

# Challenging Case from Japan

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**Speaker's name: Norio Tada**

**I have the following potential conflicts of interest to report:**

TF proctor: Edwards Lifesciences

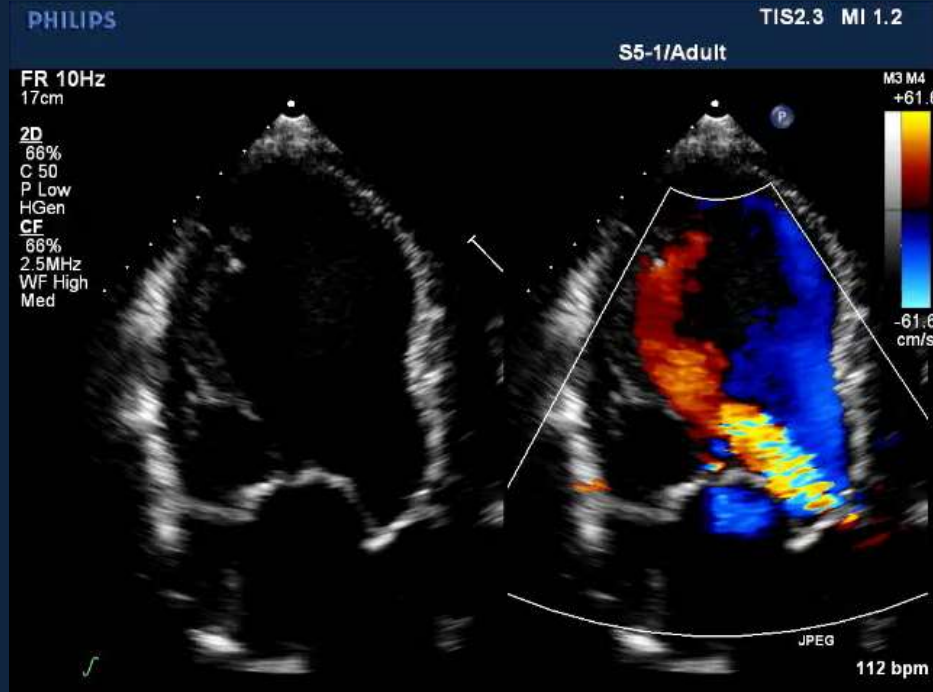
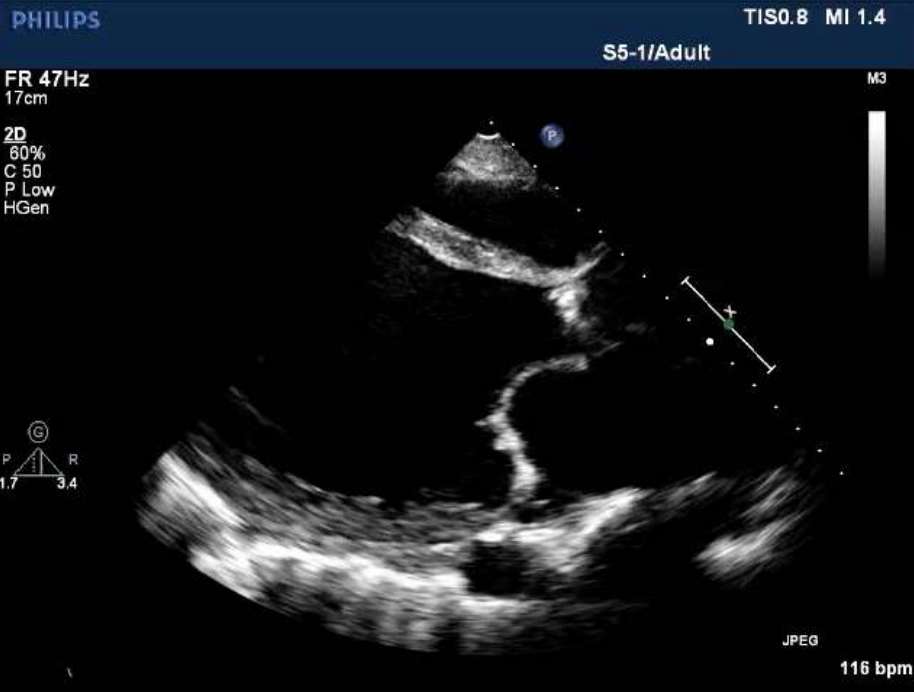
# 62 yrs old male

- 176cm 52kg
- CHF (NYHA 4)
- Severe ASR
- Bicuspid aortic valve
- Coarctation of aorta (ABI=0.7)
- LV dysfunction (EF=16%, LVDD=80mm)

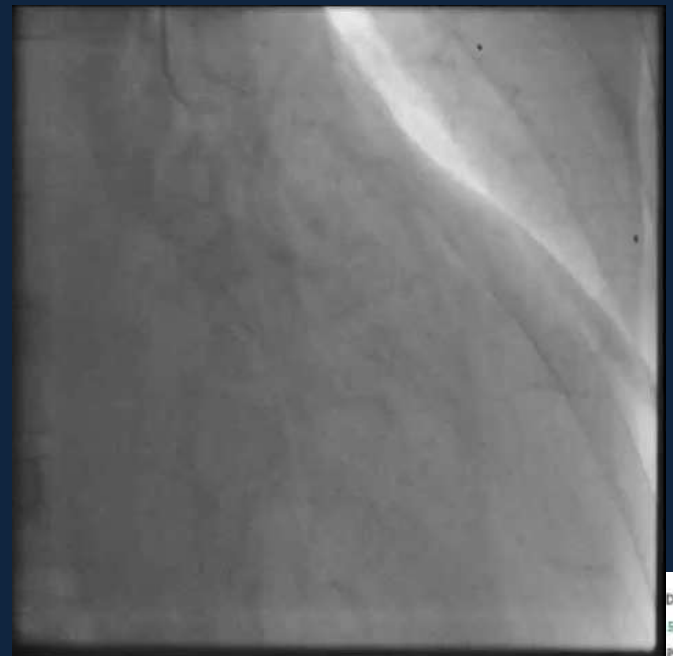
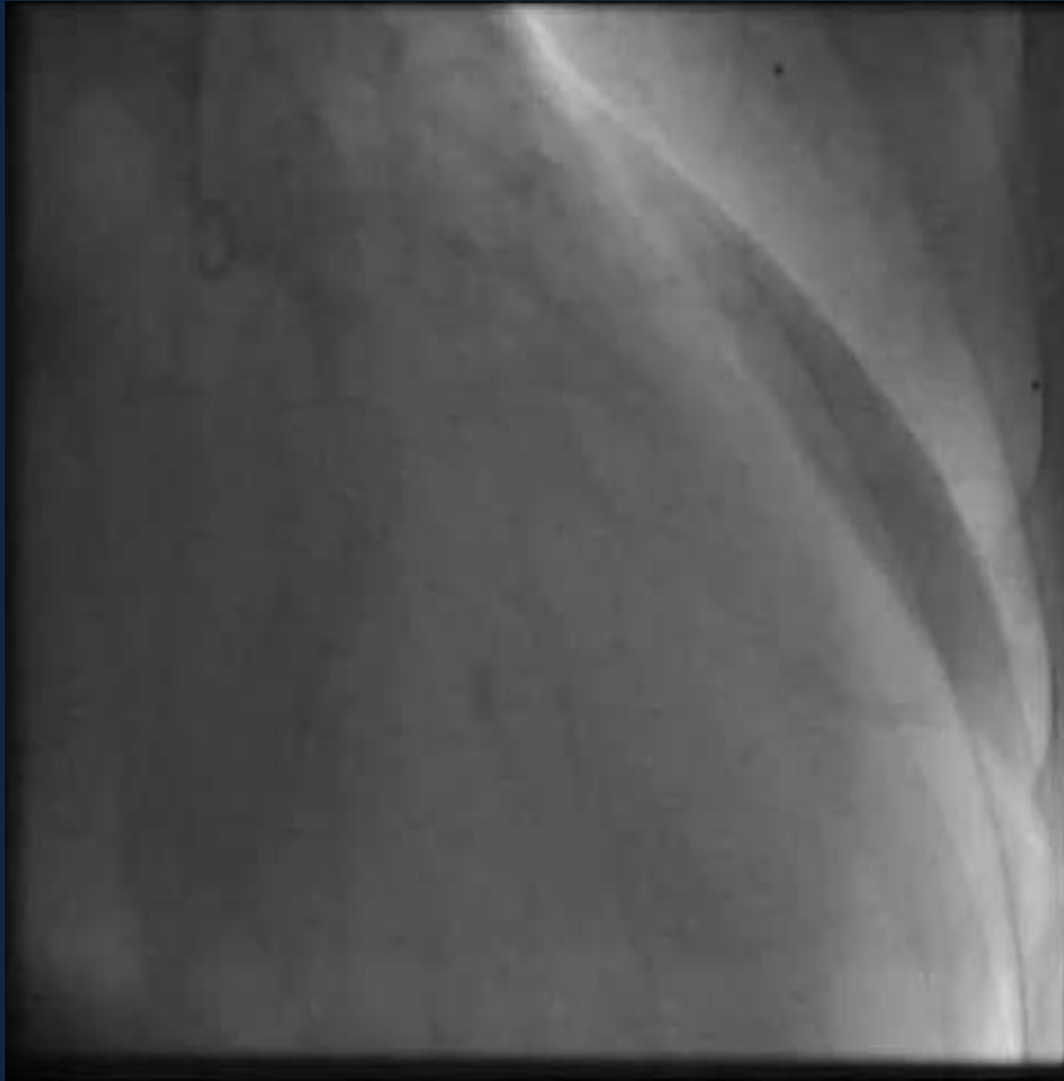
## 62 yrs old male

- He repeated CHF hospitalization since Q1 in 2016.
- Severe ASR due to bicuspid AV and Coarctation aorta was pointed at the time.
- Surgery under LVAD support was our heart team decision last summer, and transferred to a University hospital.
- However he denied surgery.
- He hospitalized again due to CHF in Jan 2017.
- He was NYHA 4 under DOB support.





EF= 16%  
 LVDD=80 LVSD 74mm  
 AoF 2.79 m/s  
 PPG 31 mmHg  
 MPG 17 mmHg  
 AVA 0.89cm<sup>2</sup>  
 Severe AR



AOG: severe AR and very dilated LV



Bicuspid aortic valve  
type1 Fusion of RCC and LCC

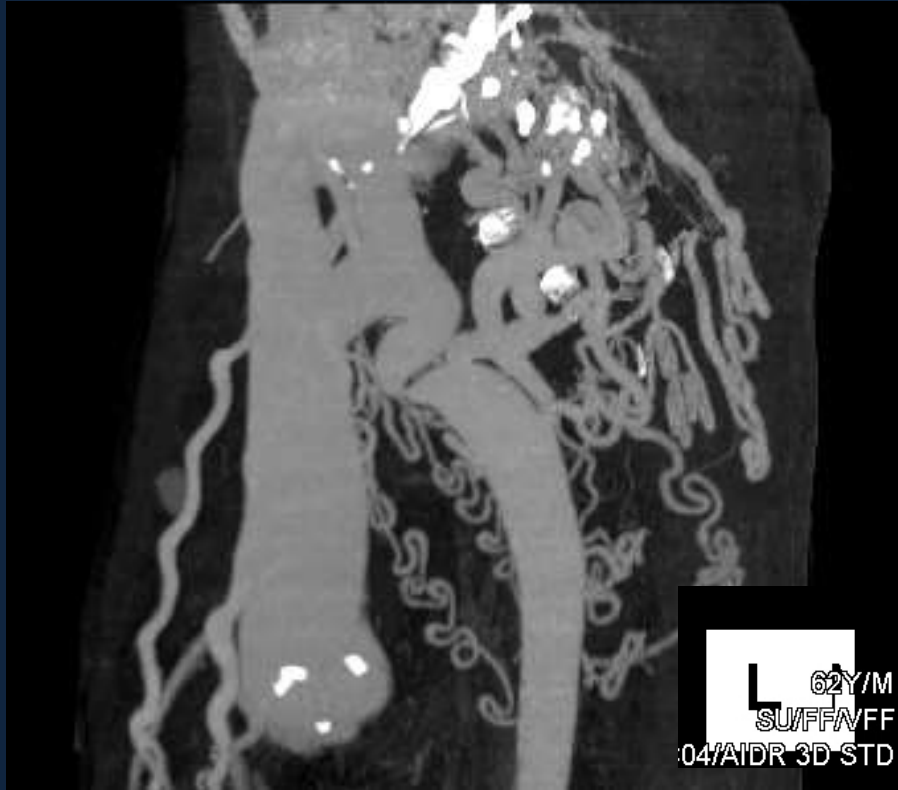


Annulus area 651mm<sup>2</sup>  
SOV 47 x 48 x 50 mm

STJ diameter 41mm  
RCA height 23.6 mm  
LCA height 51.1 mm



# Coarctation of Aorta



STS predicted mortality for single AVR  
21.6%

3.0ml(23)/01:26.7

F

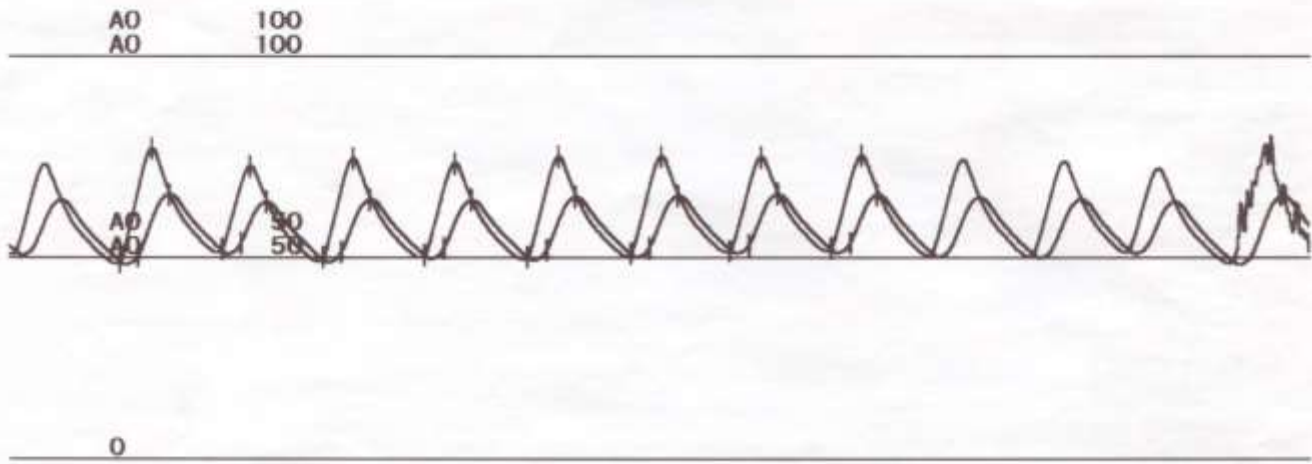
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# Problem list

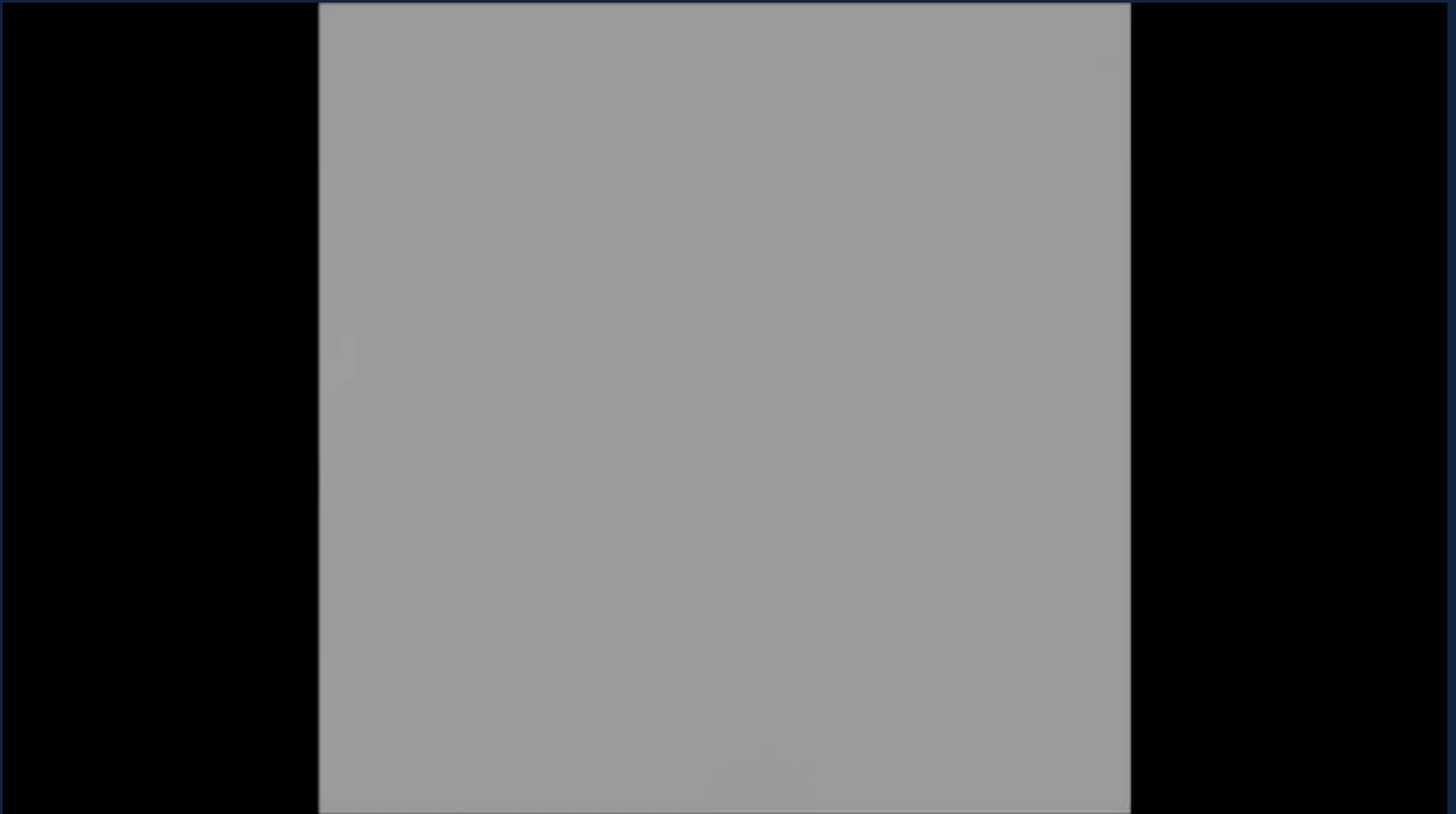
- Instable hemodynamics
- Severe LV dysfunction
- Bicuspid AV
- Less calcified and large AV
- CoA

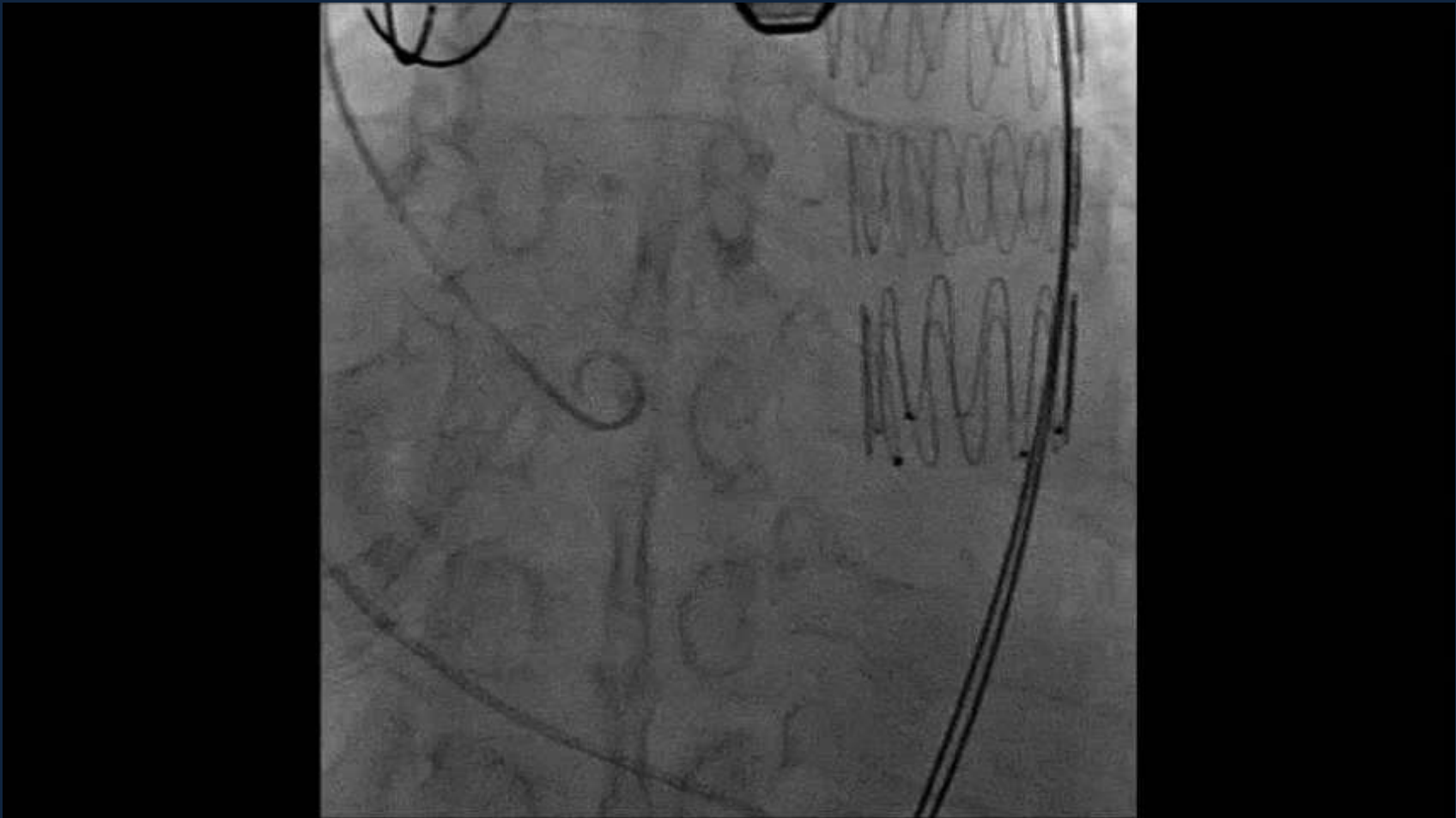
# Strategy

1. General anesthesia, TEE guide, without PCPS (ECMO)
2. CoA
  - Pre dilation 10mm
  - 32 mm ZENITH TX2 TAA Endovascular Graft (COOK)
  - Post dilation 16mm
3. TF-TAVI
  - SAPIEN 3 29mm, direct implantation, 1.4% oversize
  - +4ml filled in inflation device



# 32 mm ZENITH TX2 TAA Endovascular Graft (COOK)

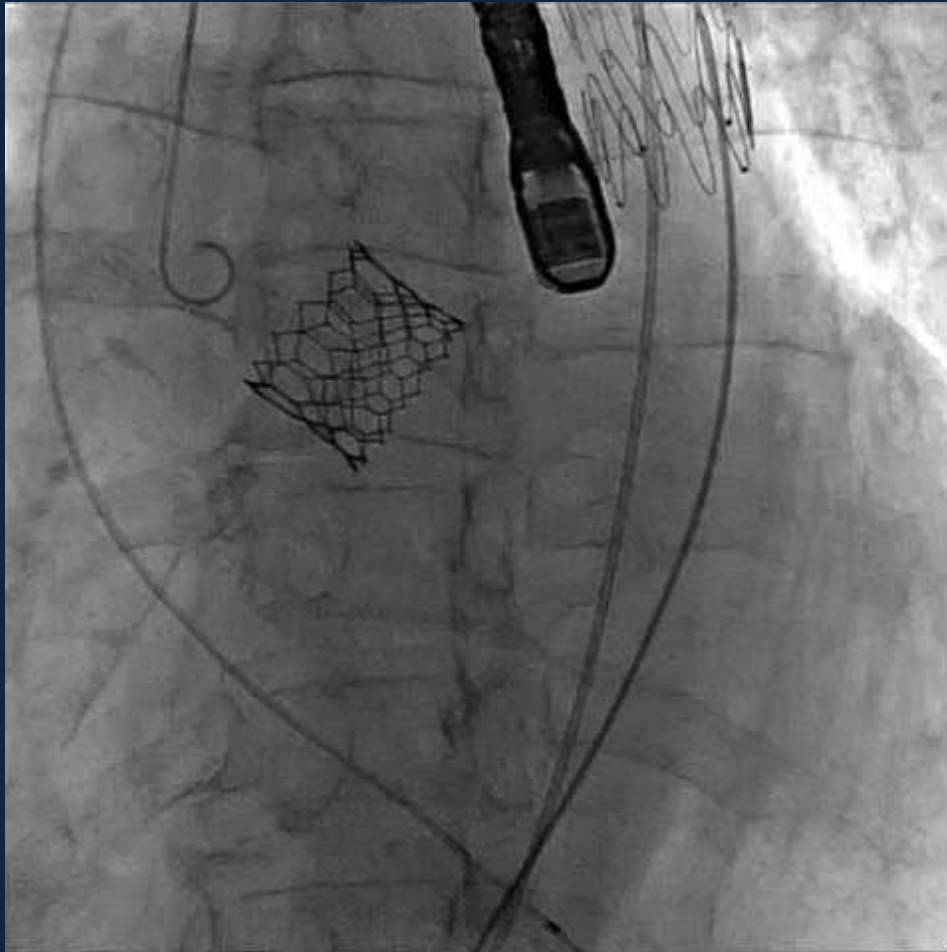








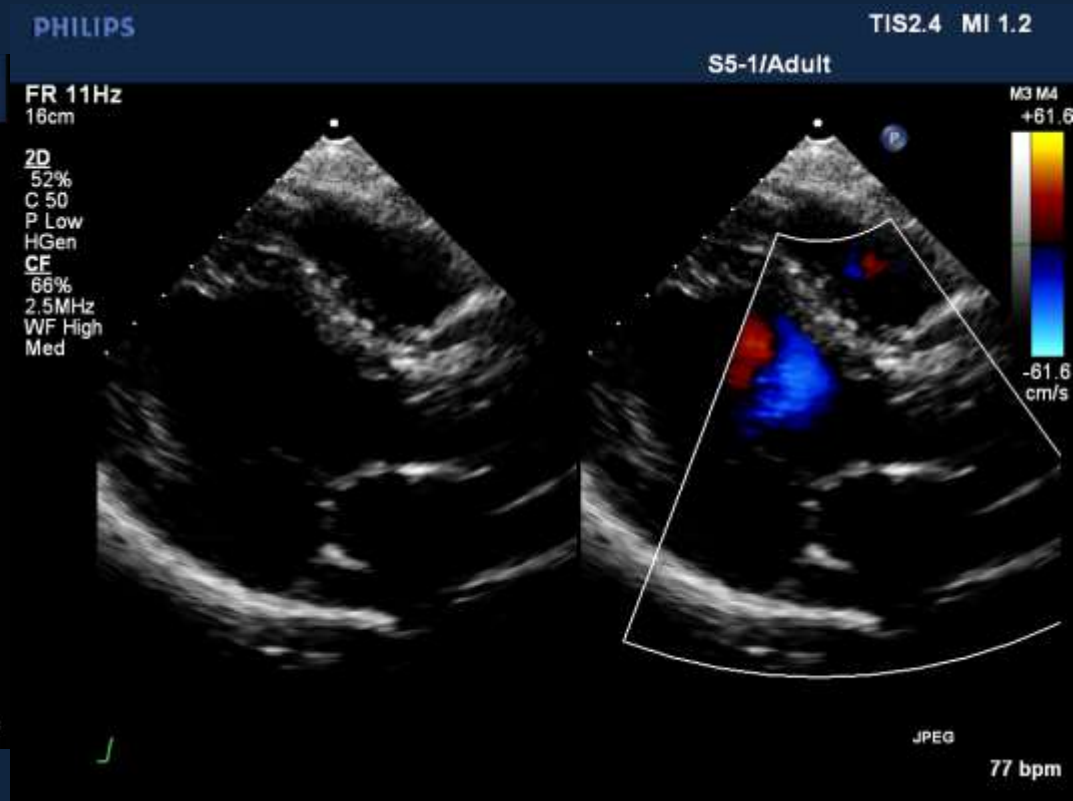




# 5 months f/u LVDD 80 → 58mm



Pre



5 month

# Summary

- SAPIEN 3 delivery system was delivered through the stentgraft for CoA.
- SAPIEN 3 was effective for large, less calcified, bicuspid, and primary AR aortic valve.



# Coarctation of the Aorta: Stenting in Children and Adults

Alex B. Golden,\* MD, and William E. Hellenbrand, MD

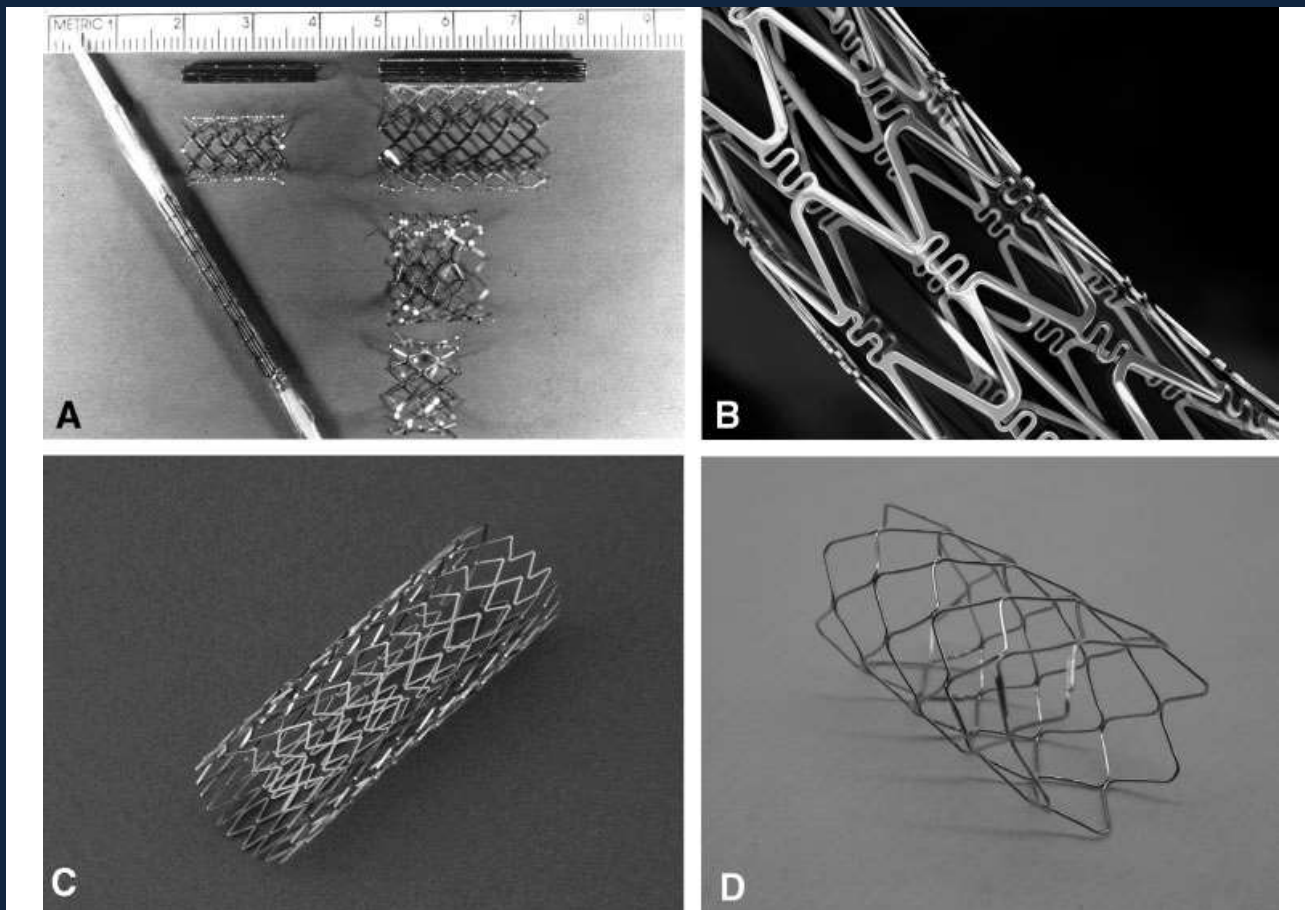
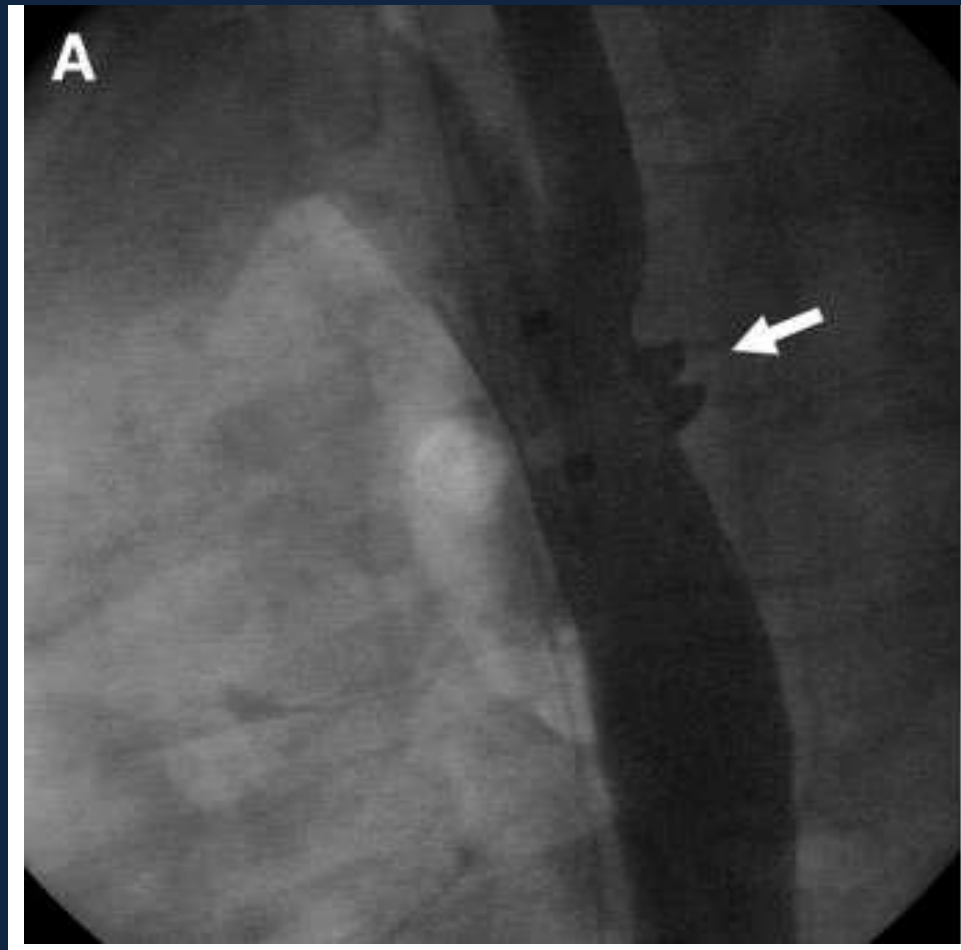


Fig. 2. (a) The Palmaz XL 10-series stents are sturdy and expandable to full adult size, but the stents shorten considerably with full expansion. (b) The “sigma” hinge in the Genesis stents allows the stents to flex around curves and prevents significant shortening on expansion, but these stents cannot

be expanded beyond 18 mm. (c) The ev3 Intrastent Max LD is expandable to full size, is flexible and does not significantly shorten. (d) The C-P stents made by NuMed are made of platinum wire with rows of zigzags to allow full-size expansion with minimal shortening and good radial strength.

# Coarctation of the Aorta: Stenting in Children and Adults

Alex B. Golden,\* MD, and William E. Hellenbrand, MD



- Tagはむきだし、tx2は収納されている
- Tagは真ん中からひらく、tx2ははじからひらく
- Tagはスリップのリスク
- Tagのほうがtortuoustyにつよい。Txは段々
- 10-20% oversizing
- 左鎖骨下A、温存。形としてはイマイチではあるが、弓部をカバーしに行くのはやりすぎ。本来の目的と異なる。つぶすとそれなりに虚血が生じる。しびれ。若いということを考えると温存でよい。動脈瘤の場合はendoleakを考慮して左鎖骨下カバーもありえるが、coarctationではendoleakは関係ない。
- 予後、再狭窄はまだわからない
- Ptaバルーン16mmのポストはどこまで広げるかはまだわからないが、とりあえず血行動態的な狭窄を解除し、ruptureしないことが第一目的。
- 再狭窄したら再度バルーンという手段もあり。

# Letters

## Transcatheter Aortic Valve Replacement to Treat Pure Aortic Regurgitation on Noncalcified Native Valves



Marina Urena, MD, PhD  
 \*Dominique Himbert, MD  
 Patrick Ohlmann, MD, PhD  
 Giuliana Capretti, MD  
 Coppelia Goublaire, MD  
 Michel Kindo, MD  
 Olivier Morel, MD  
 Walid Ghodbane, MD  
 Bernard Iung, MD, PhD  
 Alec Vahanian, MD

Aortic annulus (area, mm <sup>2</sup> )	>600	600	550	500	450	400	350	300			
Prosthesis size*†		†	29			26		23	*		
Extra volume (ml)†			+3	+2	+1	0	-1?	+2	+1	0	-1?

\*Overall a prosthesis/annulus oversizing of 15% to 25% is recommended. †Prosthesis size and extra volume may vary according to LVOT dimensions. ‡Suitability of TAVR depends on LVOT dimensions. AR = aortic regurgitation; CT = computed tomography; LVOT = left ventricular outflow tract; TAVR = transcatheter aortic valve replacement; TEE = transesophageal echocardiography; TTE = transthoracic echocardiography.





