# Perceval Valve Design

Outflow Ring
(@ STJ level)

Sinusoidal Struts
(fit Valsalva sinuses)

Inflow Ring
(@ annulus level)

Straight
Commissural Struts

Double-sheet
Valve Design

Eyelets
(for guiding sutures)
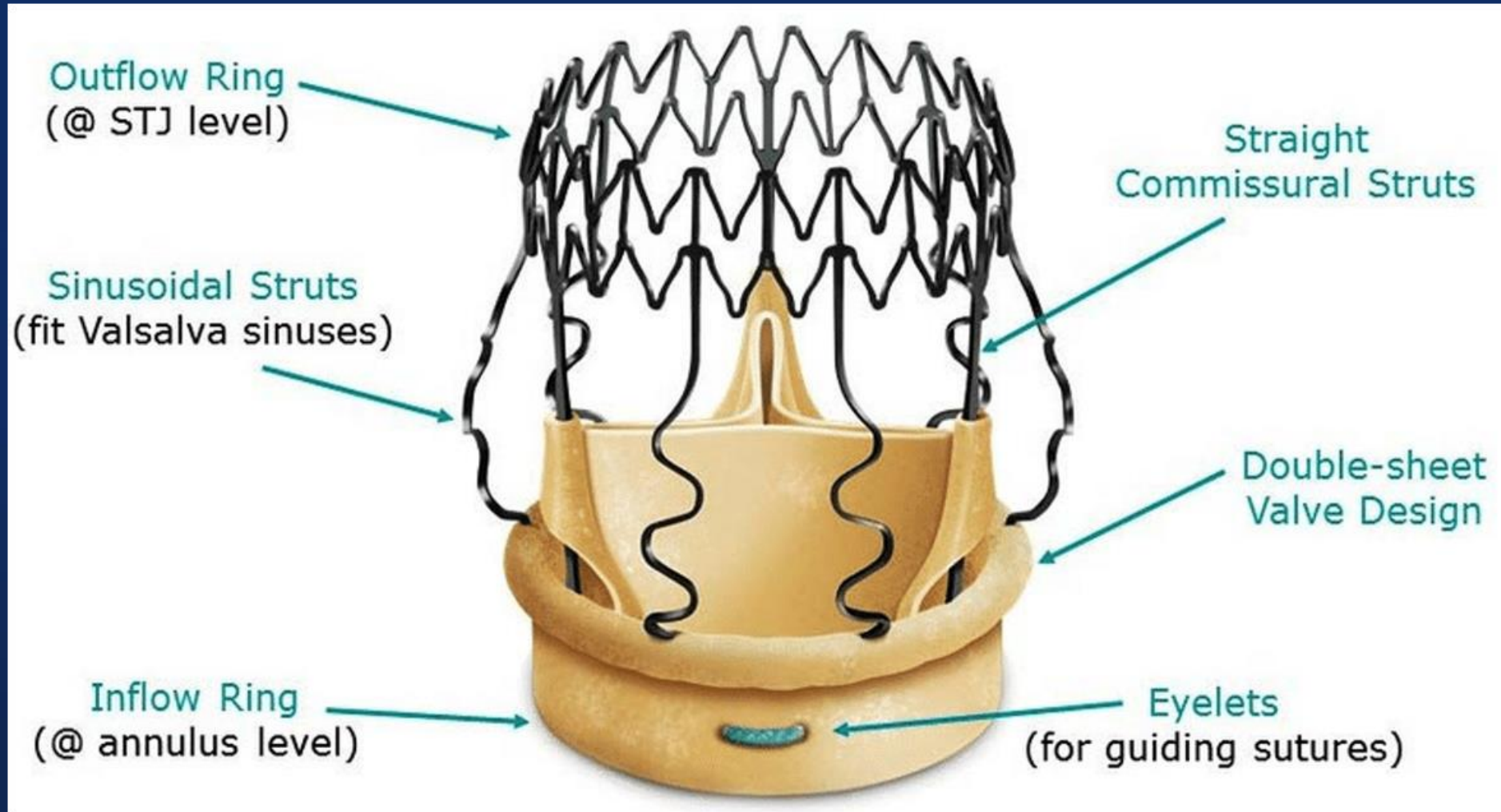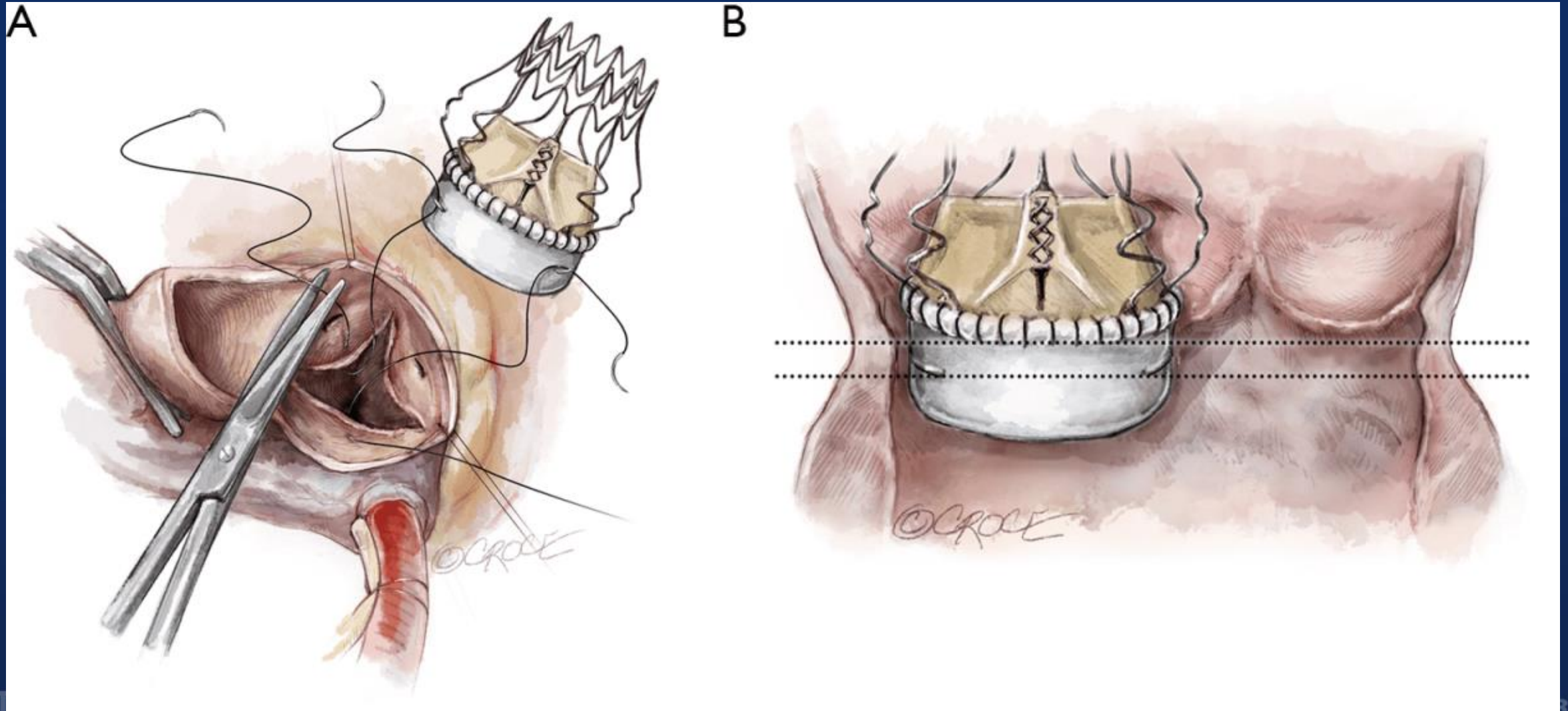
CVRF

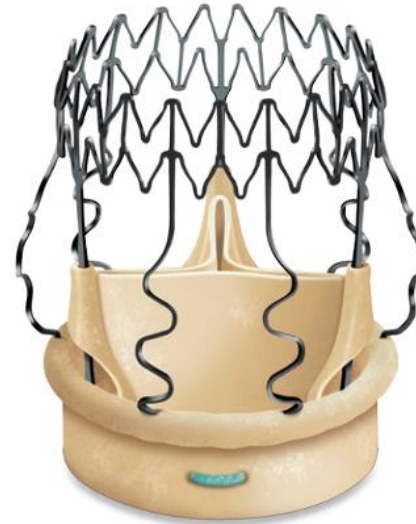# Placement of guiding sutures in the valve sinuses



A

B

# Perceval Valve Size



Extra Large
25-27 (mm)

Large
23-25 (mm)

Medium
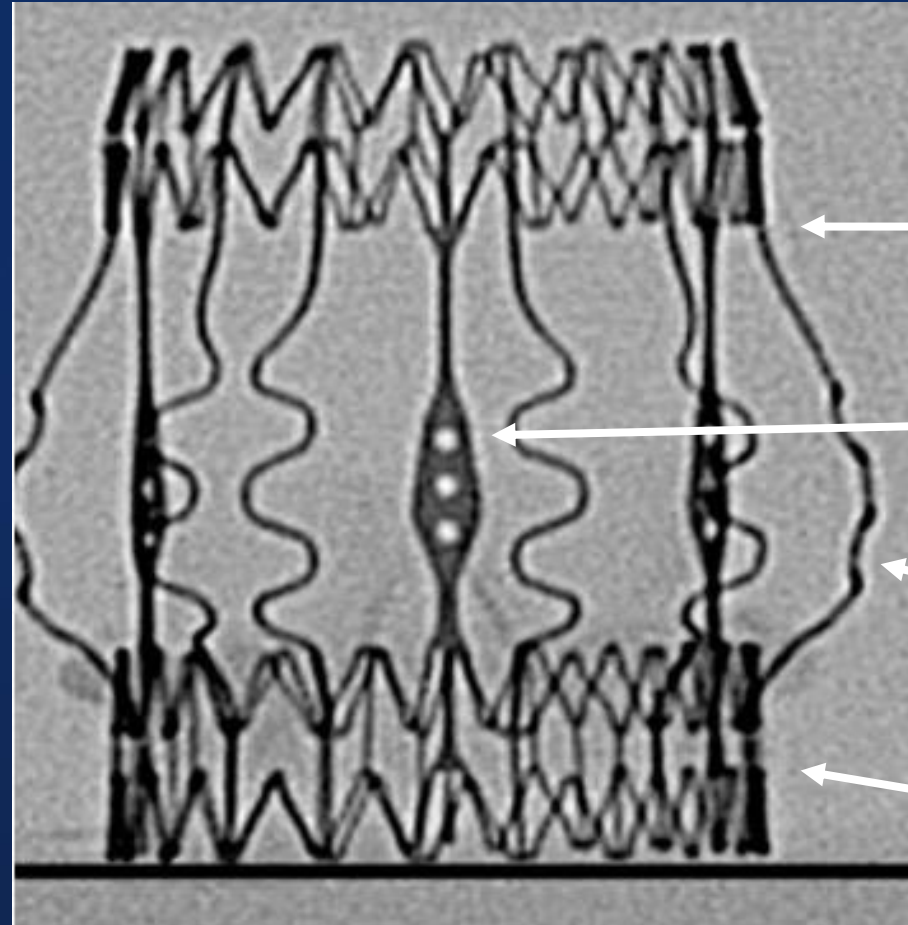21-23 (mm)

Small
19-21 (mm)

# Perceval Valve Height
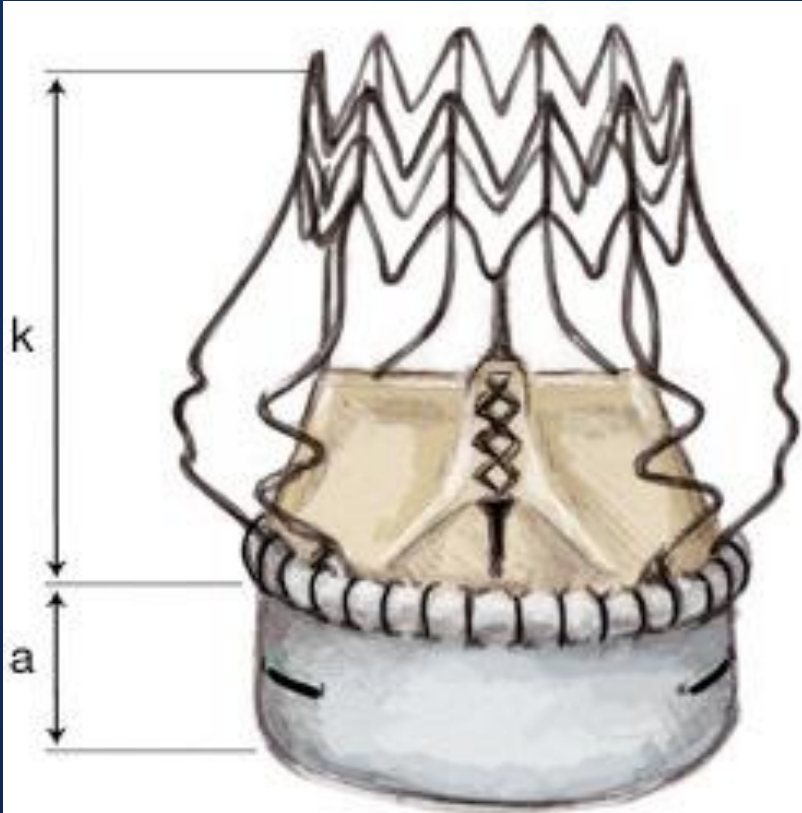


Valve dimensions

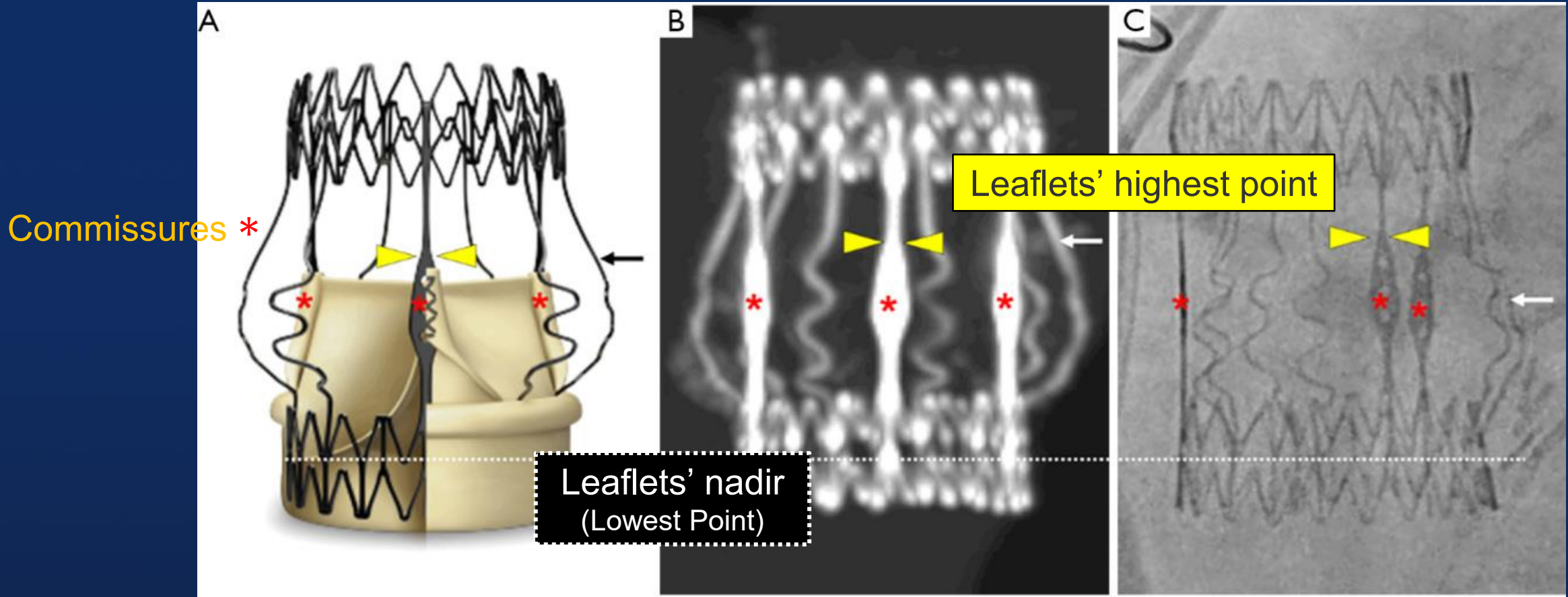| Siza | S | M | L | XL |
|---|---|---|---|---|
| a (mm) | 6.0 | 6.5 | 7.0 | 8.0 |
| k (mm) | 25 | 26.5 | 28.5 | 29.5 |

# Perceval Valve Design
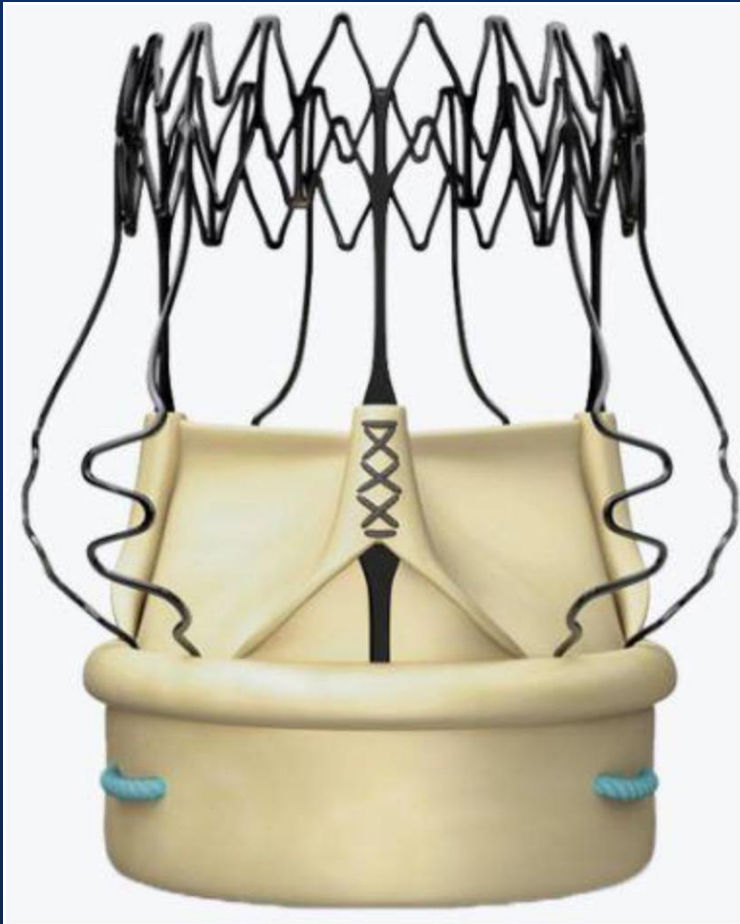


Outflow Ring

Column

Sinusoidal
Strut

Inflow
Ring

# Perceval Valve Leaflet



Commissures *

Leaflets' highest point

Leaflets' nadir
(Lowest Point)

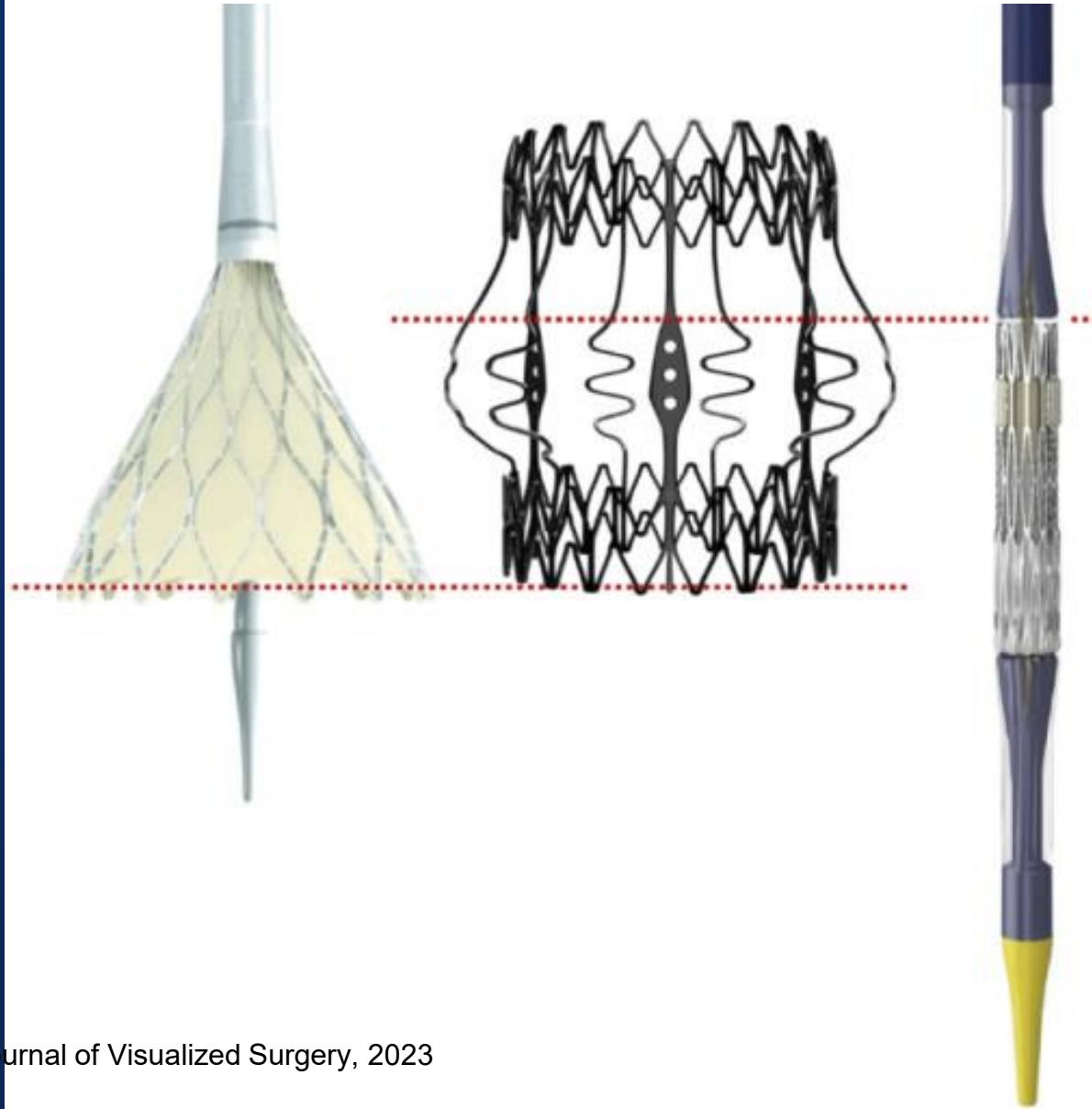Dubois et al. Journal of Visualized Surgery, 2023
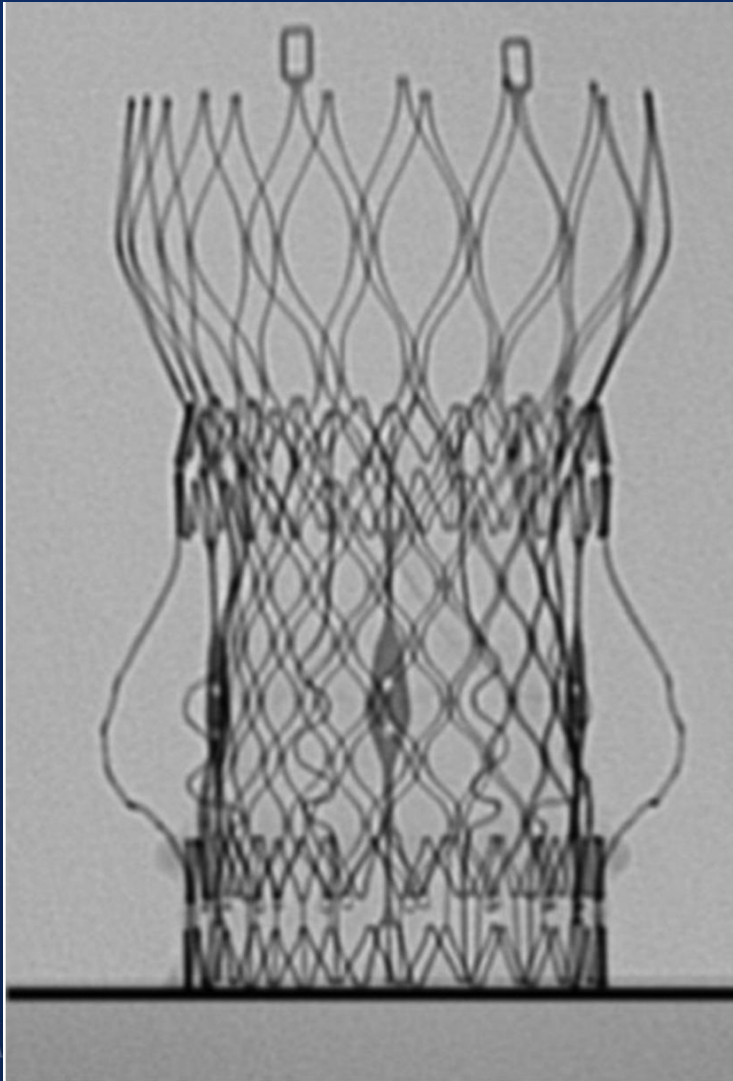
# Target Implant Depth
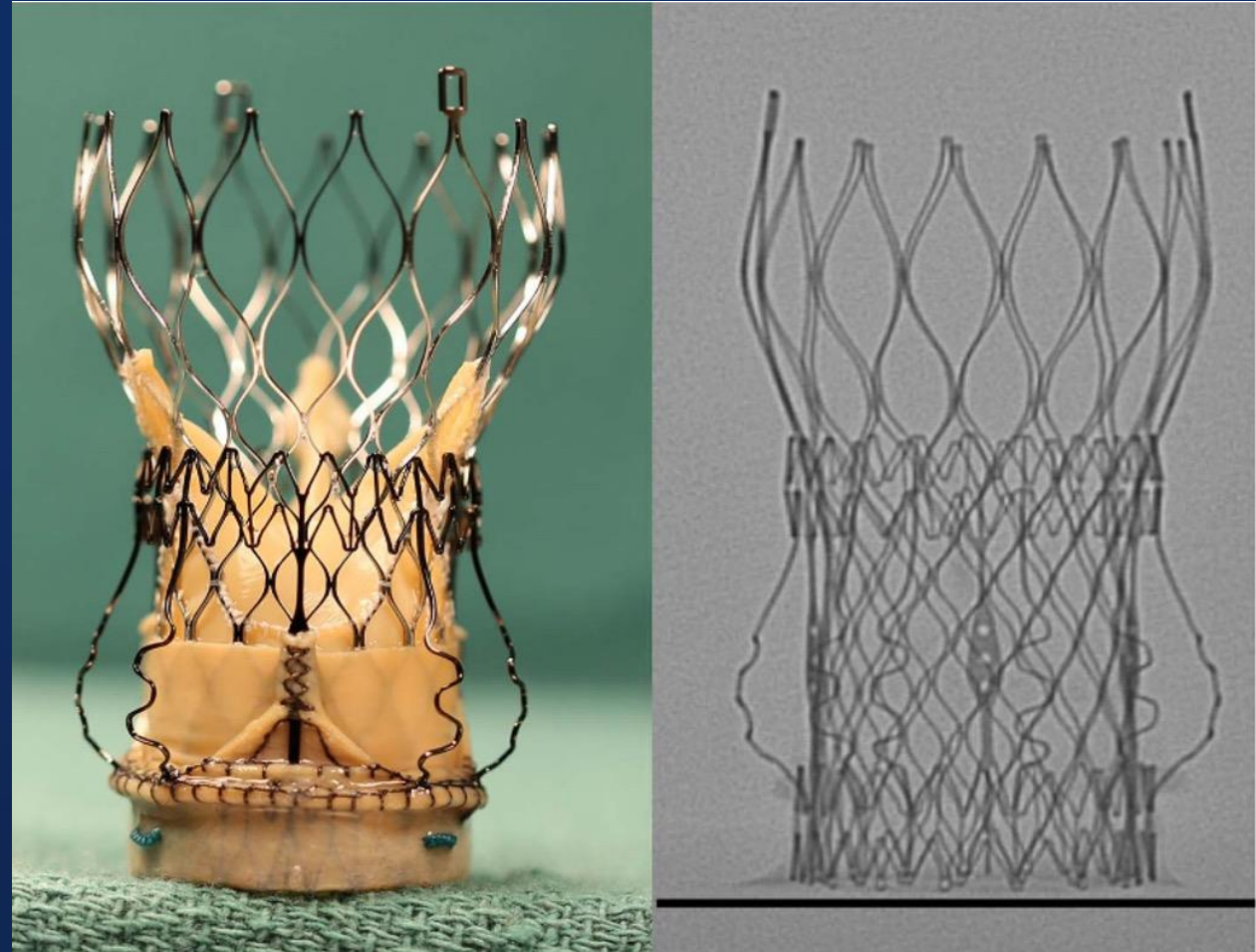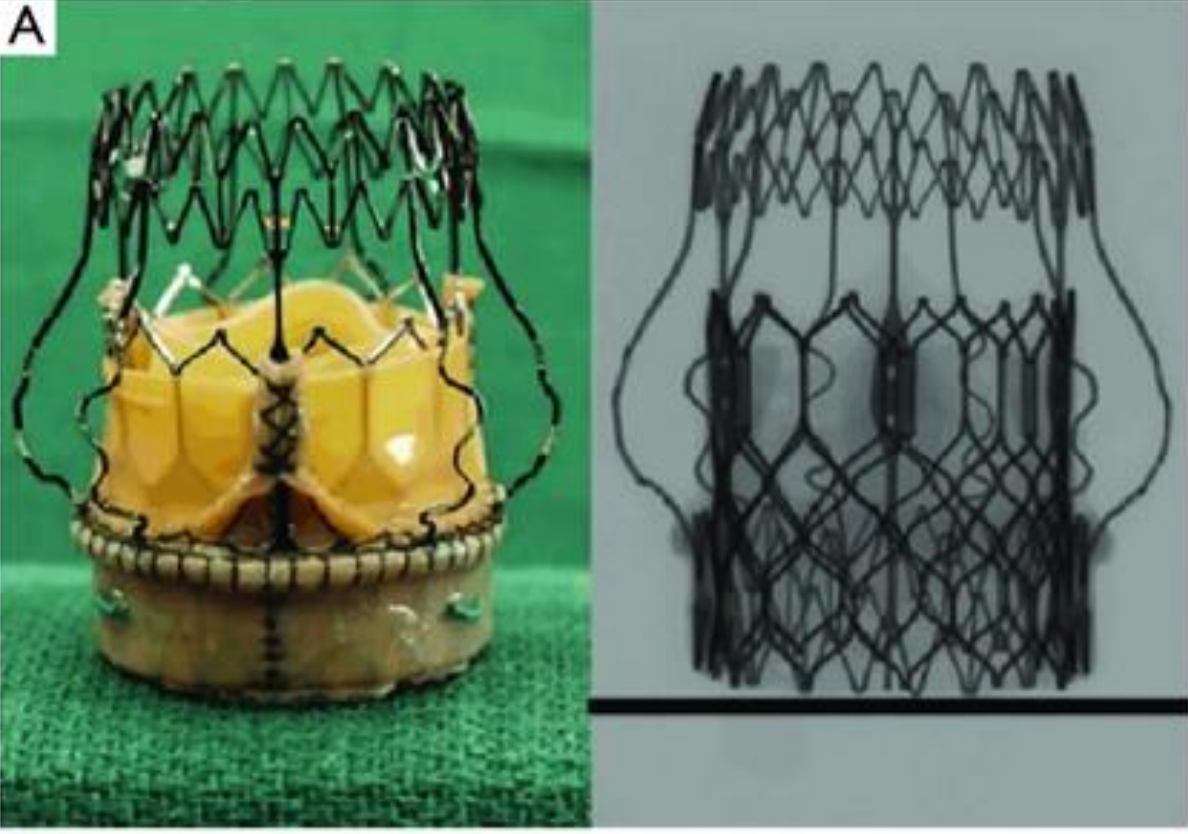
# THV Proper Positioning



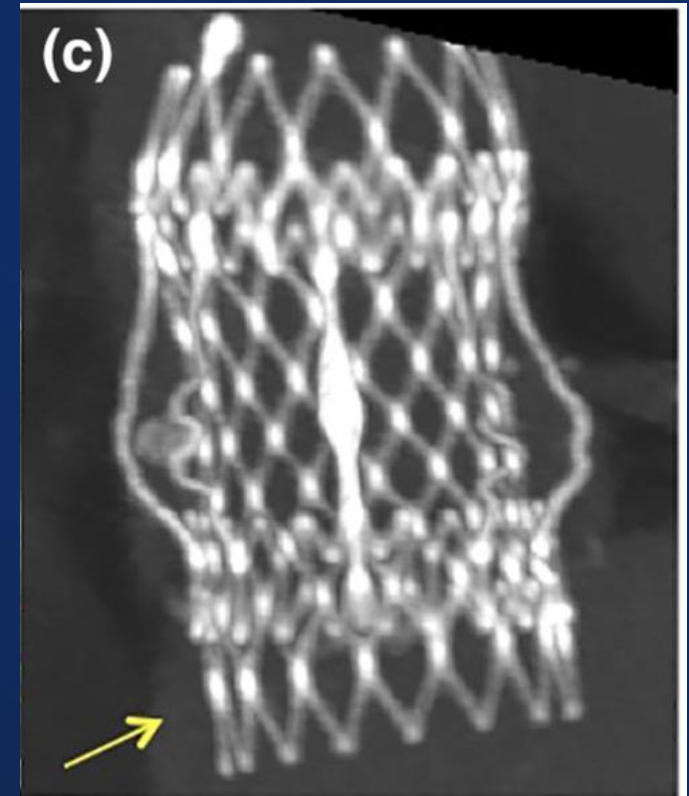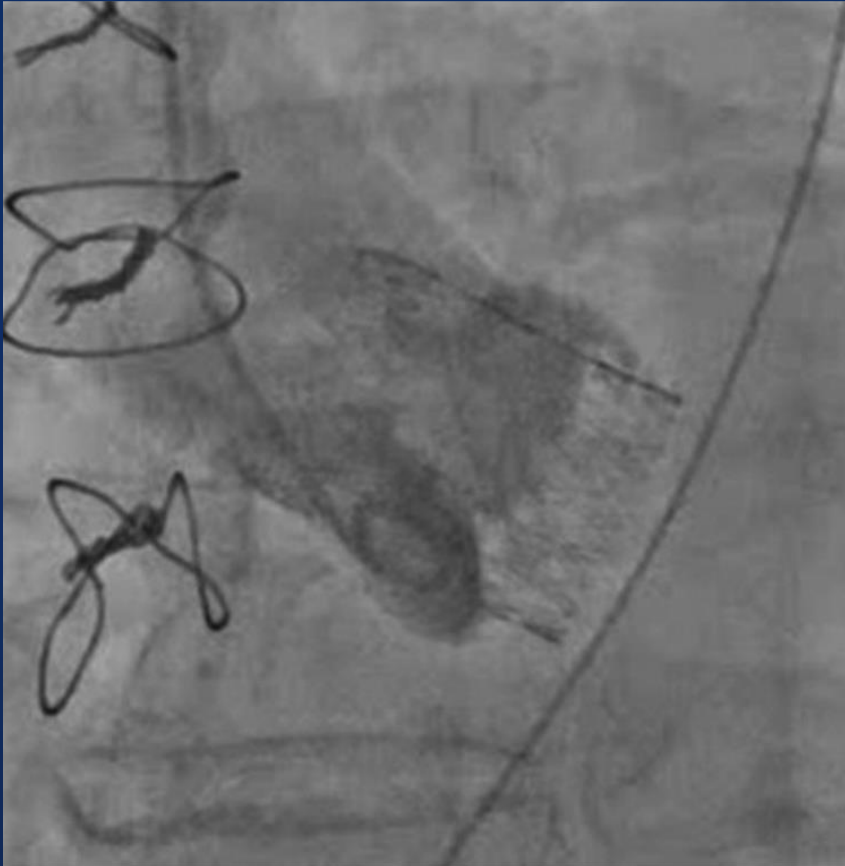For Evolut valves, it is perhaps more important to align the lowest borders of both valves.

For Sapien 3, the outflow of the valve should be aligned before valve expansion with the superior column tapers of Perceval$^{TM}$.

Dubois et al. Journal of Visualized Surgery, 2023

# Evolut Proper Positioning



For the self-expanding valves, it is perhaps more important to align the lowest borders of both valves. Alignment of the bottom margins of the self-expanding (Evolut) valve and Perceval allows proper expansion of the flared outflow segment of the Evolut.

T. Suleiman, K. Tanseco, S. Arunothayaraj et al. / Cardiovascular Revascularization Medicine 40S (2022)

# Evolut in Perceval; Too Deep



Positioning it too deep may result in the flared upper segment of the valve being constrained by the upper part of the Perceval stent frame.
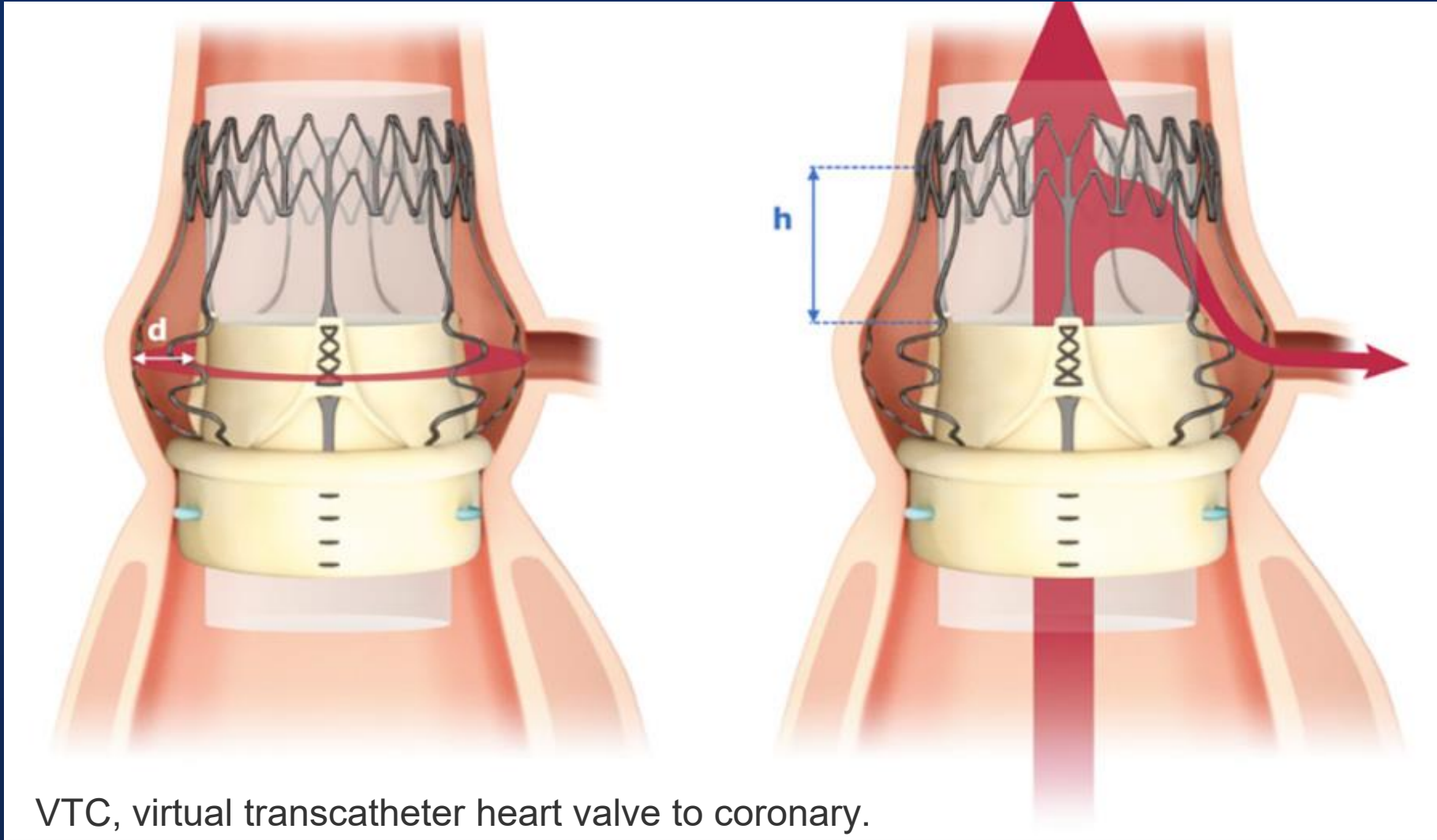
# Sapien3U Proper Positioning
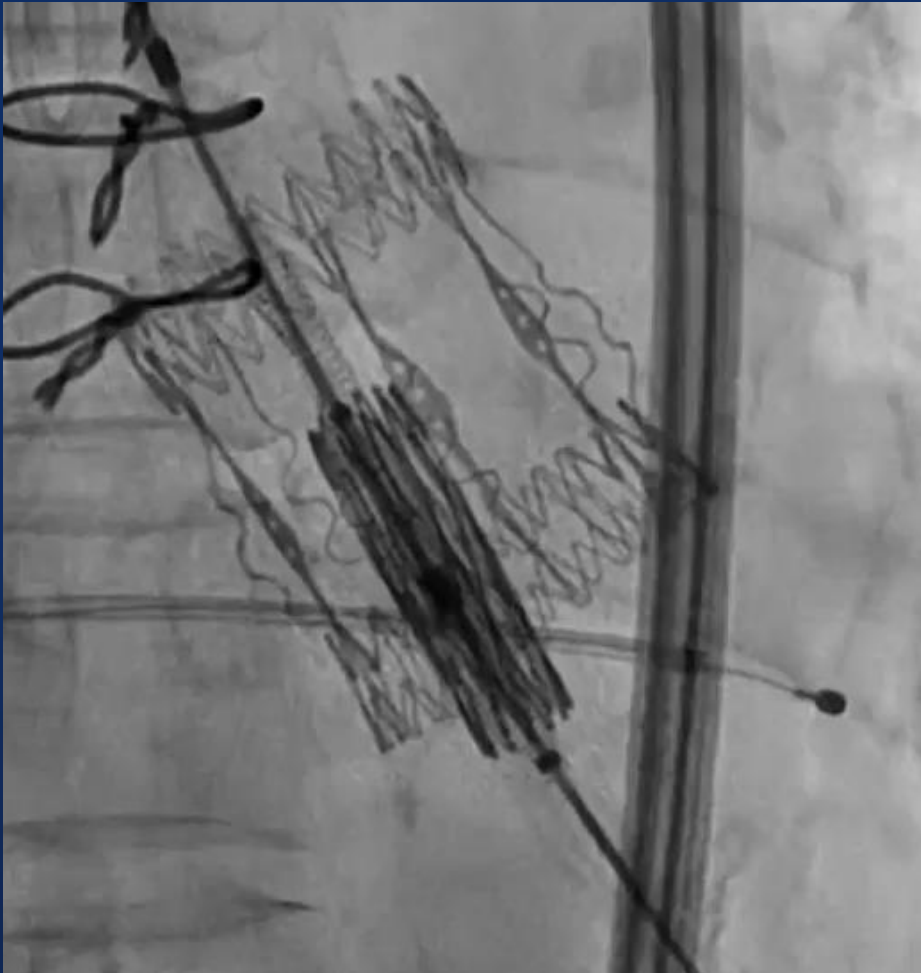


We now recommend aligning the S3 valve in the midpoint between the lower marker and the translucent line with the Perceval's bottom margin.
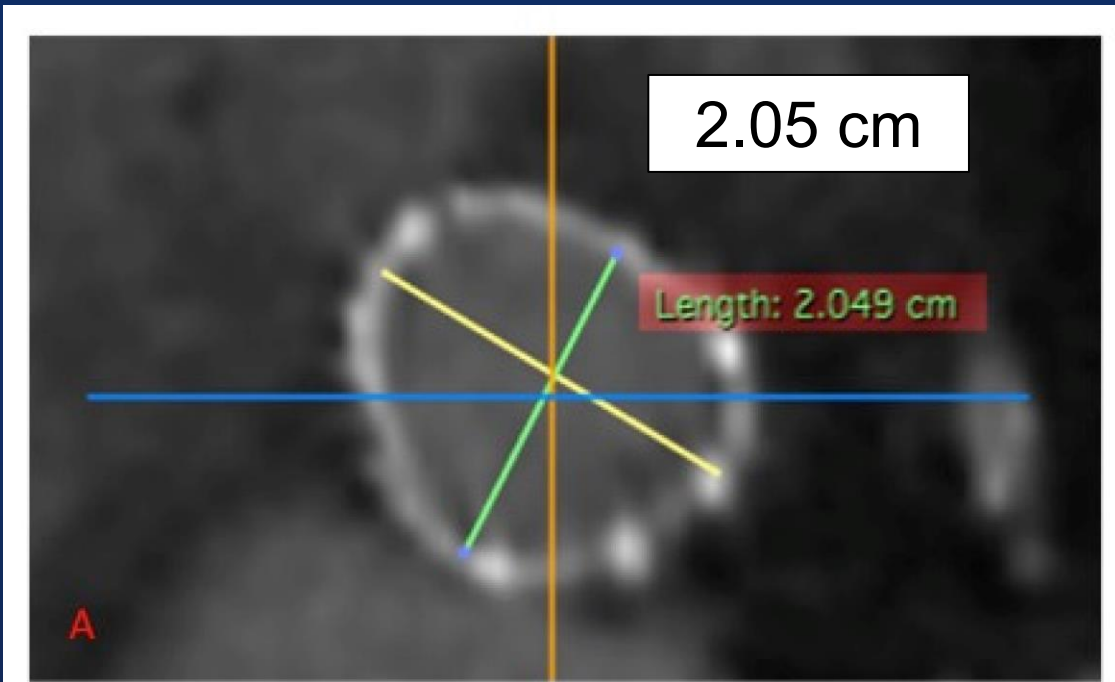
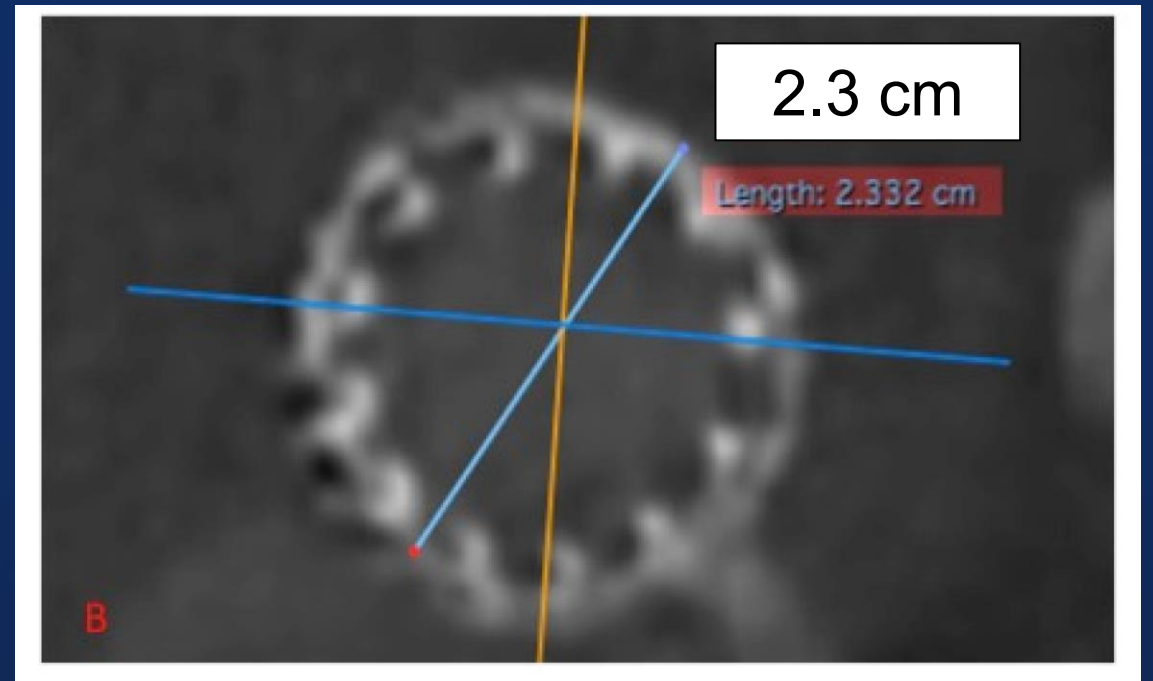T. Suleiman, K. Tanseco, S. Arunothayaraj et al. / Cardiovascular Revascularization Medicine 40S (2022)

CVRF

# Risk of Coronary Obstruction

**VTC**



VTC, virtual transcatheter heart valve to coronary.

Dubois et al. Journal of Visualized Surgery, 2023

CVRF

# Overexpansion Capability



2.05 cm

Length: 2.049 cm

A

Preprocedural CT

2.3 cm

Length: 2.332 cm

B

Post VIV-TAVIR CT

Concistrè et al.  J. Clin. Med. 2023, 12, 6265

CVRF

# Possible for a catheter to pass behind the Perceval
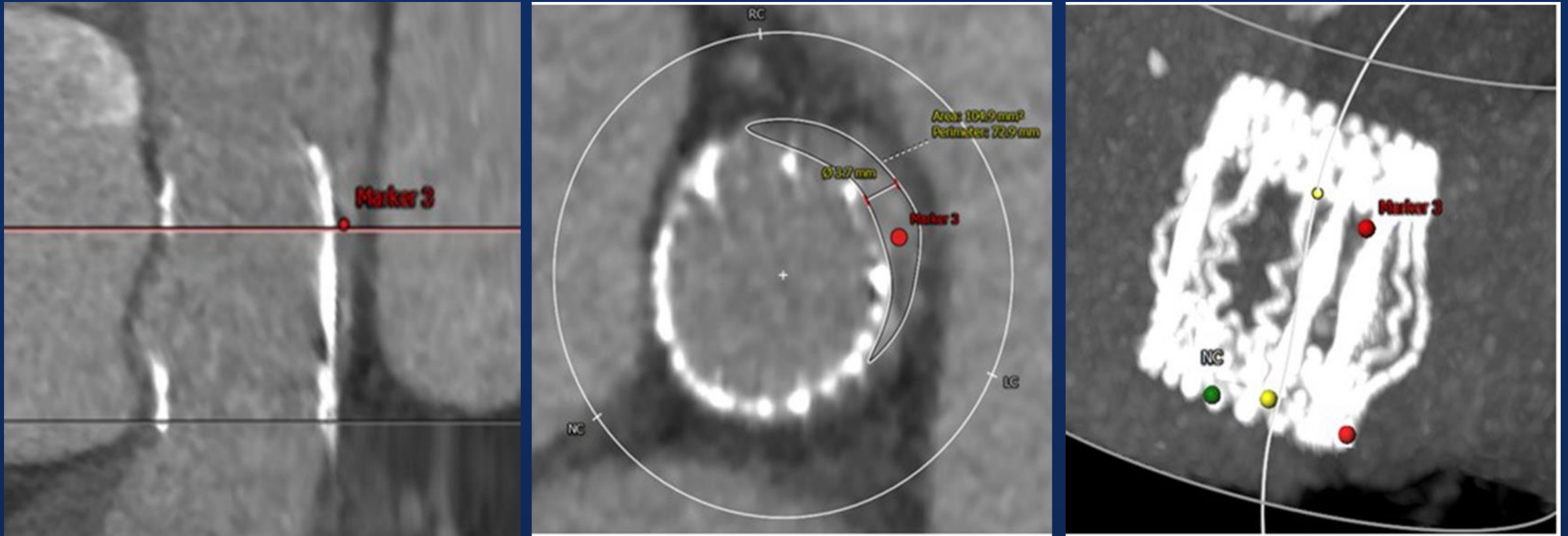


## Catheter may pass behind the stent frame

T. Suleiman, K. Tanseco, S. Arunothayaraj et al. / Cardiovascular Revascularization Medicine 40S (2022)

# "fausse route" outside the stented frame
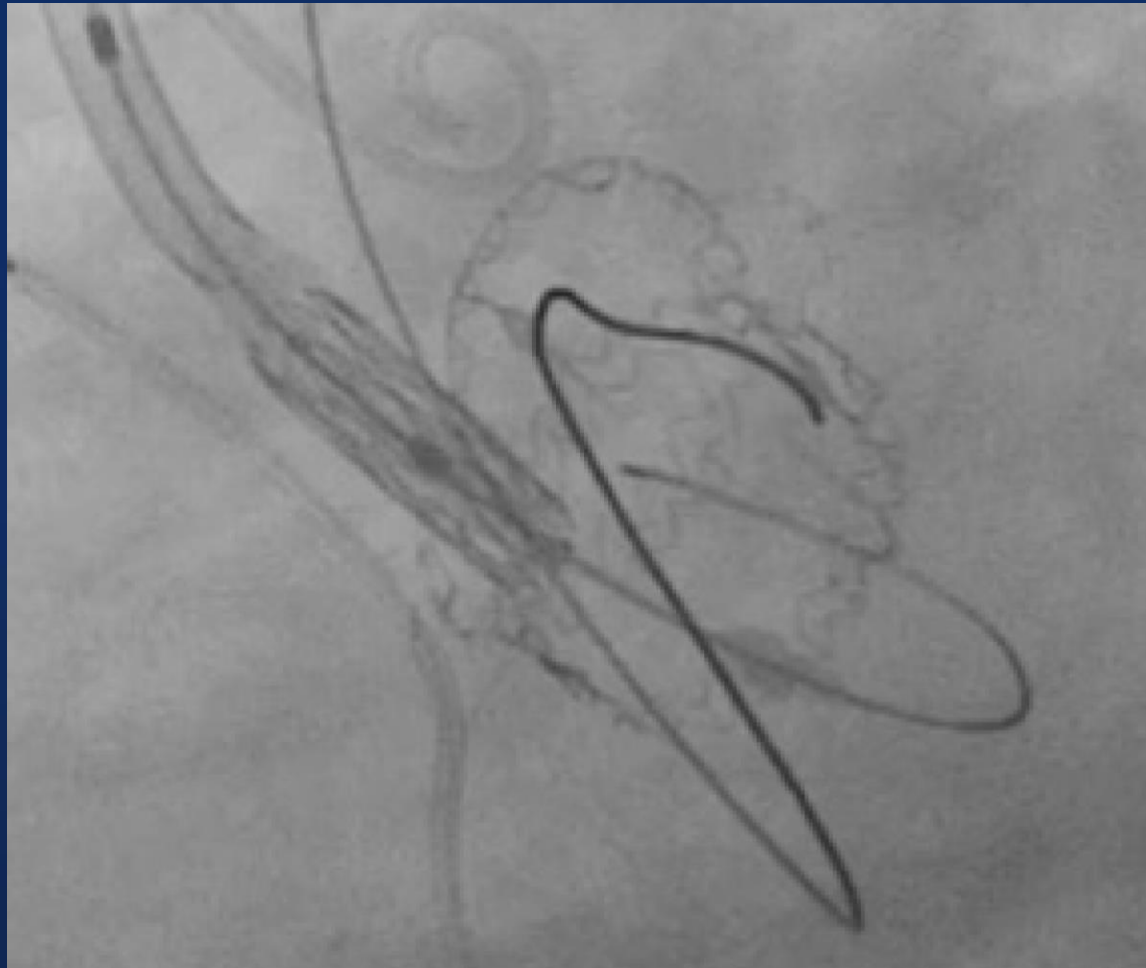


A case of wrong Perceval crossing outside the outflow ring

Concistrè et al. J. Clin. Med. 2023, 12, 6265

CVRF