Sitting in with the Heart Valve Team: Cases to Learn From

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Case

- AVR age 20, Freestyle prosthesis
- Failed, replaced with Mosaic surgical bioprosthesis
- Failed, complex TAVI valve in valve procedure, valve migration, surgical conversion, ‘open’ implant 23 Sapien XT TAVR valve, with suturing in position
- Stormy course, ECMO, LVAD, recovery, explant with apical plug
- Now dyspnoea, and the TAVIR valve now has severe AR identified on TTE
Summary and Conclusions:

1. Technically difficult; suboptimal images.
2. Mildly decreased LV systolic function. Biplane Simpson’s LVEF = 49 %.
4. Severely dilated LV size.
5. Severe diastolic dysfunction. Elevated LV filling pressure.
6. RV dilated by linear dimension.
7. RV systolic function is mildly decreased.
8. LA severely dilated by volume index (volume index: 62 ml/m²).
9. RA dilated by volume index.
10. Aortic bioprosthesis (mean gradient: 14 mmHg) well seated.
11. Normal PASP: 29 mmHg.
12. Moderate to severe aortic regurgitation, possibly valvular and paravalvular. TEE my be useful.

Comparison to Previous Exam 15-May-2018: Aortic regurgitation is new.
Summary and Conclusions:

1. TEE for assessment of bioprosthetic aortic valve.
2. Mildly dilated LV. Mild-moderately reduced systolic function. EF 40-45%.
3. Global hypokinesis. Abnormal ventricular septal motion with no other regional wall motion abnormalities.
4. Normal RV size. RV systolic function is mildly decreased.
5. Severe biatrial enlargement.
6. Aortic bioprosthesis did not have a rocking motion. Severe paravalvular regurgitation by color Doppler and predominantly anteriorly directed (vena contracta 7.4 mm). Proximal descending thoracic aorta diastolic flow reversal TVI 21 cm also suggested severe regurgitation. This could be related to nonoptimally visualized 3 mm detachment of the sewing ring from the aortic annulus (3-9 o’clock position on short axis view).
7. No mass, thrombus, or vegetation identified.

Comparison to Previous Exam 21-May-2019: Minimal changes from prior study.
Next steps:

• Poor surgical candidate
• If valvular AR: TAVR valve in valve
• If PAR, plug
• There were perhaps some clues along the way...
• No pressure, but...
• Live Case at TCT
• And not a time for indecision...

To be, or not to be: that is the question:
Whether 'tis nobler in the mind to suffer
The slings and arrows of outrageous fortune,
Or to take arms against a sea of troubles,
And by opposing end them?
Take-homes:

Structural heart disease is a collaborative adventure
Structural valve failure was considered more likely than de novo PVL in this setting
Don’t forget the trans-gastric window for evaluating AR in the setting of a TAVR valve with regurgitation.