

A Challenging TAVR Case for Patient With Bicuspid Aortic Valve

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Case presentation

- ✧ Female, 83 yrs
- ✧ Recurrent dyspnea on exertion for 3 years, aggravated for 20 days
- ✧ NYHA IV
- ✧ PMH
 - ✧ CAD
 - ✧ Hypertension
 - ✧ Anemia
- ✧ Log EuroScore = 23.92% STS = 8.3%
- ✧ Surgical extreme risk
- ✧ Heart valve team suggested TAVR.

Echo

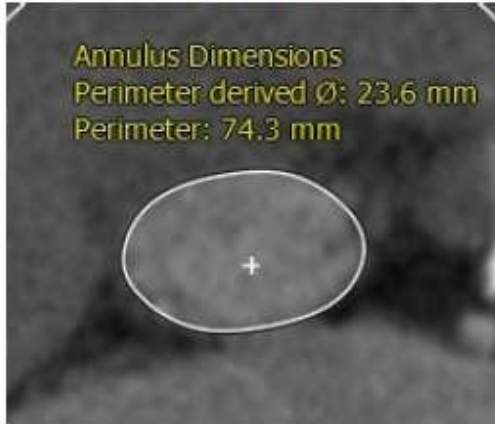
- LVEF = 46.2%
- LVIDd = 5.22cm LA = 5.55cm
- Severe AS
 - $PG_{\text{mean}} = 79 \text{ mmHg}$
 - $V_{\text{max}} = 5.84 \text{ m/s}$
 - $AVA = 0.32 \text{ cm}^2$
- AR: moderate
- MR: mild
- TR: severe



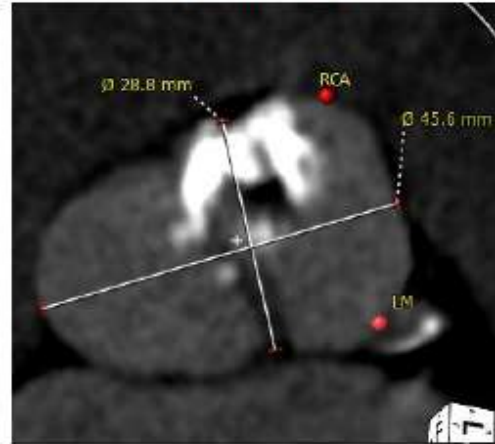
CTA

Aorta

ANNULUS



SOV DIAMETER

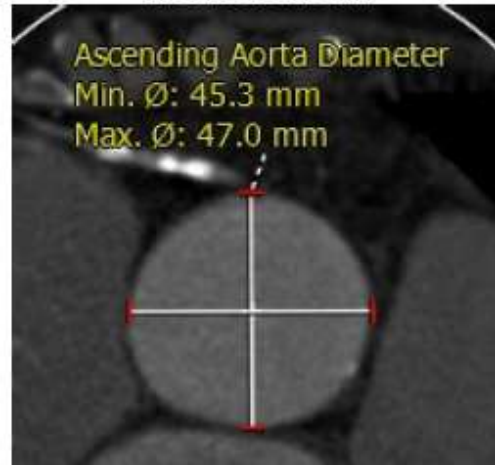


LVOT



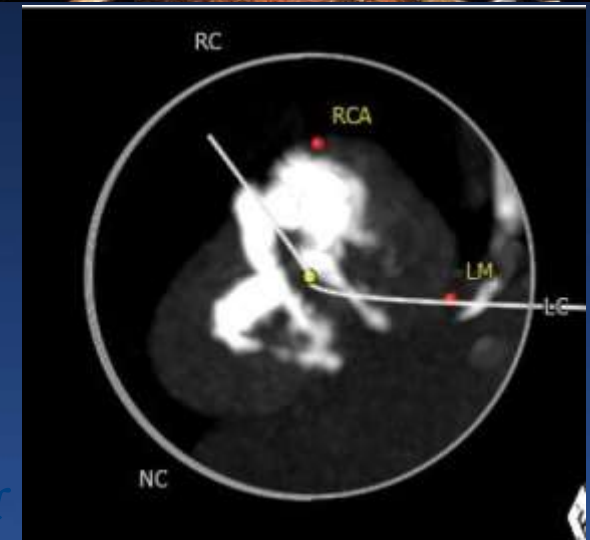
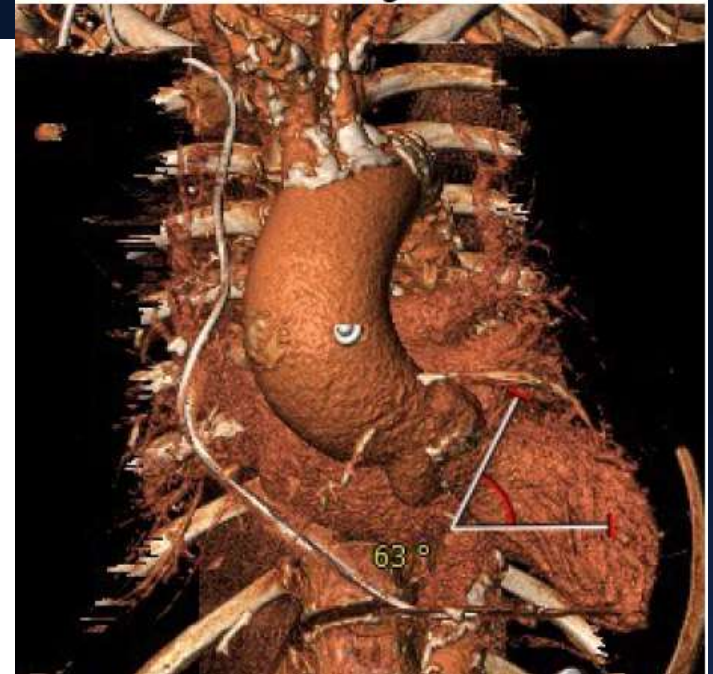
5mm below basal plane

ASCENDING AORTA

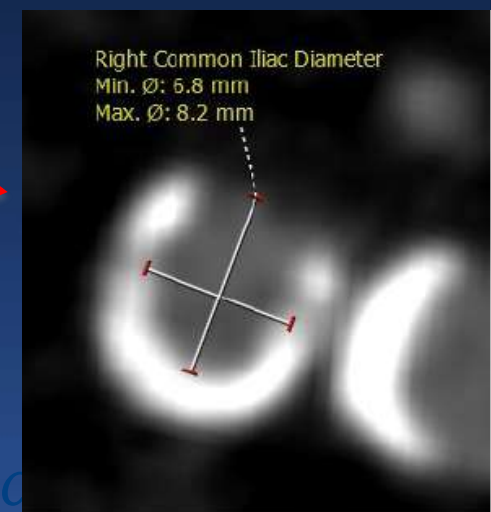
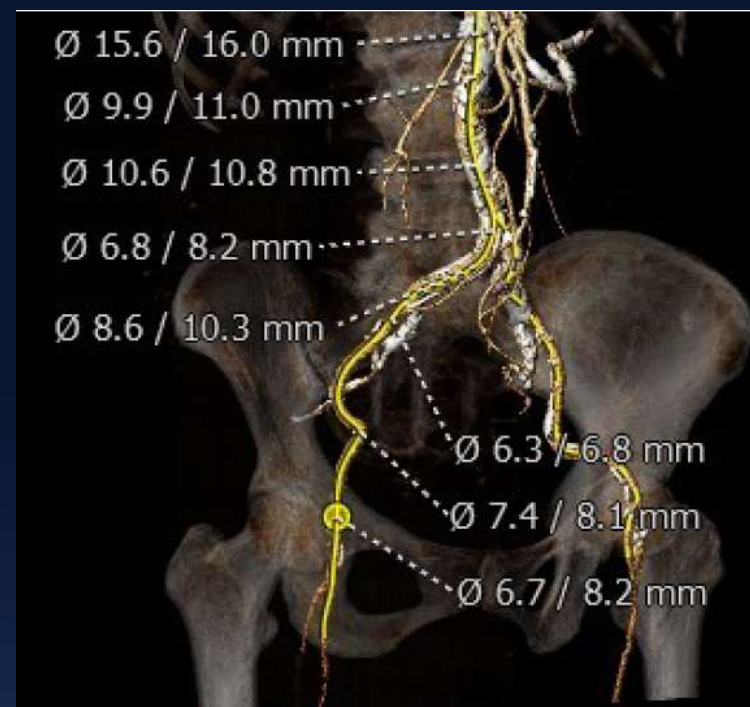


40mm above basal plane

Annular Angulation



CTA



Problem 1: Critical clinical situation

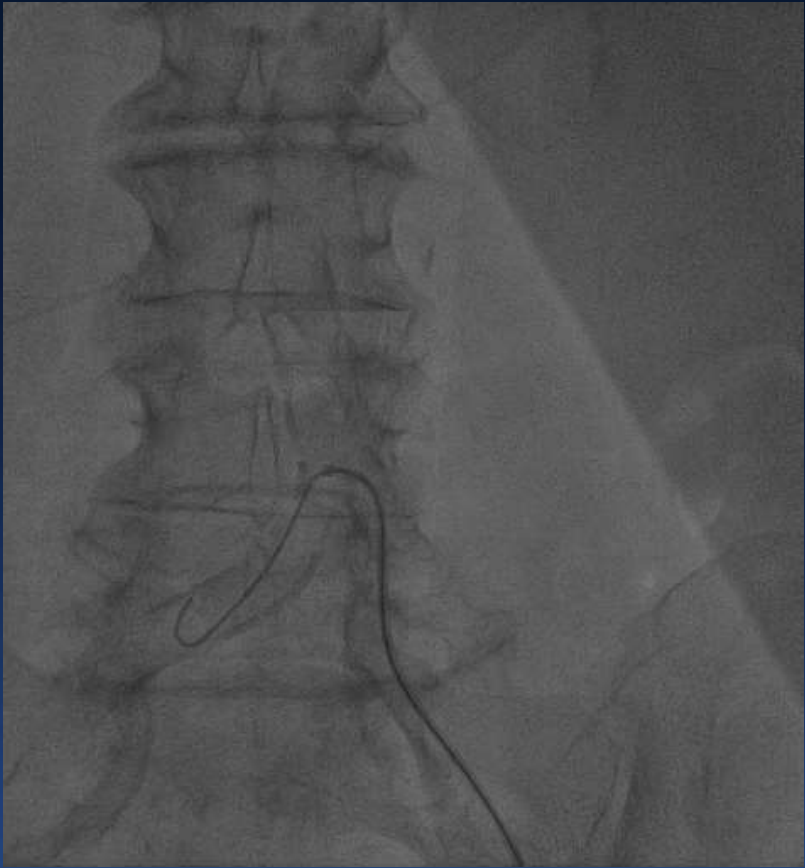
- Poor heart function
- Cause of anemia (Hgb 69g/L, stool OB ++++)?
 - Endoscopic diagnosis under sedation
 - Multiple intestinal polyps
- Post-TAVR anti-platelet strategy?
- Unfavorable anatomy
 - Bicuspid aortic valve
 - Porcelain aorta

TAVR procedure Plan

- ✧ Blood transfusion before TAVR
- ✧ General anesthesia
- ✧ Access: right femoral artery
- ✧ 2 Proglides
- ✧ Balloon: ZMED II 20mm
- ✧ Downsize: CoreValve 26 mm
- ✧ However
 - ✧ No 26mm available
 - ✧ Many 29mm available

Problem2: Do TAVR or not?

Problem 3



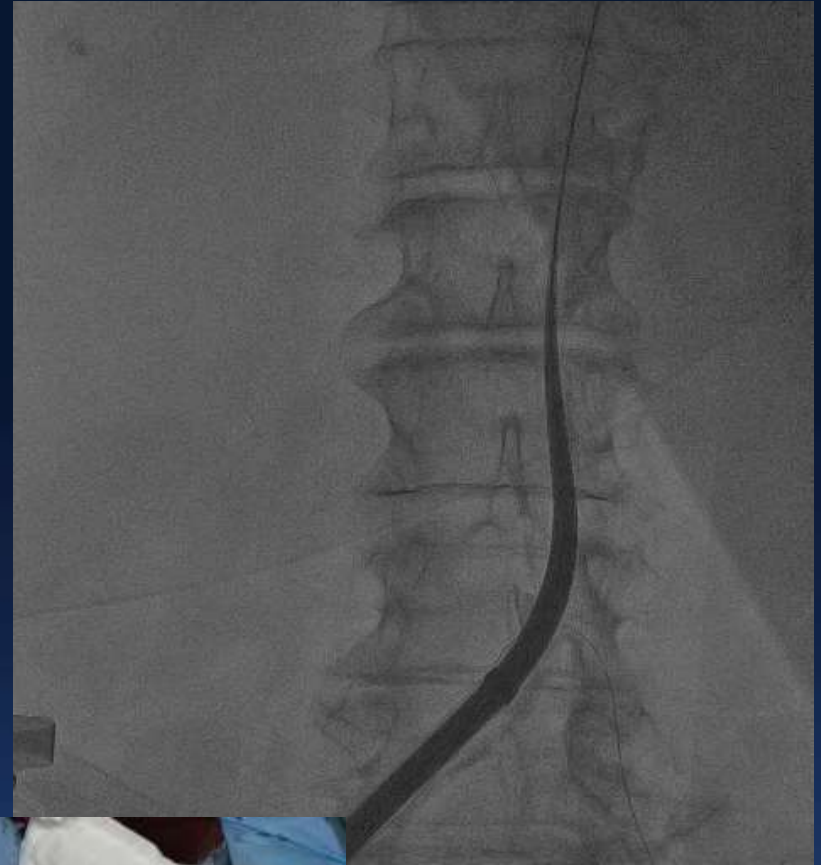
The Needs of The Patients and The Customers Come First



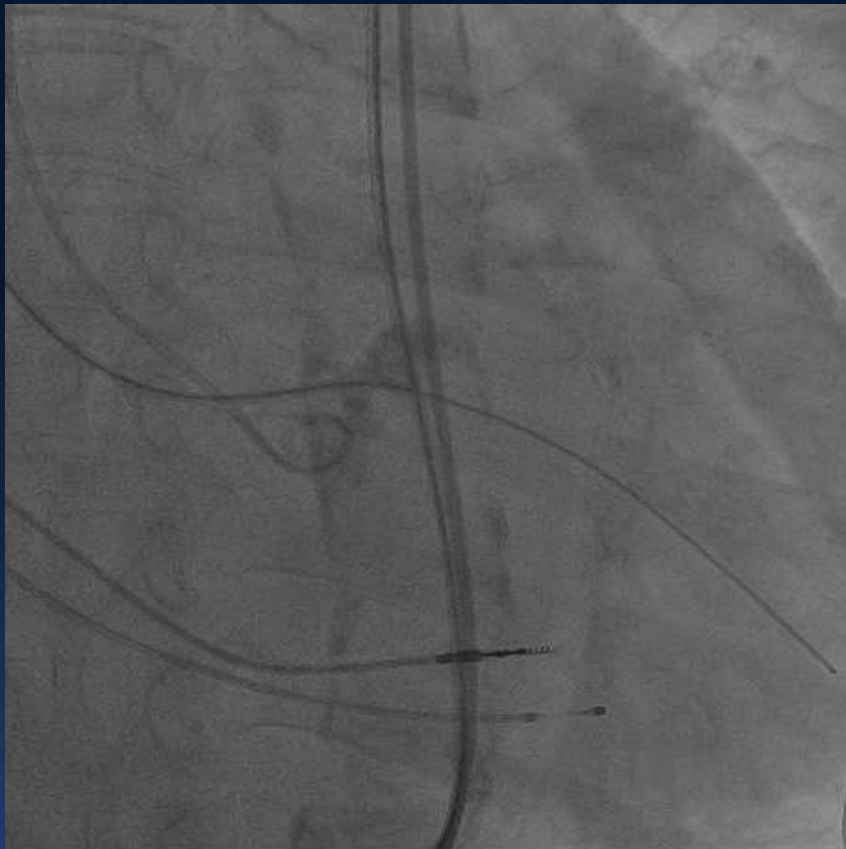
The

The Customers Come First

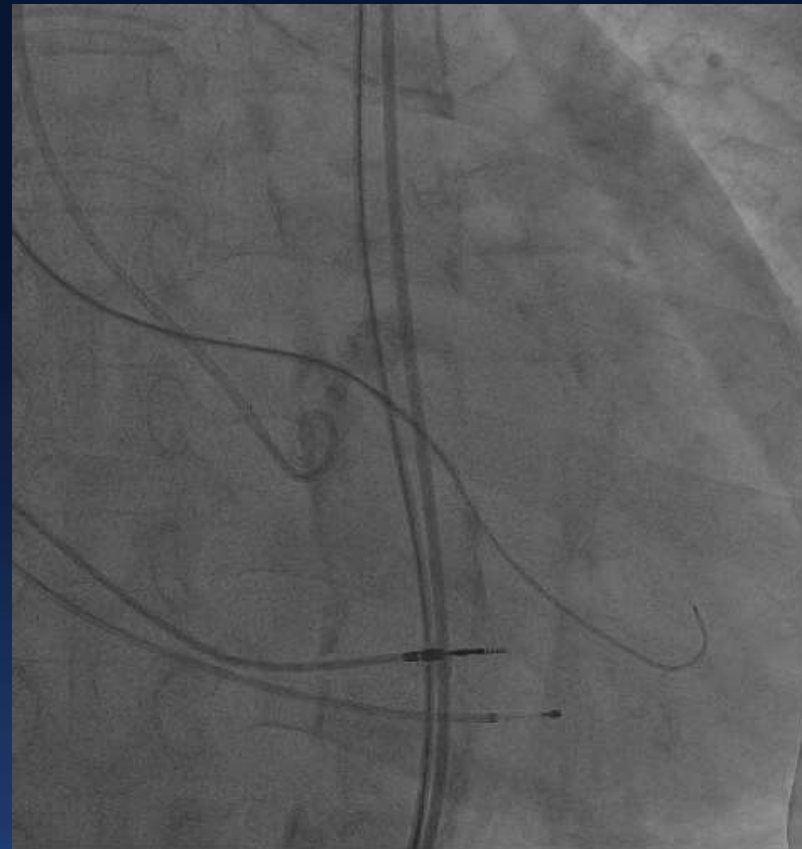
Problem 4



Problem 5



6F AL1.0 failed to cross



5F pigtail crossed

Problem 6: 20mm ZMED II failed to cross



Changed to 18mm ZMED II

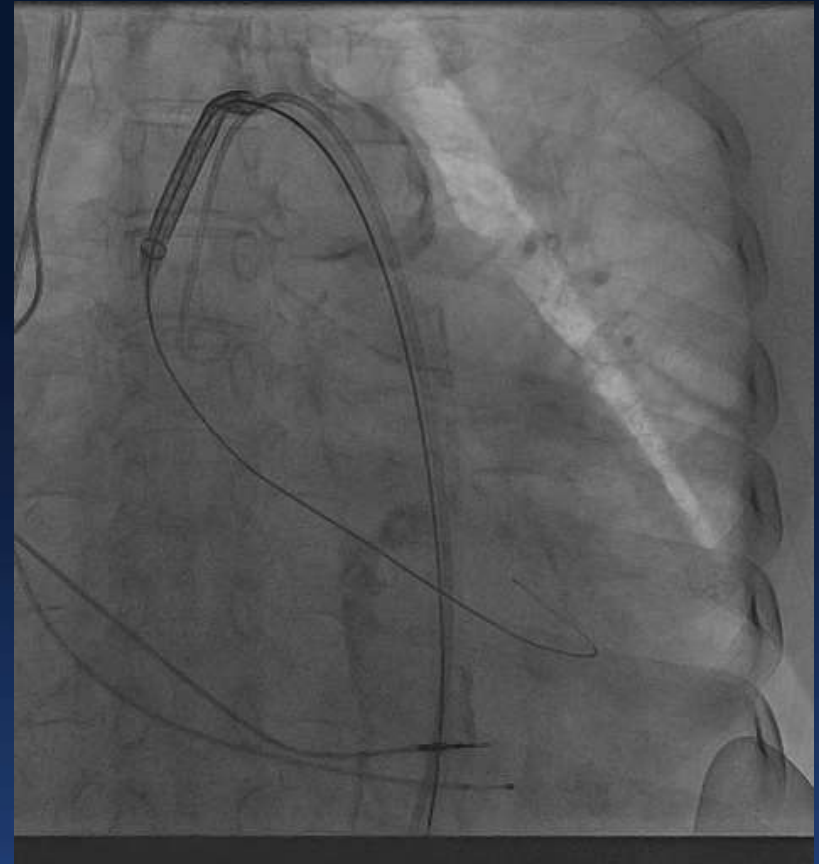
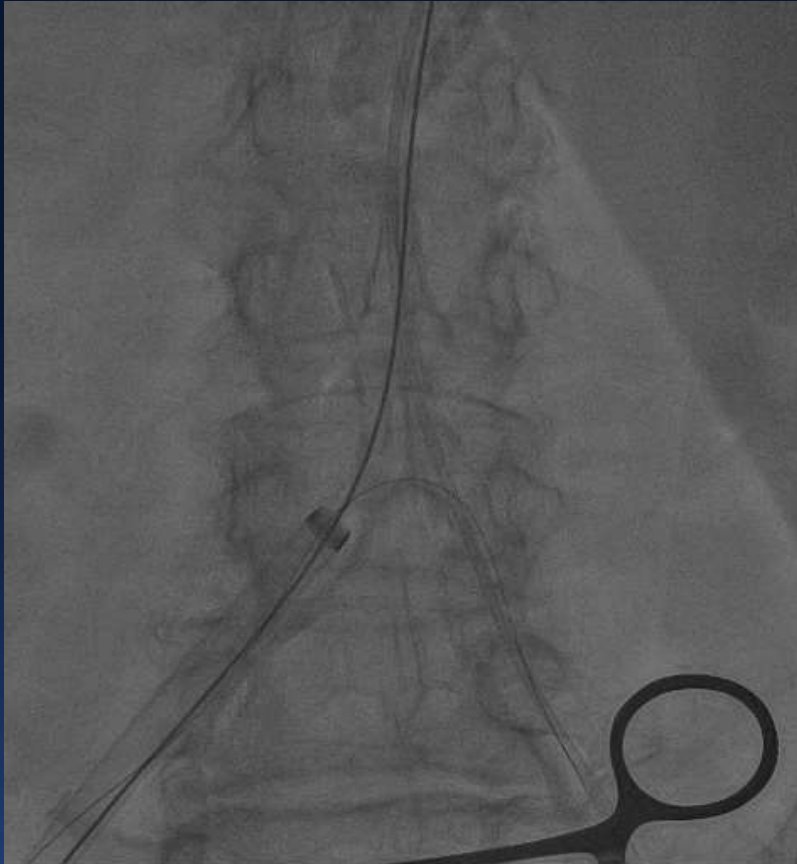


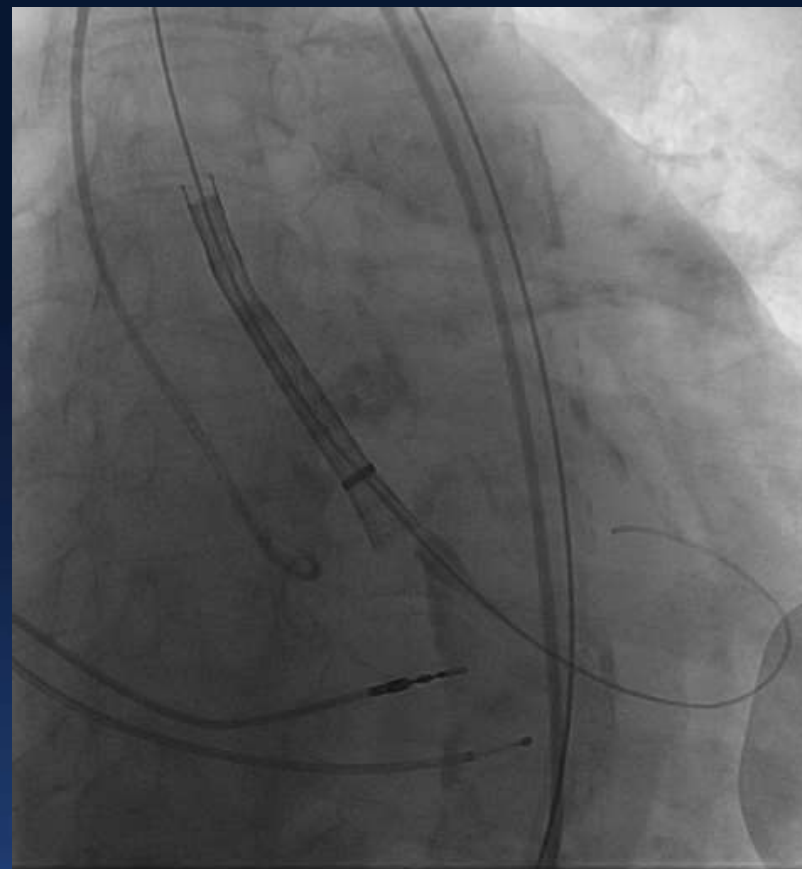
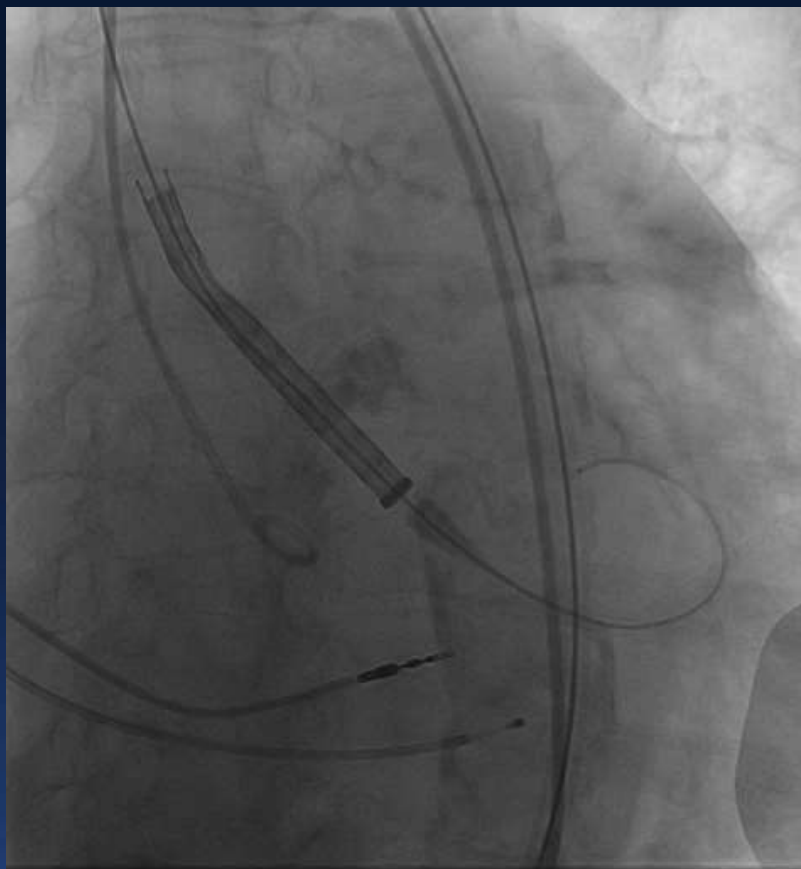
18mm ZMED II



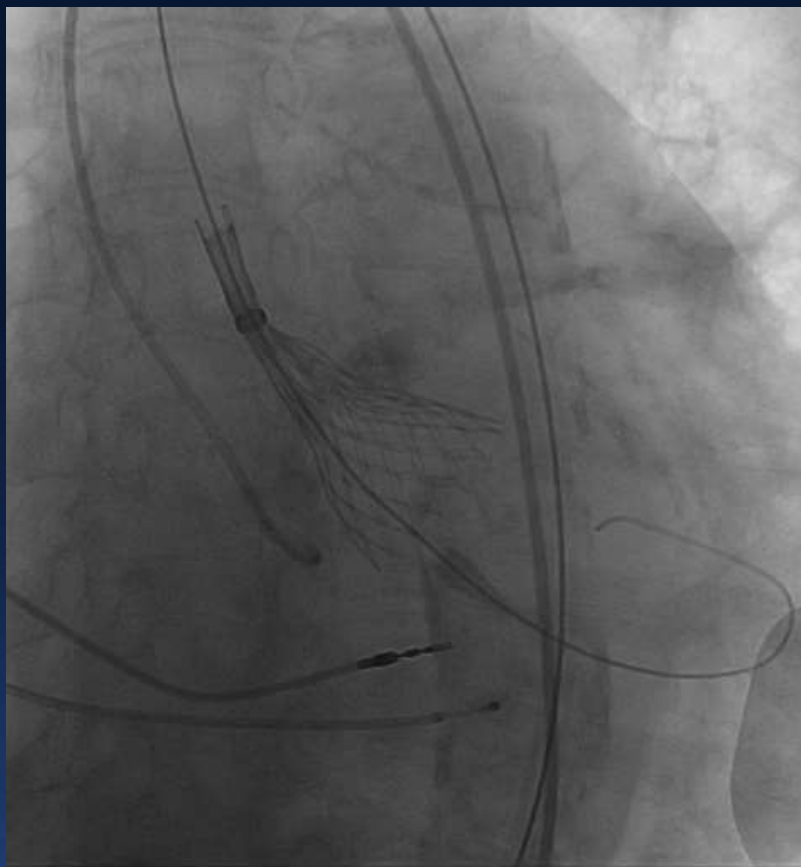
20mm ZMED II

Problem 7: CoreValve cross right iliac artery





The Needs of The Patients and The Customers Come First



The Needs of The Patients and The Customers Come First

Final Result



The Needs of The Patients and The Customers Come First



The Needs of The Patients and The Customers Come First

Follow up

	NYHA	V_{max} (m/s)	Mean Gradient (mmHg)	AVA (cm²)	LVEF (%)	LVEDD (cm)
Baseline	IV	5.84	79	0.32	46.2	5.22
1 m	III	2.30	9	1.56	54.7	4.91
6 m	II	2.12	8	1.75	60.1	4.58
12m	II	2.14	9	1.72	60.9	4.71

FU after long travel to Inner Mongolia



The Needs of The Patients and The Customers Come First

Take Home Message

- **TAVR is suitable for patients with bicuspid aortic valve and porcelain aorta.**
- **Heat team and corporation with all related departments are very important.**
- **Careful evaluation before procedure is essential.**
- **Experience and skillfulness are crucial to perform a challenging TAVR case.**