

TAVR in a Very Large Aortic Valve Annulus

Victor Guetta, MD

Sheba Medical Center, Israel

Disclosure Statement of Financial Interest

I, Victor Guetta, DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

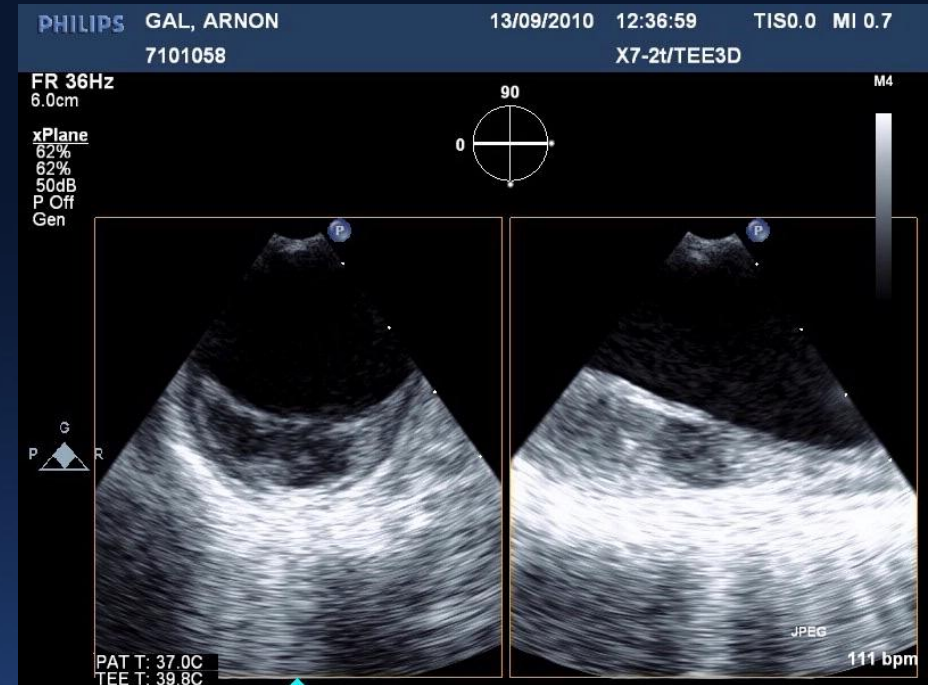
Case Presentation

- 63y old male
- S/P CABG (1993) - LIMA to OM, FRIMA to LAD
- S/P type A aortic dissection repair (1999) –
 - Replacement of ascending aorta
 - Chronic dissection of arch & descending aorta
- Presented with intractable heart failure
 - Echo: Severe AR, LVEF 30%

Therapeutic Options

- Heart team decision:
EUROSCORE – 49.9%!!
Surgical AVR – No option
- TAVI – Trans-femoral Edwards/CoreValve
- TAVI – Trans-apical Edwards
- TAVI – CoreValve via lt. axillary

Echo



No stenosis or calcification
Annulus = 28-29 mm

Dissection

Therapeutic Options

- TAVI – using Edwards valve system

- Annulus size 19-27mm
- Fixation on the calcific stenotic valve

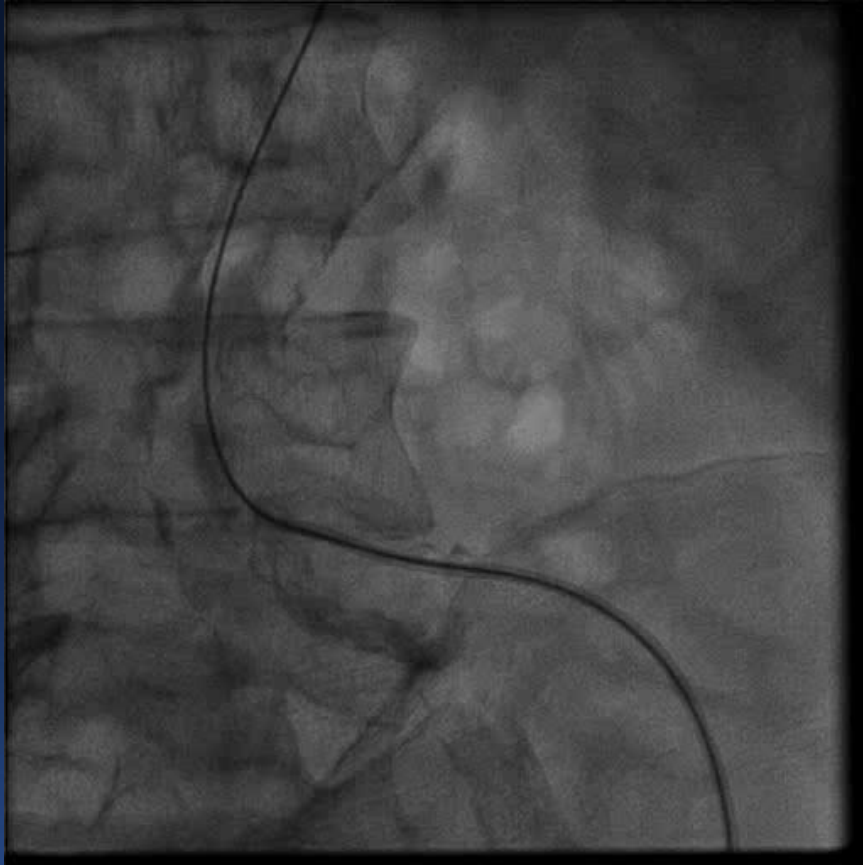
TAVI – using Edwards system – no option

- TAVI – using CoreValve system

- Annulus size 20-29mm
- Not dependent on calcification of the valve
- Fixation on ascending aorta

<40mm for 26 valve and <43mm for 29 valve

The Access

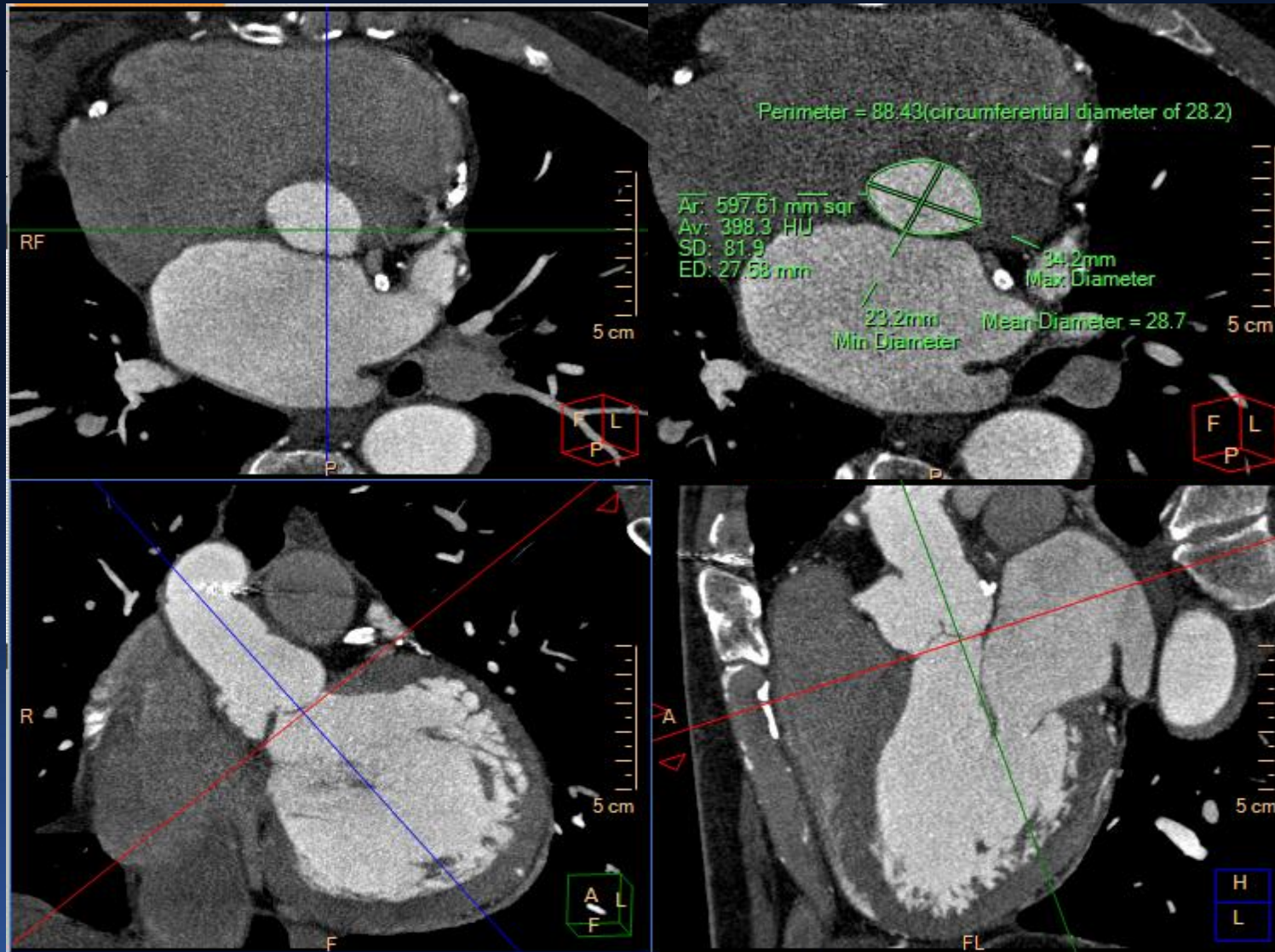


**Angio - Lt. Iliac to
aorta**



**CTA - Rt. Axillary-
subclavia to aorta**

The Annulus size by CTA



Therapeutic Options

TAVI – Trans-femoral (CoreValve)

- No Rt. femoral access
- Lt femoral tortuous and heavily calcified
- Chronic dissection of descending aorta

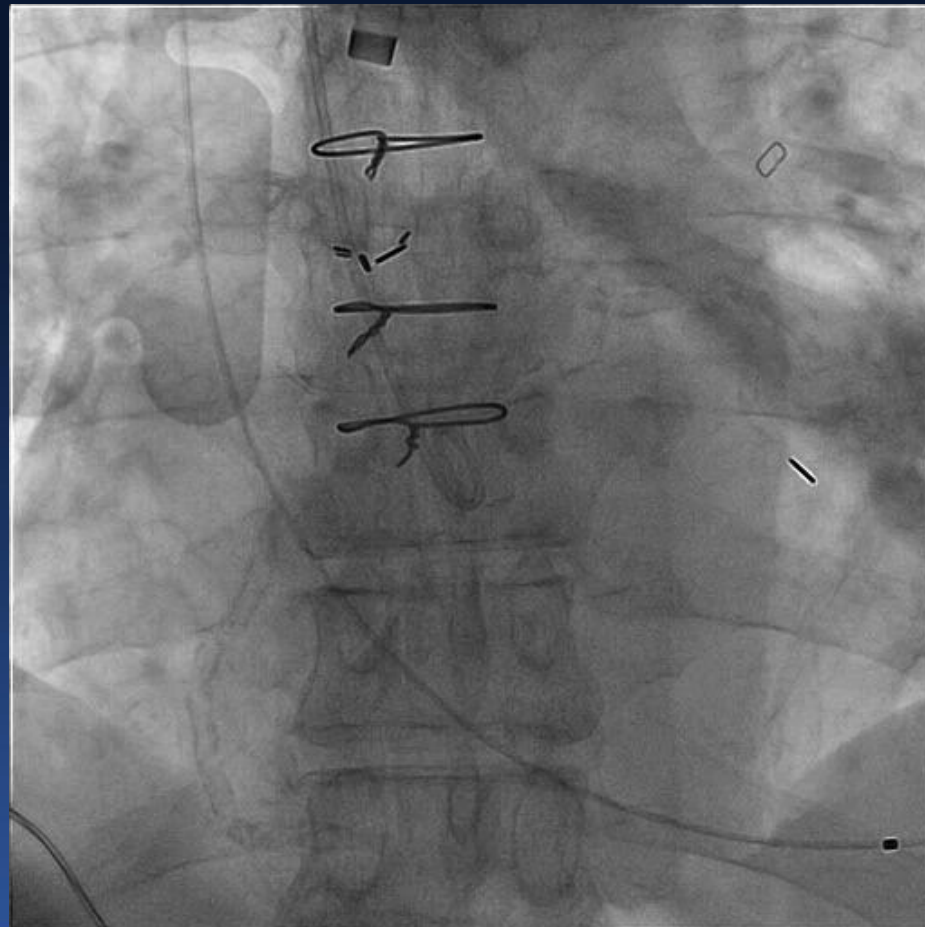
Trans-femoral approach – No option

Lf. Axillary artery > 6mm with no tortuosity or calcification good angulation with the valve

Annulus size: by echo – 28+ by CTA – 28+ (<29)

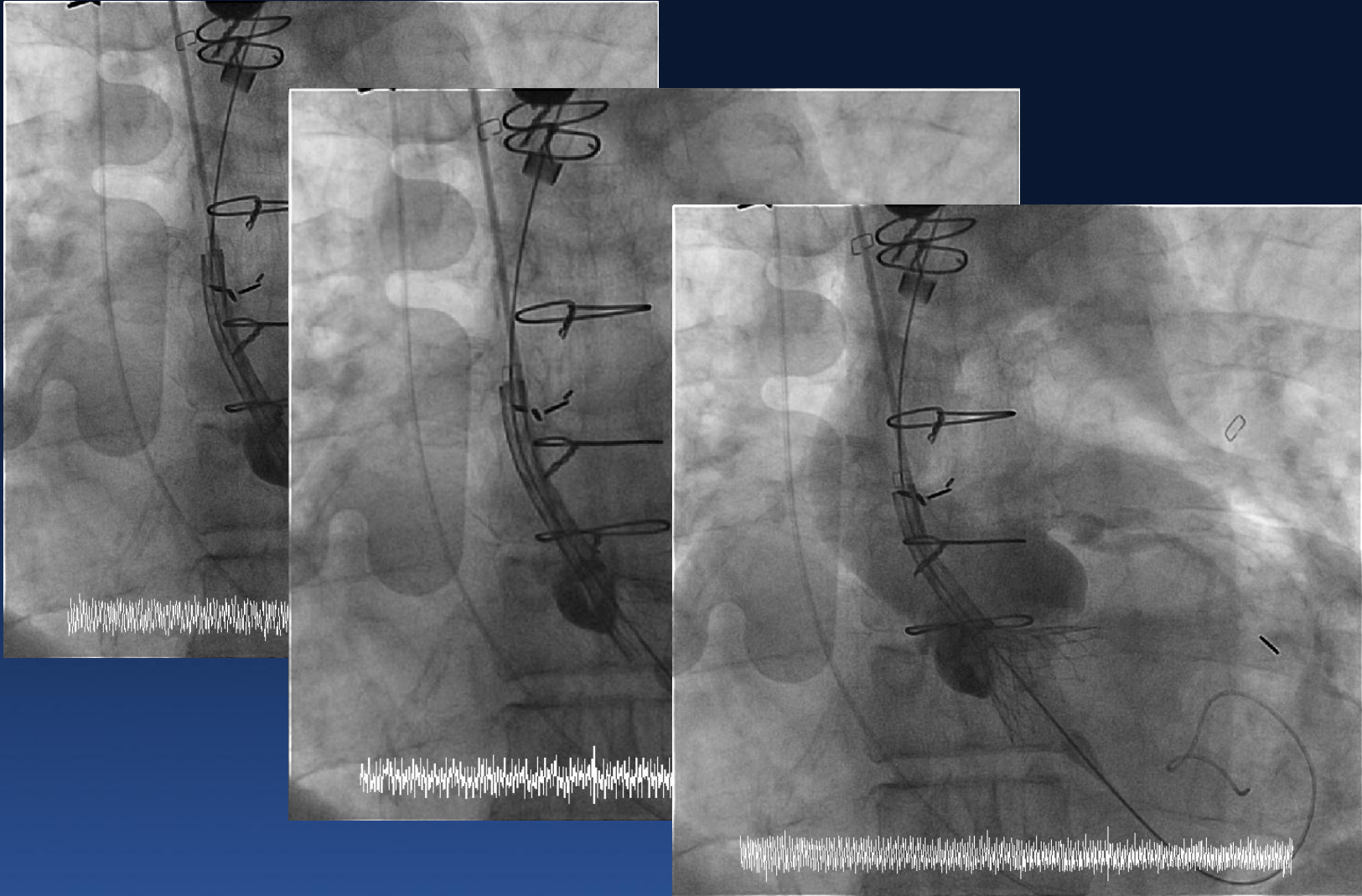
Decision of the Heart Team

TAVI – using CoreValve 29 system (31 valve was not yet available) via Lt. axillary



Pre Procedure

Initial Positioning of Valve

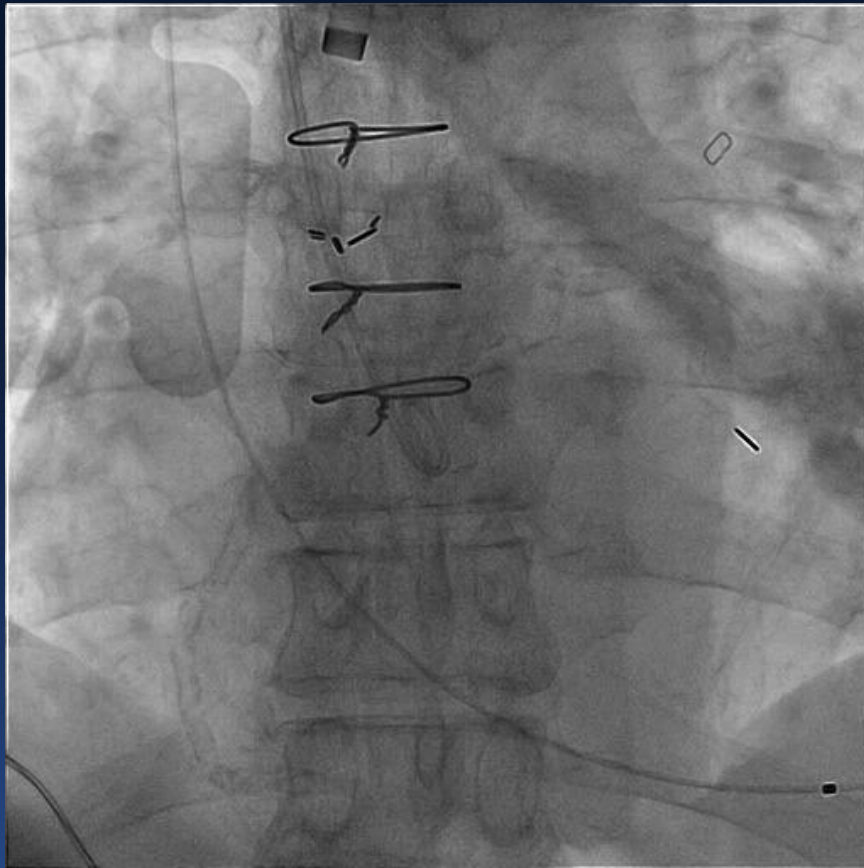


Using rapid pacing

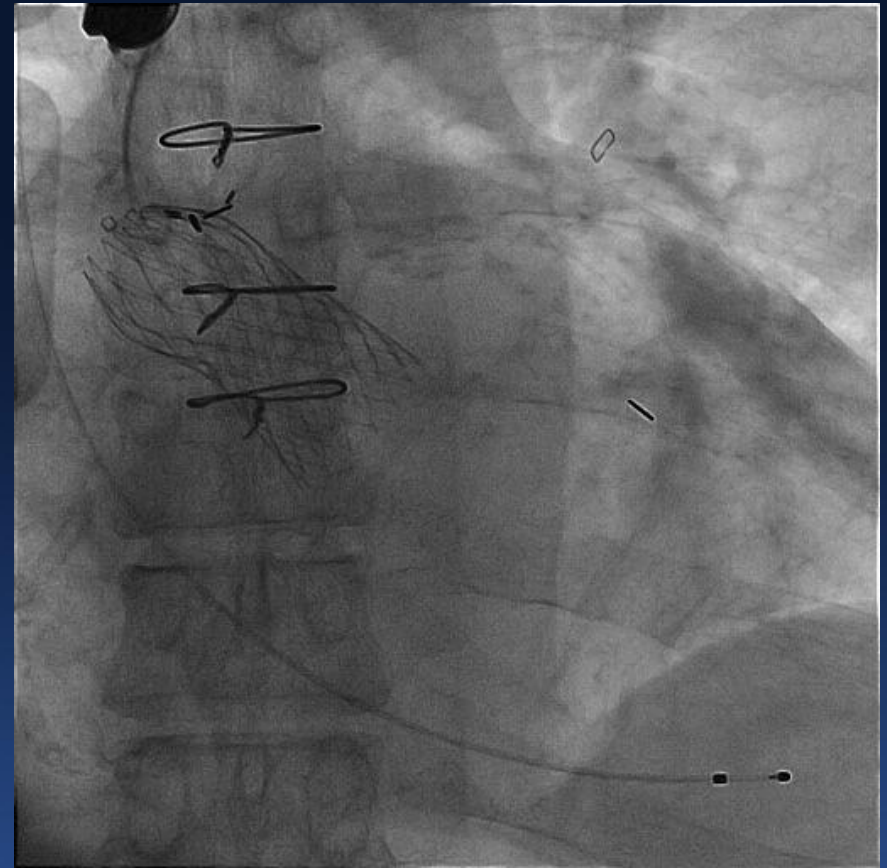
Procedural Points

- **In absence of annular calcifications CoreValve is probably the preferred valve due to fixation of the frame in the ascending aorta if the root is not enlarged (<43 mm)**
- **Apply deep and large curve stiff wire position to improve valve deployment stability**
- **Use rapid pacing during valve implantation – it will add to position stability in a case with large annular size and/or no calcification**

Aortogram Final Result



Pre

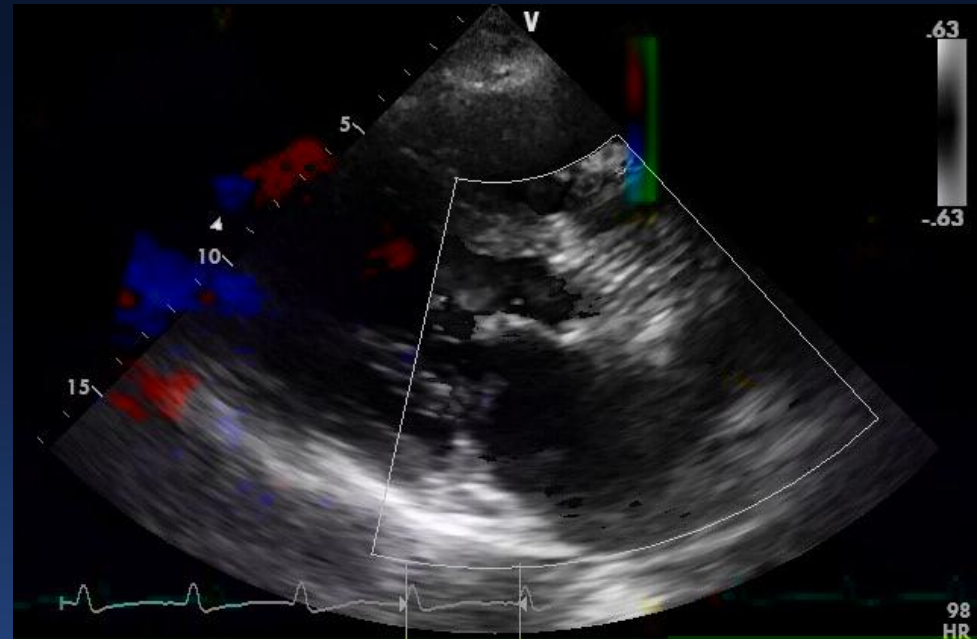


Post

Echo Final Result

Pre

Post



Conclusions

- **Large annulus (with or without aortic Insufficiency) is not a contraindication for TAVI in high risk patients**
- **Large annuli, especially with no calcification, deserve special consideration**
- **New devices which will be less dependent on annular calcification and root size, suitable for large valve (annulus), but still with low delivery profile, are needed**