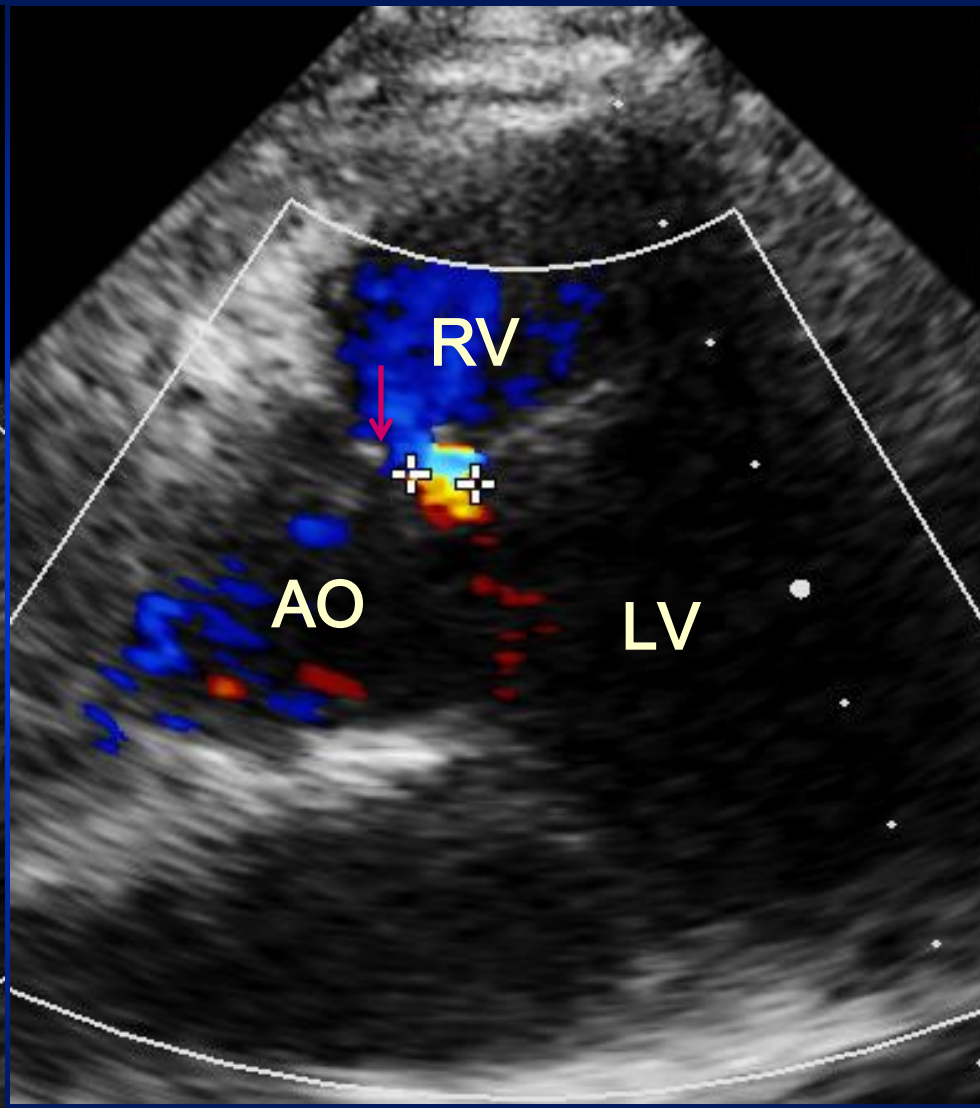
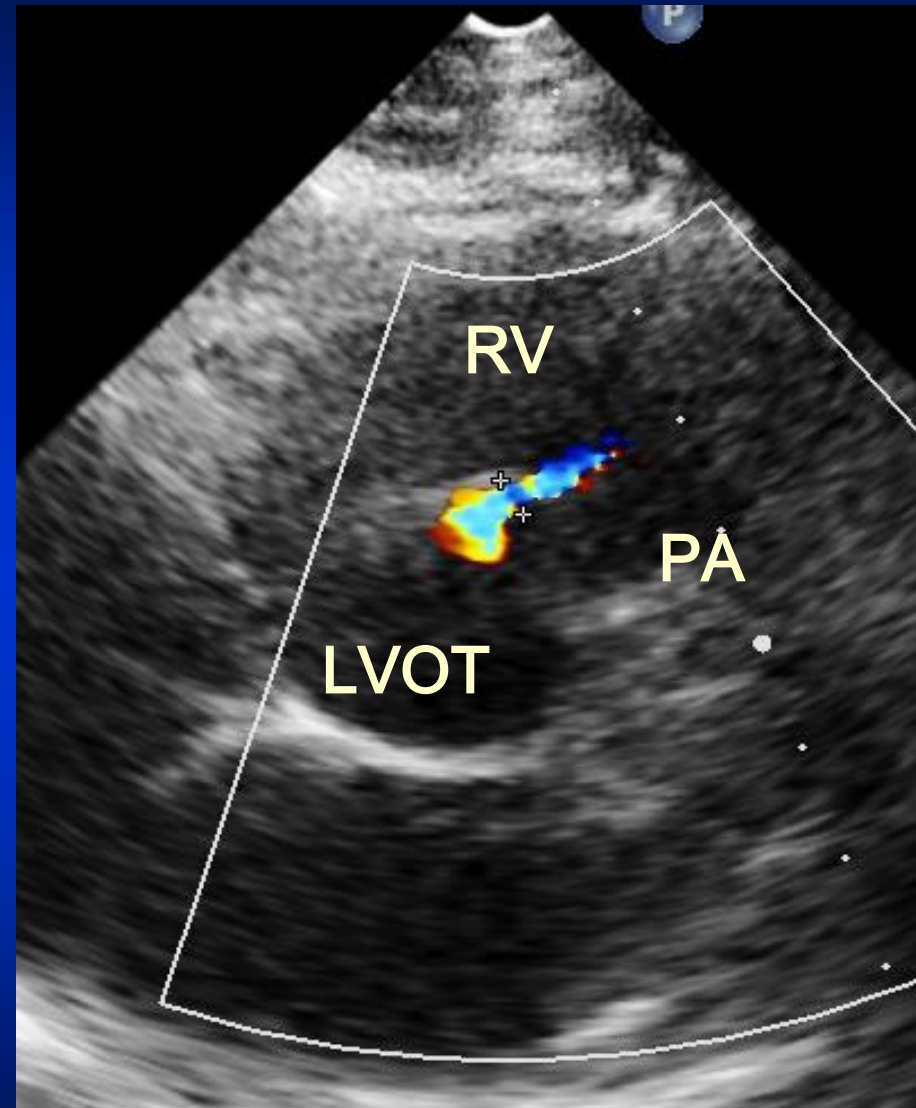
| <b>A<sup>a</sup><br/>Device Diameter<br/>at Descending<br/>Aorta<br/>(mm)</b> | <b>B<sup>a</sup><br/>Device Diameter<br/>at Pulmonary<br/>Artery<br/>(mm)</b> | <b>C<sup>a</sup><br/>Retention Skirt<br/>(mm)</b> | <b>D<sup>a</sup><br/>Length<br/>(mm)</b> |
|---|---|---|--|
| 5   | 4   | 9   | 5  |
| 6   | 4   | 10  | 7  |
| 8   | 6   | 12  | 7  |
| 10  | 8   | 16  | 8  |
| 12  | 10  | 18  | 8  |

# Patients

- From July 2012 to July 2014
- 9 pts with symptoms or hemodynamic significance refused surgical treatment
- 5 male, 4 female
- Median age 34.9 y/o (15.3-63.1)
- 3 supracristal, 6 intracristal
- After Informed consent was obtained, they underwent closure attempt with ADO



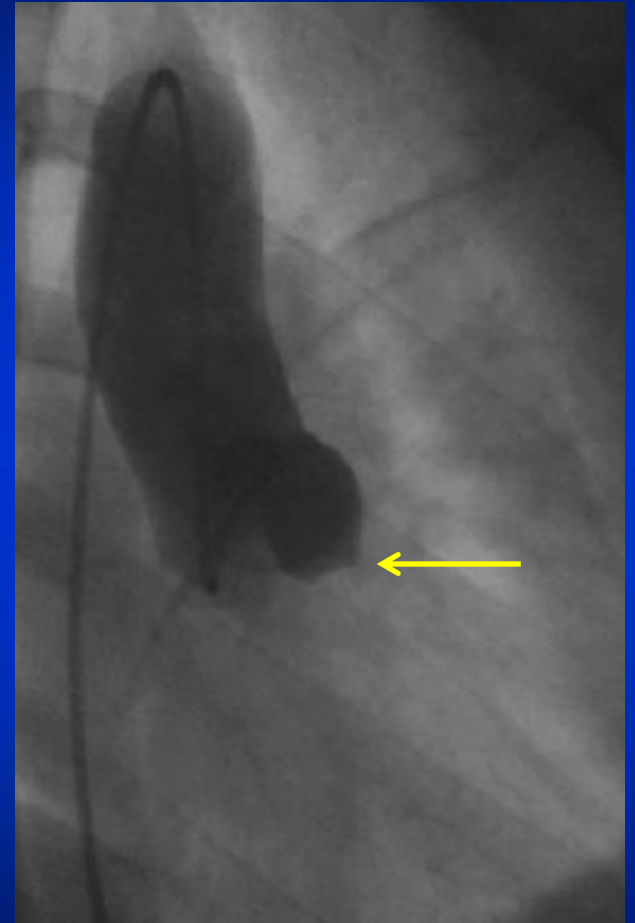
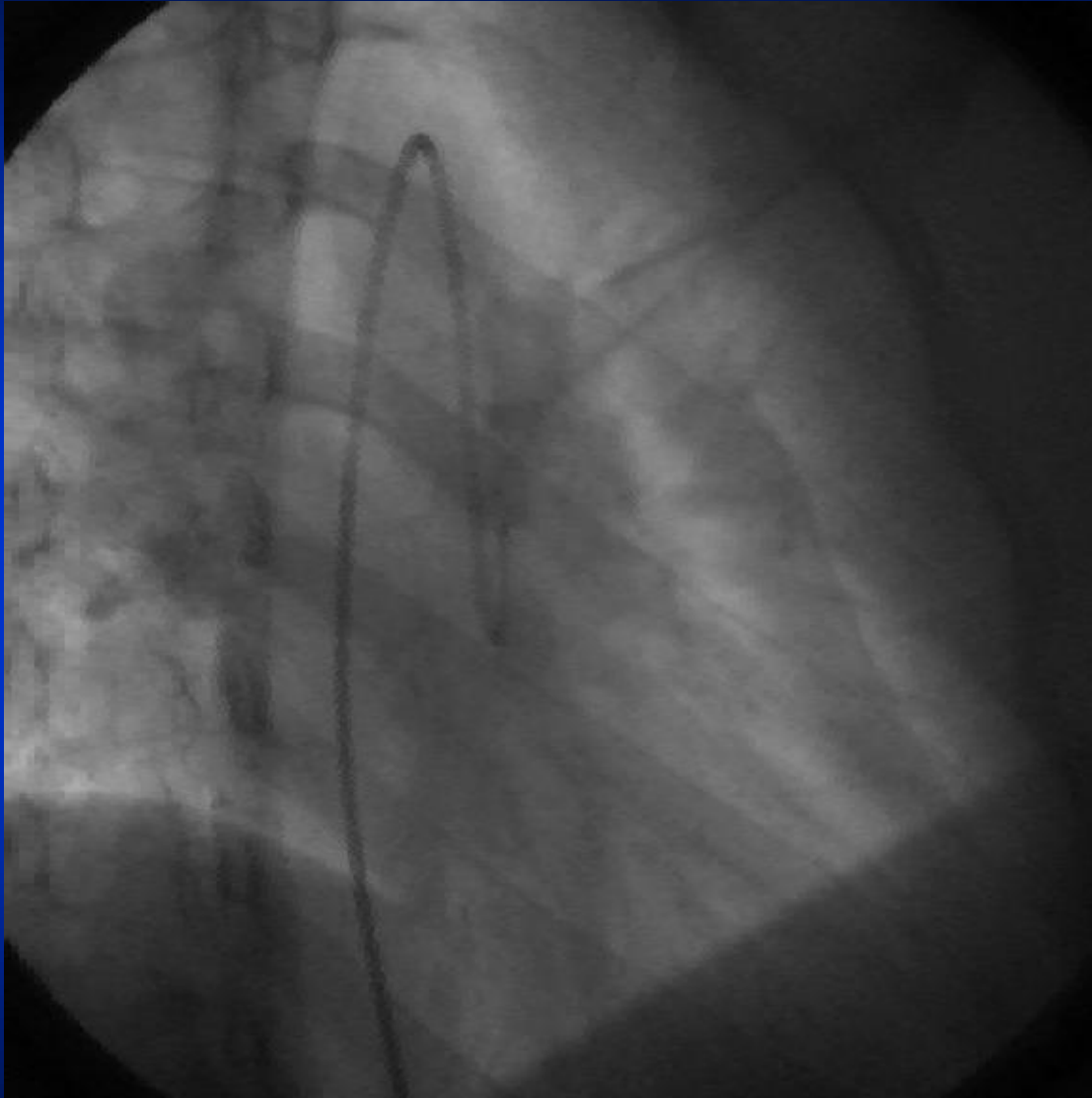
# 23 y/o female, supracristal VSD, RCC prolapse



# Left ventriculogram

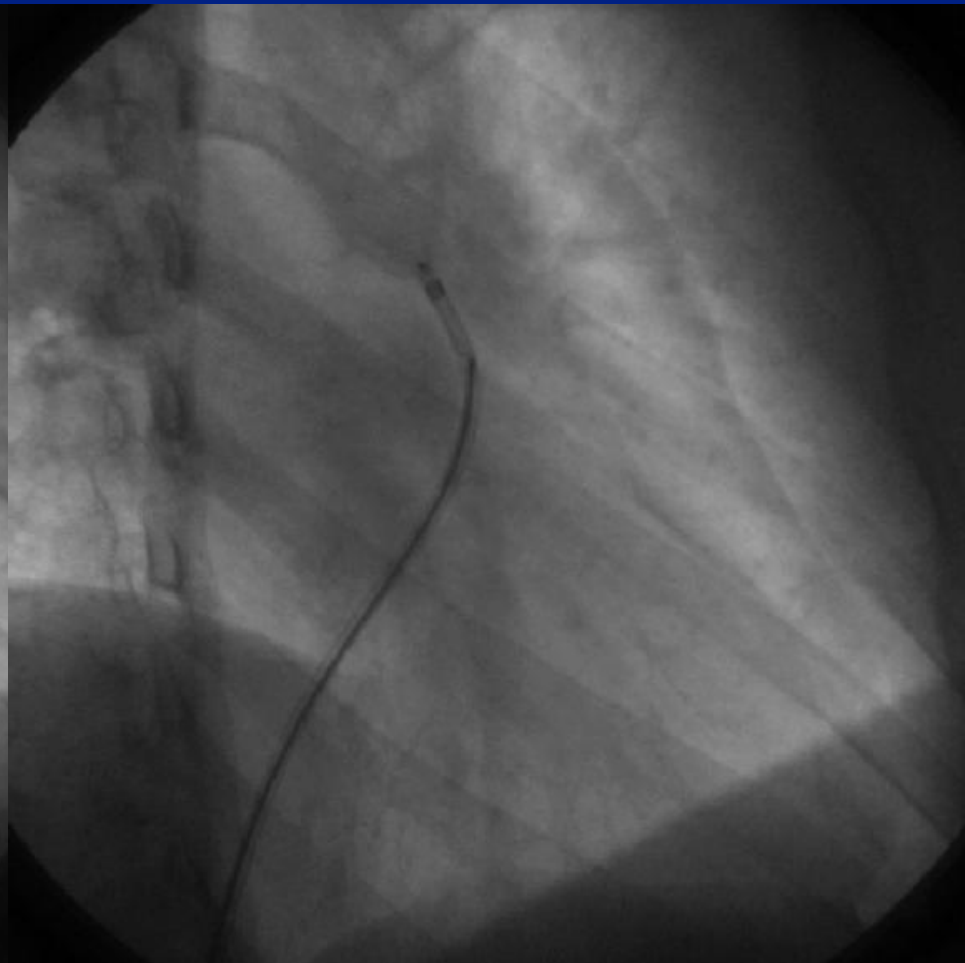
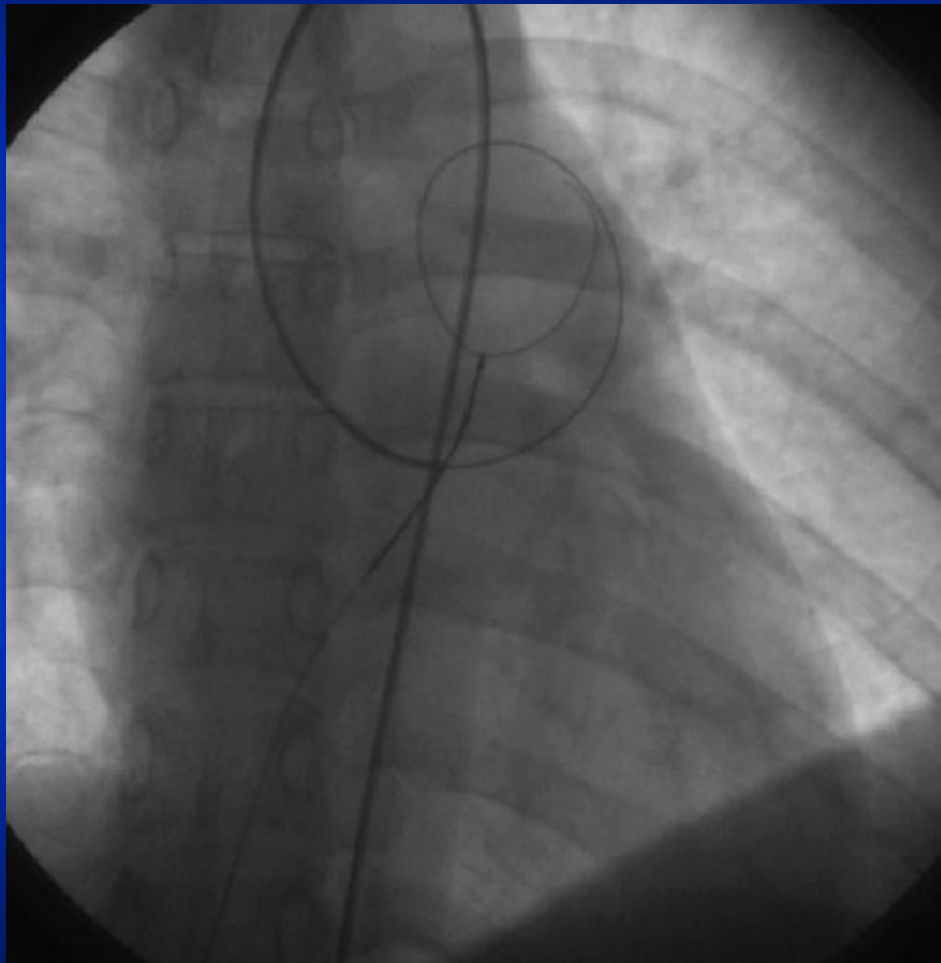


# Aortogram showed RCC prolapse

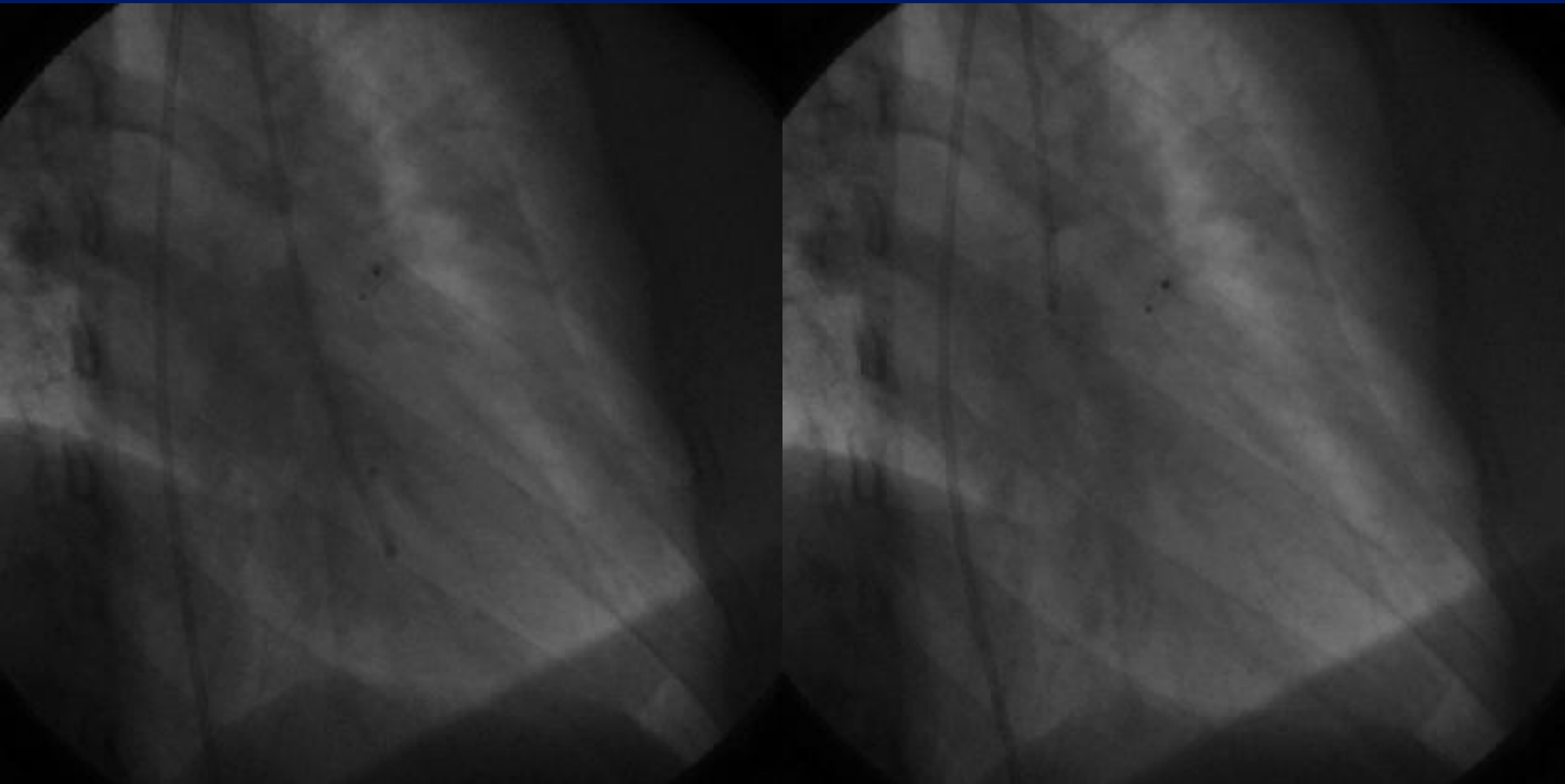




Amplatzer duct occluder (6/4 mm)



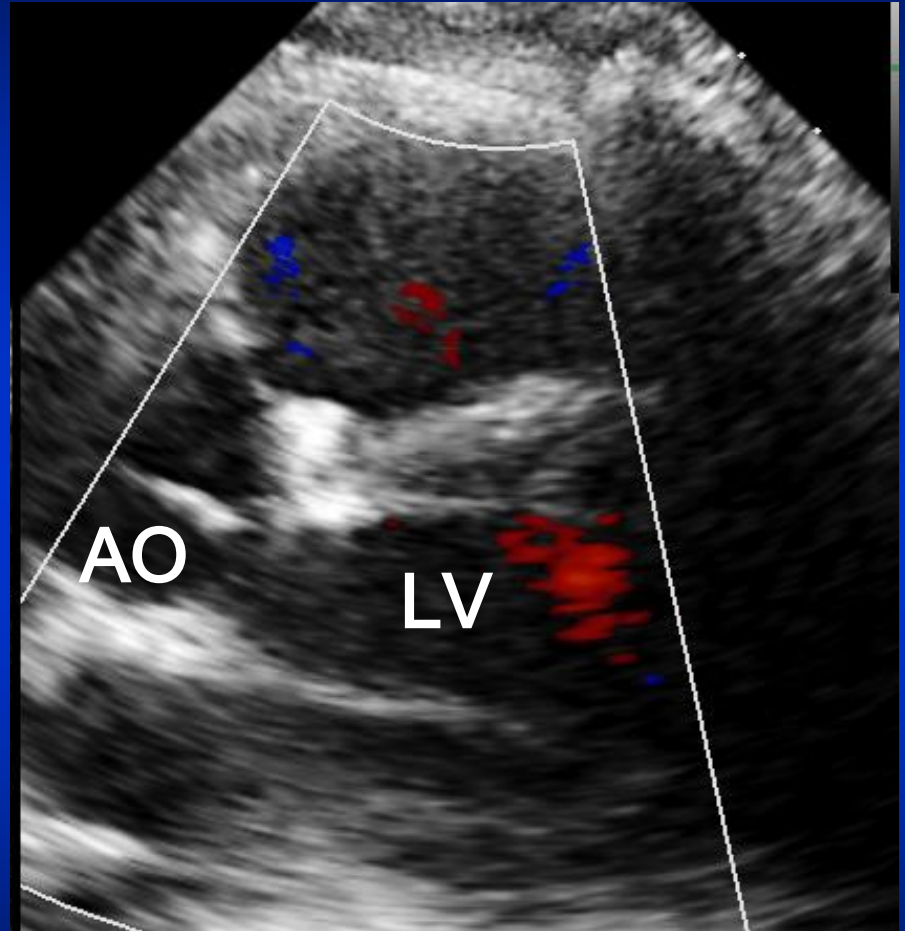
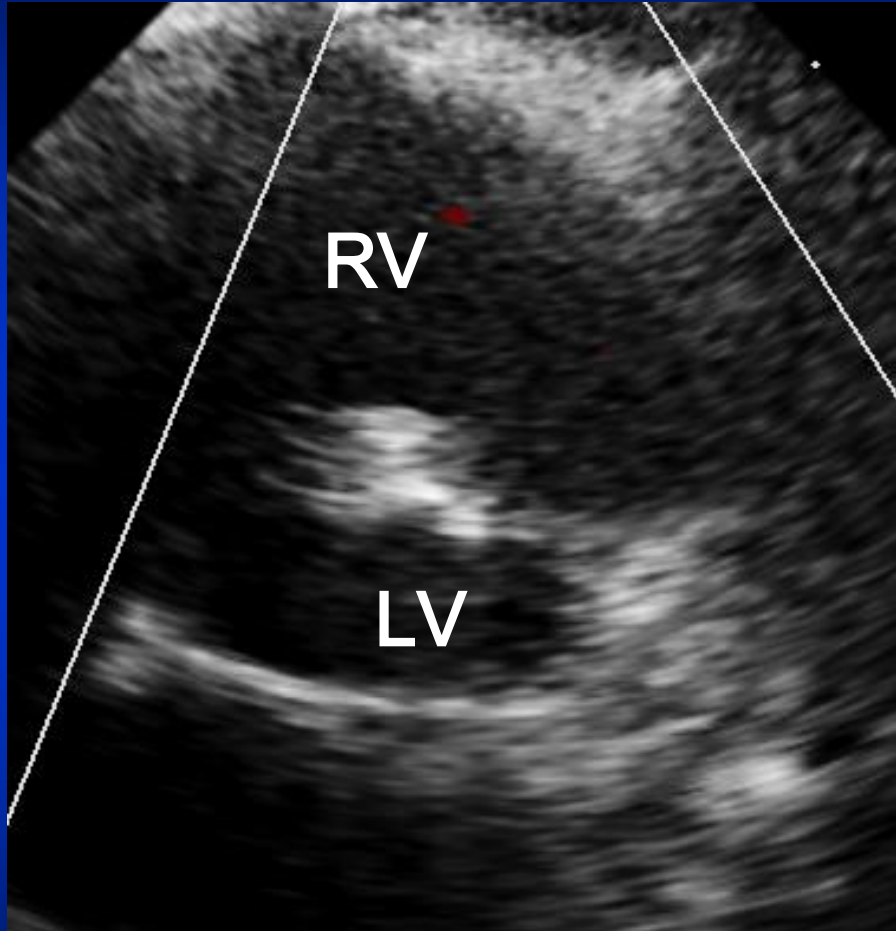
# Amplazter duct occluder



**LVG**

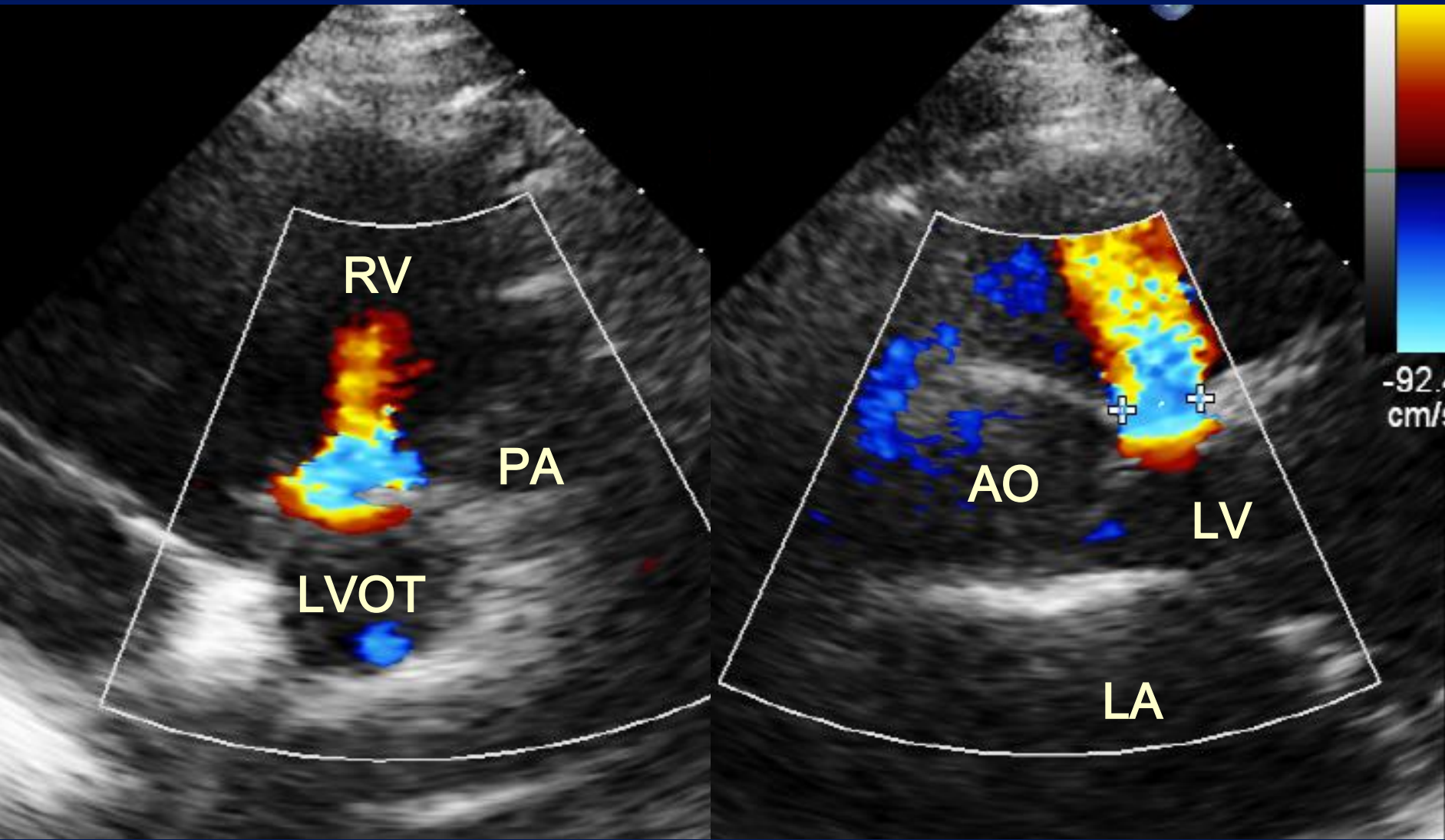
**AOG (No AR)**

No AR at 1, 3, 6, 12 month F/U

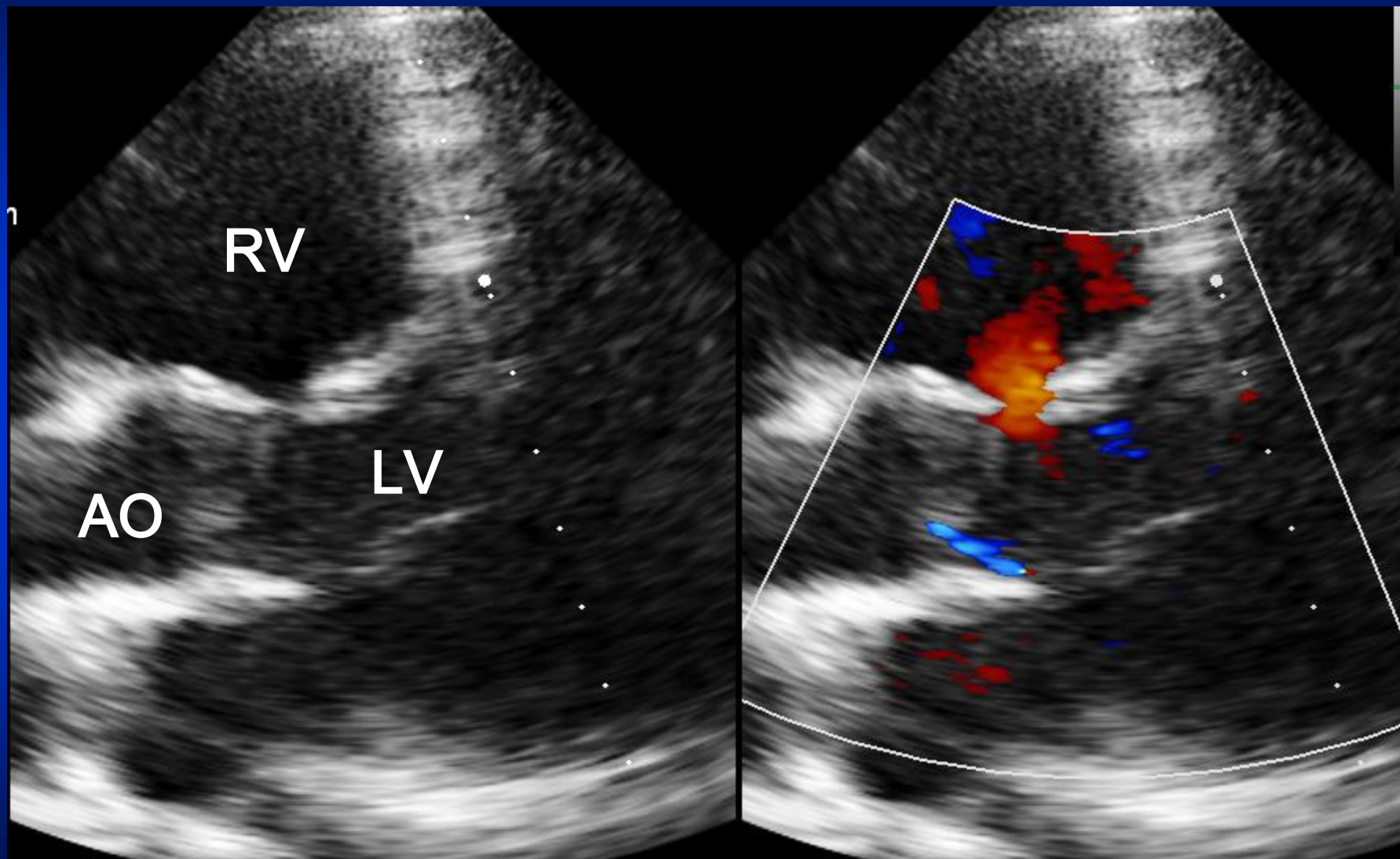




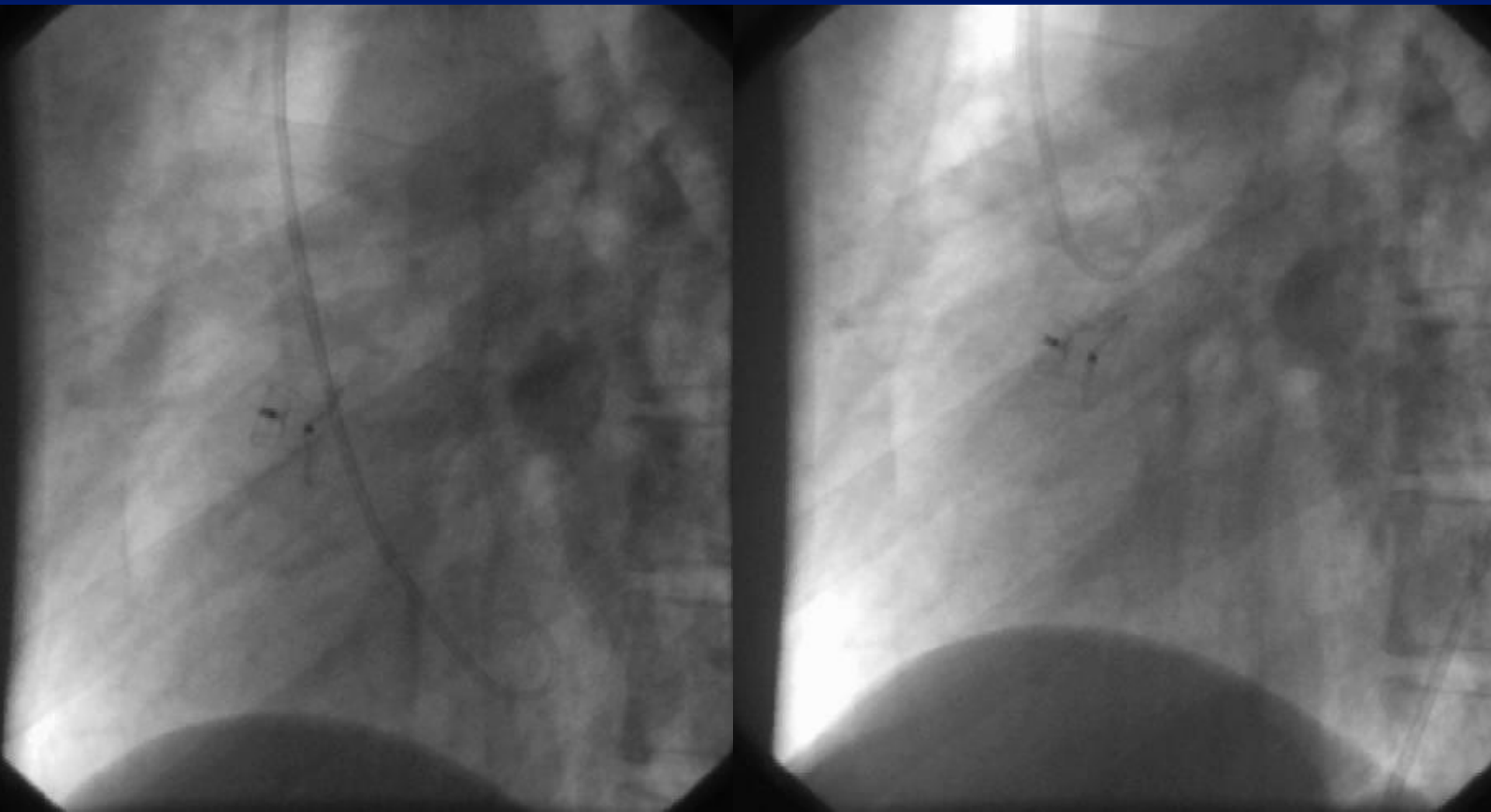
30 y/o female, intracristal VSD, RCC prolapse



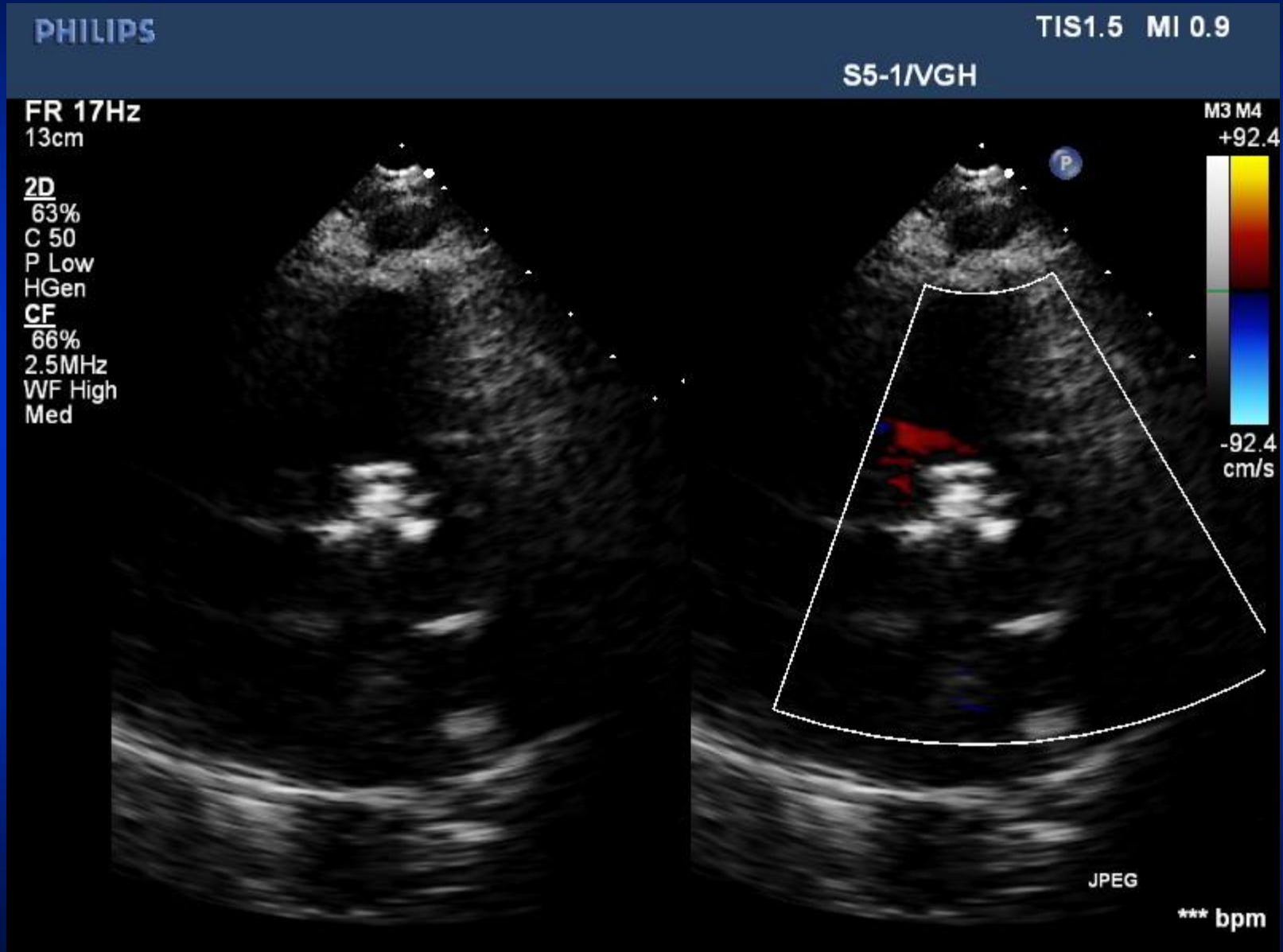
# Mild AR



# 12/10 mm Amplatzer duct occluder



# No change of mild AR at 1, 3, 6, 12 month F/U



# Results

- All devices were successfully implanted to close the VSD
- FU echo
  - Complete closure
    - 8/9 at 1 day
    - 9/9 at 1 month

# AR

| NO | pre | 1D | 1M | 3M | 6M | 12M |
|----|-----|----|----|----|----|-----|
| 1  | 0   | 0  | 0  | 0  | 0  | 0   |
| 2  | 0   | 0  | 0  | 0  | 0  | 0   |
| 3  | 0   | 0  | 0  | 0  | 0  | 0   |
| 4  | 1   | 1  | 1  | 1  | 1  | 1   |
| 5  | 1   | 1  | 1  | 1  | 1  | 1   |
| 6  | 1   | 1  | 1  | 1  | 1  | 1   |
| 7  | 1   | 1  | 1  | 1  | 1  |     |
| 8  | 1   | 1  | 1  | 1  |    |     |
| 9  | 0   | 0  | 0  | 1  | 1  | 1   |

# Conclusion

- Transcatheter closure of type I VSD with the Amplatzer duct occluder is technically feasible and safe in patients larger than 15 years old

God bless  
all of you



