

How would I Treat?

TAVR in a patient of failing aortic prosthetic valve with AR and paravalvular leak

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Conflicts of interest

- Proctor for Medtronic CoreValve

Summary

- 77 year old female
- Increasing breathlessness for 2 months
- Due to severe bioprosthetic AR (Magna 19)
- Severely impaired LV function (24%)
- Mild renal impairment (Cr 1.39)
- ECG: sinus, 1st AV block, LBBB
- CXR: mild congestion, small R pleural effusion

Valve-in-valve considerations

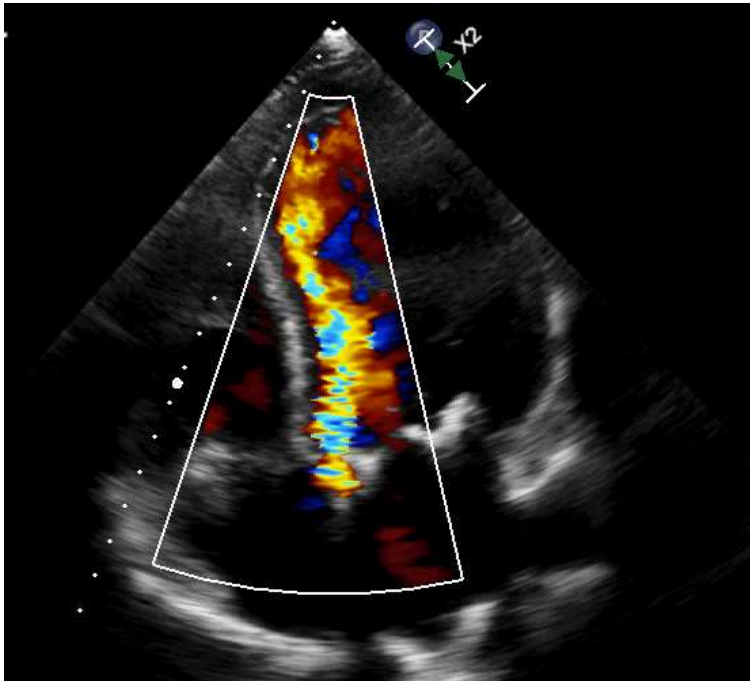
- 1. Size and type of bioprosthesis?
- 2. Predominant stenotic or regurgitant?
- 3. Significant paravalvular leak?
- 4. Which TAVI valve to choose?

Bioprosthetic valve characteristics

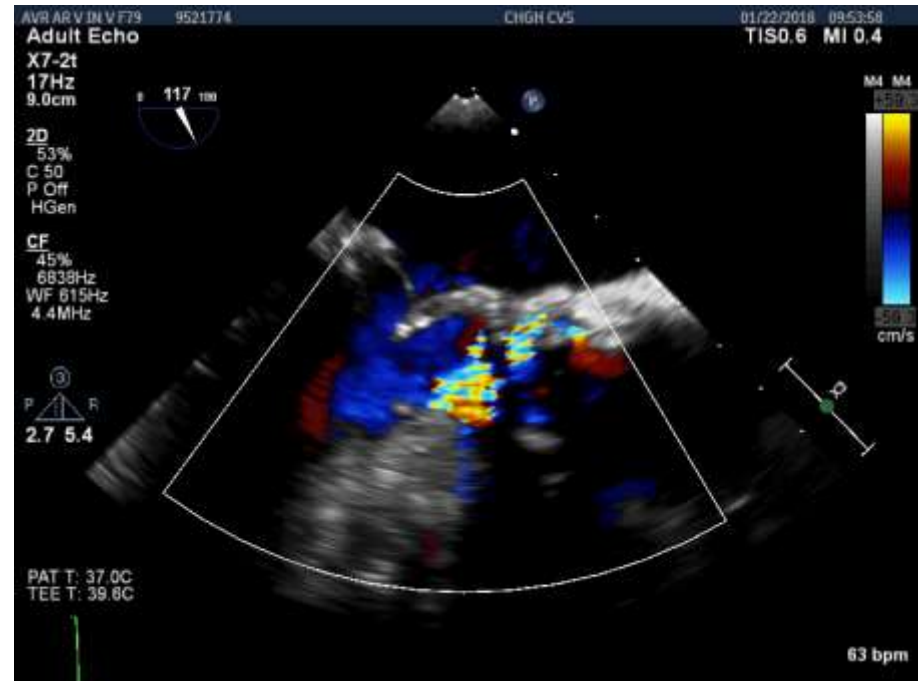
- 19mm Magna valve
- Stent ID = 18mm
- True ID = 17mm



TTE



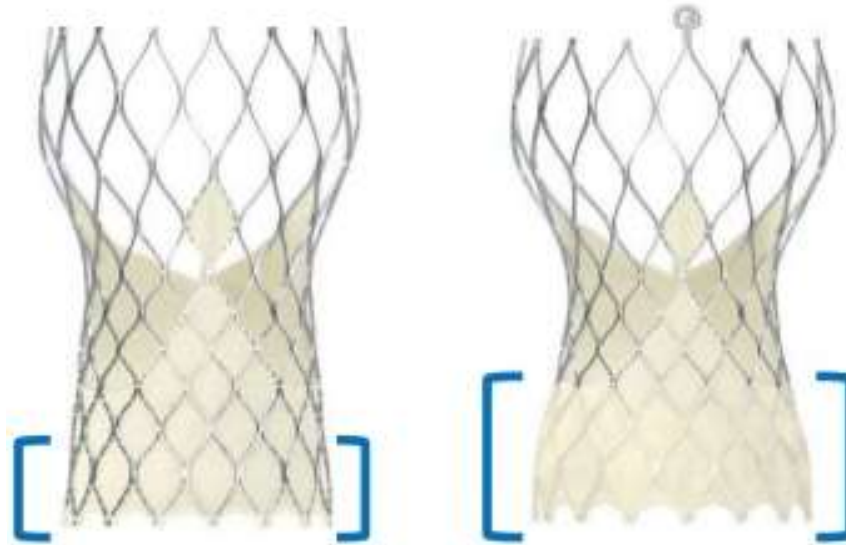
TEE



- Echo images suggest:
- Severe transvalvular AR
- At most moderate paravalvular AR

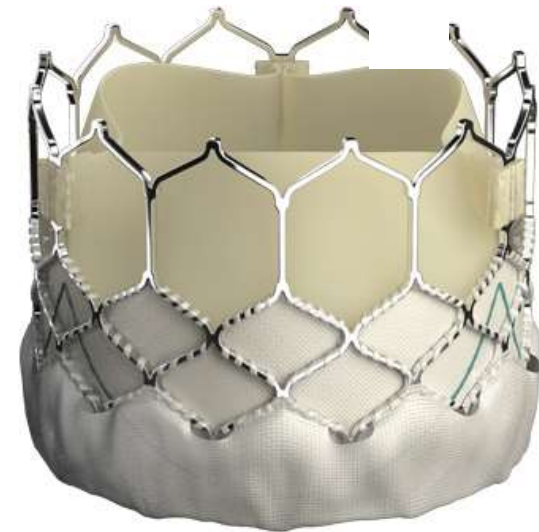
Current valves available for TAVI

Portico

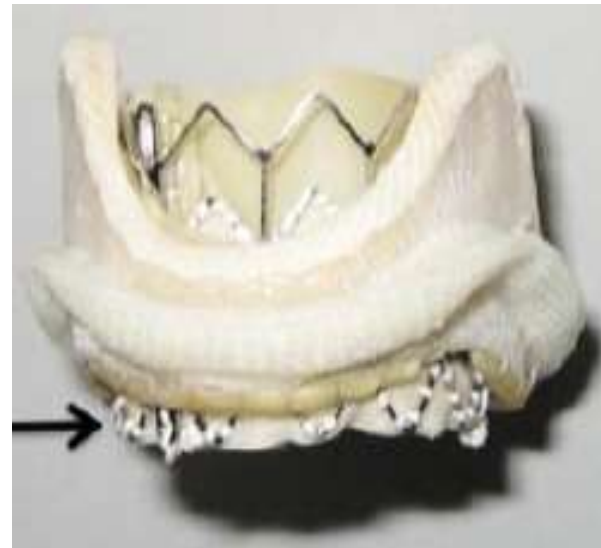


Evolut R and Evolut Pro

Sapien 3

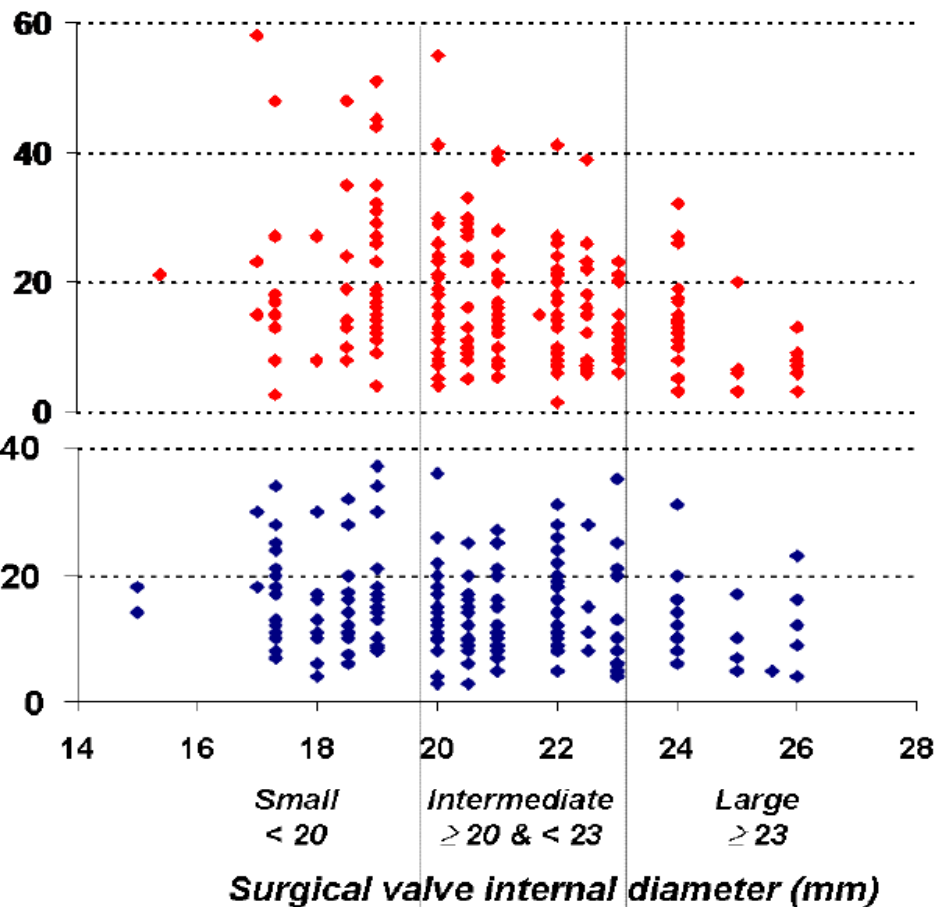


Valves used for valve-in-valve

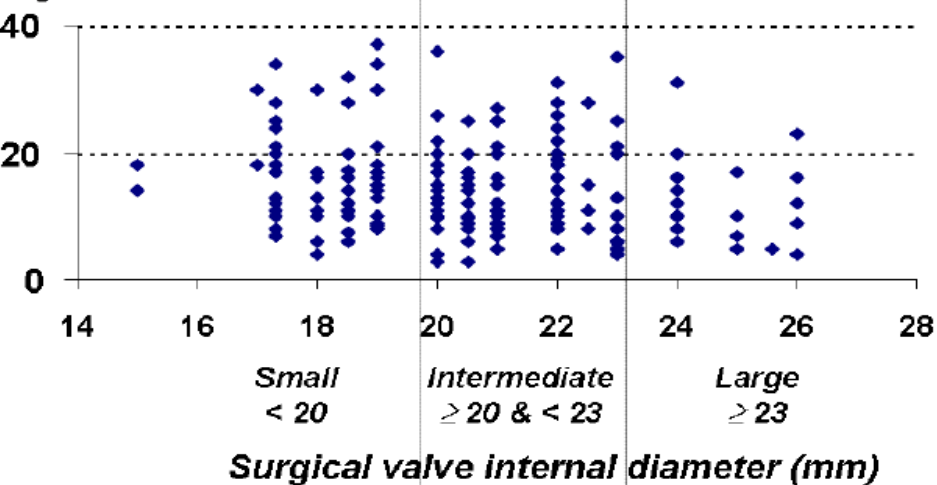


A

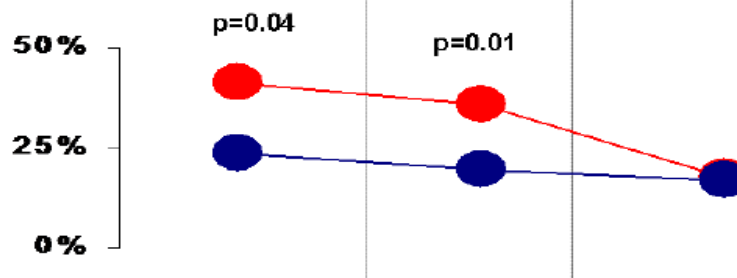
Edwards SAPIEN ●
 Post procedural mean
 aortic-valve gradients (mmHg)

**B**

CoreValve ●
 Post procedural mean
 aortic-valve gradients (mmHg)


**C**

**Rate of Post-procedural
 mean gradients ≥ 20 mmHg (%)**



Which valve would I choose ?

- **Evolut R / Pro** for better gradient
- Supra-annular valve leaflets
- 23mm Evolut R appears most suitable

Valve Size Selection	
	
Size	23 mm
Annulus Diameter	17*/18 – 20 mm
Annulus Perimeter ($\pi \times$ Diameter)	53.4*/ 56.5 – 62.8 mm
Sinus of Valsalva Diameter (Mean)	≥ 25 mm
Sinus of Valsalva Height (Mean)	≥ 15 mm

* Measure for TAV in SAV only

- No BAV during the procedure
 - poor EF and degenerated leaflets

- Aim for implantation depth about 4mm
 - The bottom flared inflow segment may help to reduce the paravalvular leak

Thank you