August 16th, 2017
AP VALVE 2017
Seoul, Korea

Acute STEMI in a Patient with Severe AS

Wacin Buddhari, MD
On Behalf of Chula TAVI Team

King Chulalongkorn Memorial Hospital
Bangkok, Thailand

Disclosure

- **Advisory Board Member:**
  - AstraZeneca
  - Novartis (Sacubutril/valsartan)

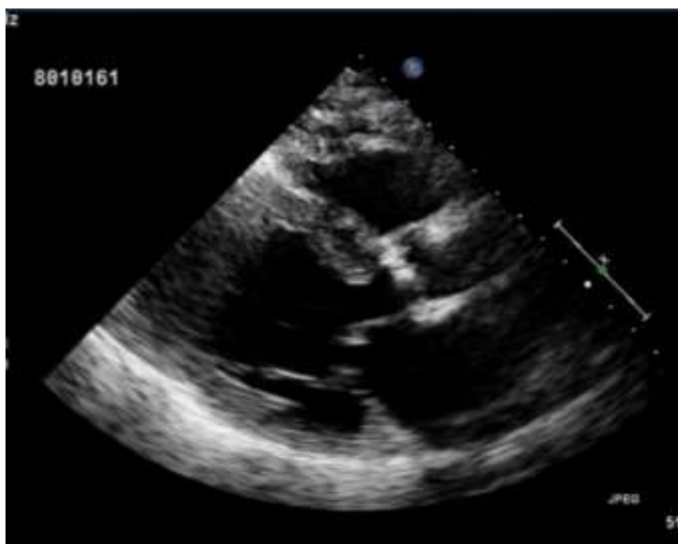
- **Lecture Honorarium**
  - AstraZeneca
  - **Abbot Vascular**
  - **Medtronic**
  - MSD
  - Novartis
  - Roche Diagnostics
  - Sanofi

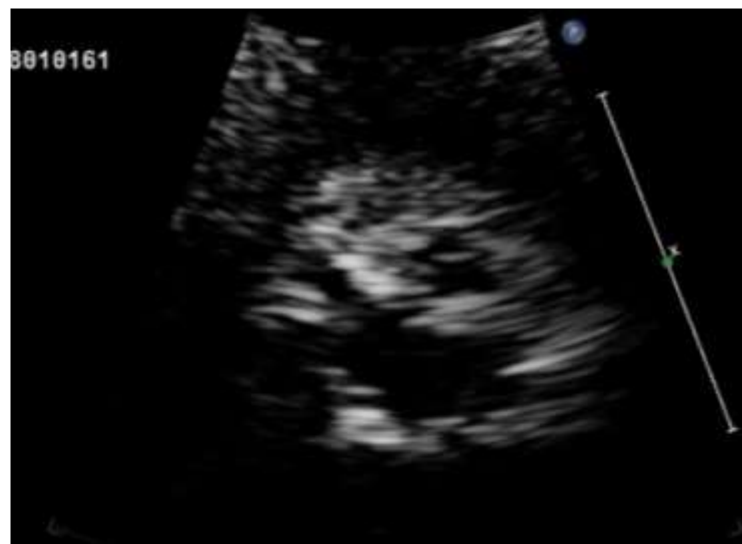
For this presentation, I have no conflict of interest

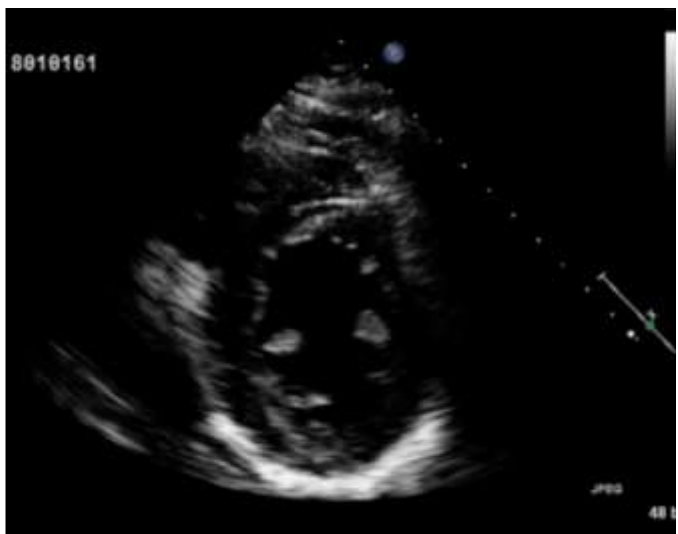
Cardiac Center

- A 75 y/o female
- Wt. = 60 kg., Height = 160 cm.
- Medical history: HTN, DLP
- Feb 2016: Mild dyspnea on exertion (NYHA FC II)

Echo: Feb 2016

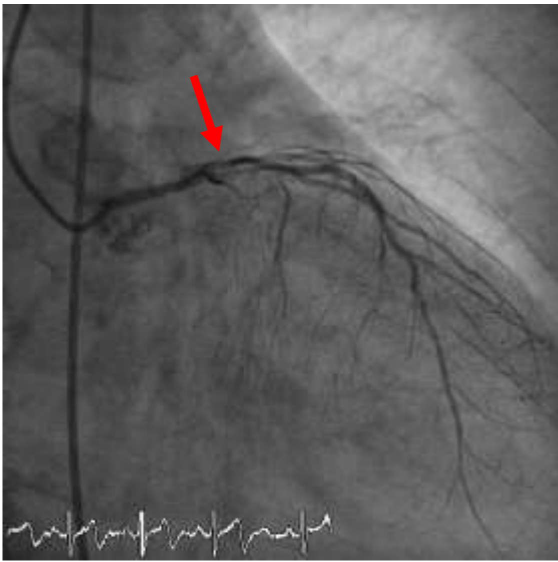


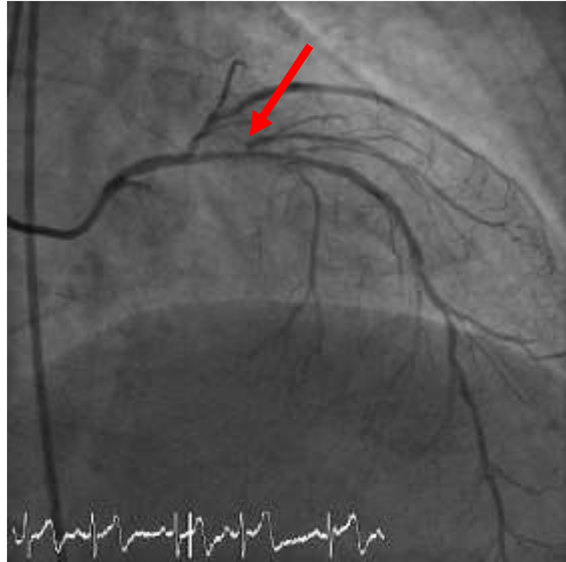


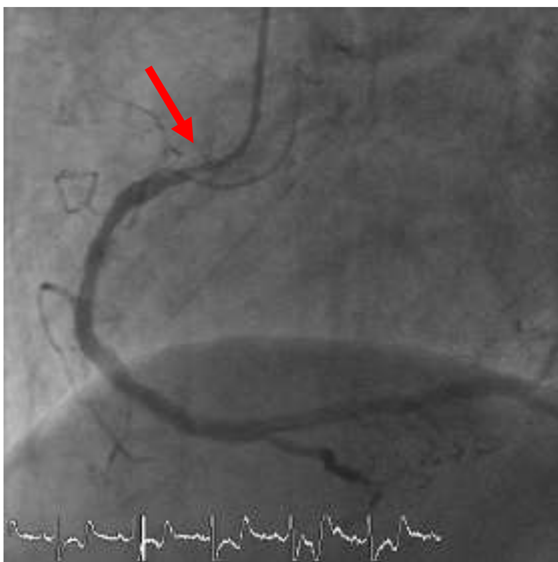


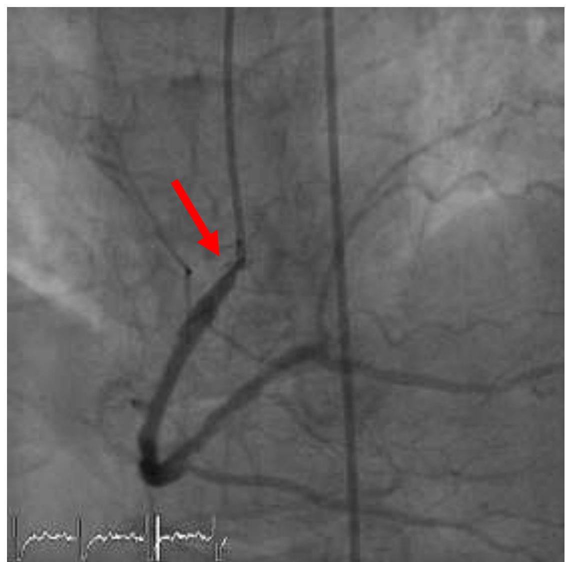
- Severe calcific AS
- EF = 70%,
- PG = 95, MG = 58,
- AVA = 0.8

CAG: Feb 2016









Status: Feb 2016

- STS score = 2.19
- Recommendation: AVR + CABG
- She refused surgery!

Should she be offered TAVI at this point?

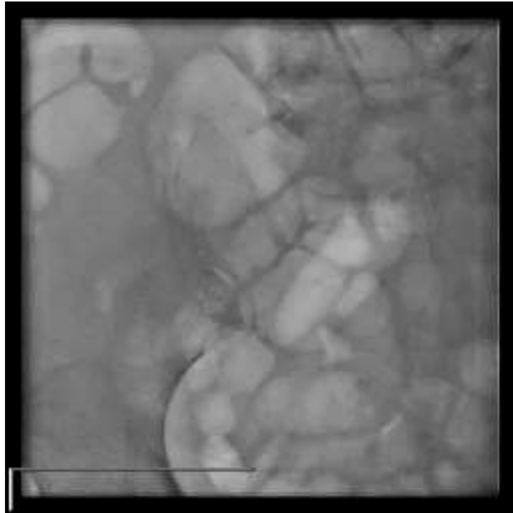
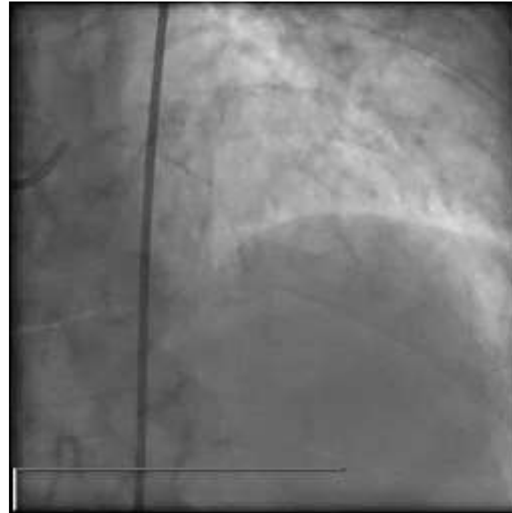
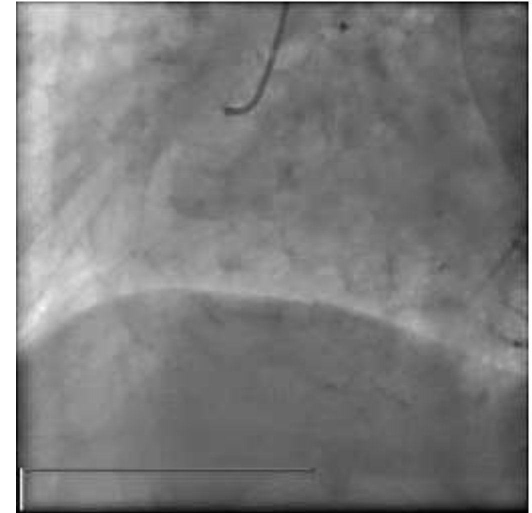
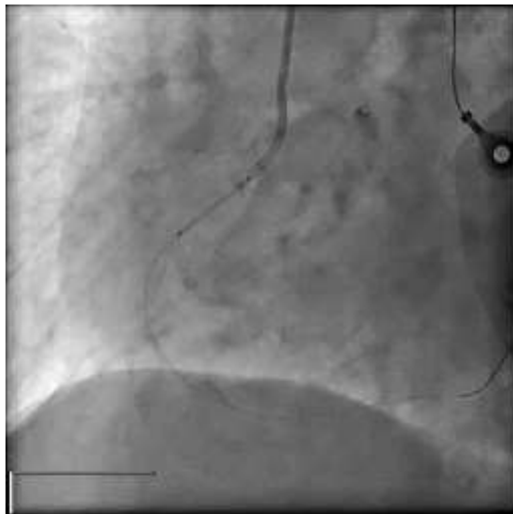
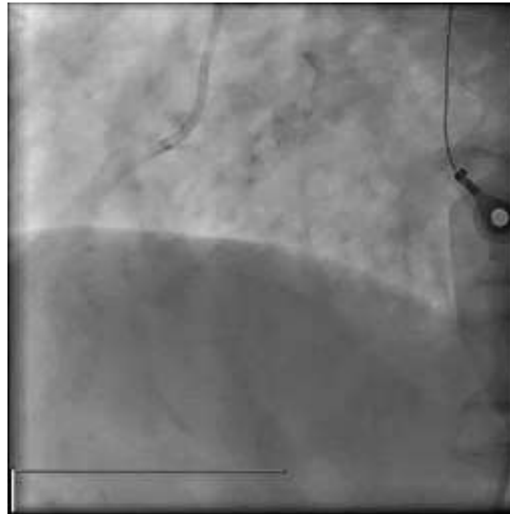
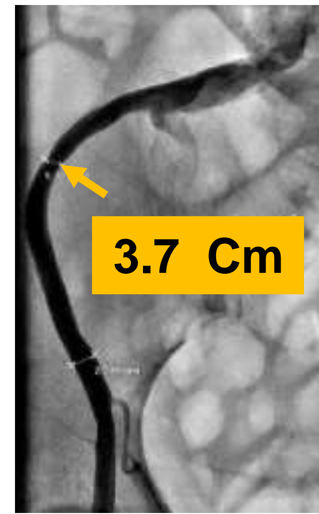
Then…: April 17th, 2017

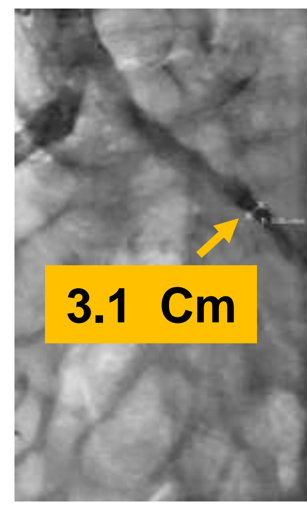
(10 months later)

- Developed **acute inferior wall STEMI**
- Had primary PCI to ostial/proximal RCA with DES at an outside hospital
- hsTn-T > 10,000, CKMB > 300
- Developed heart failure (Killips II)
- Refer

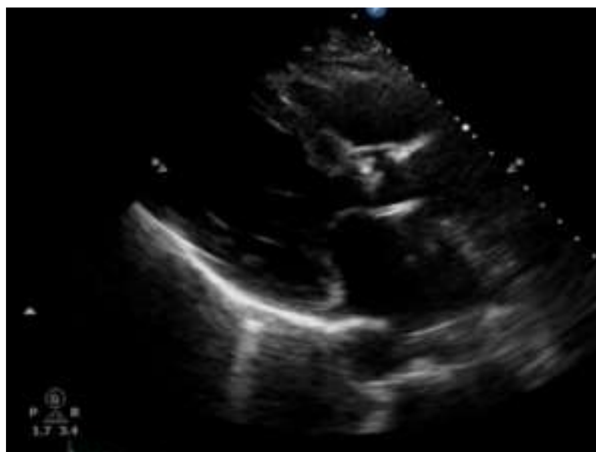
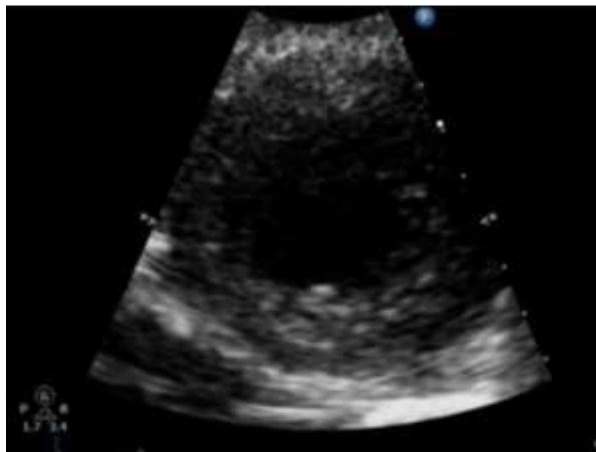
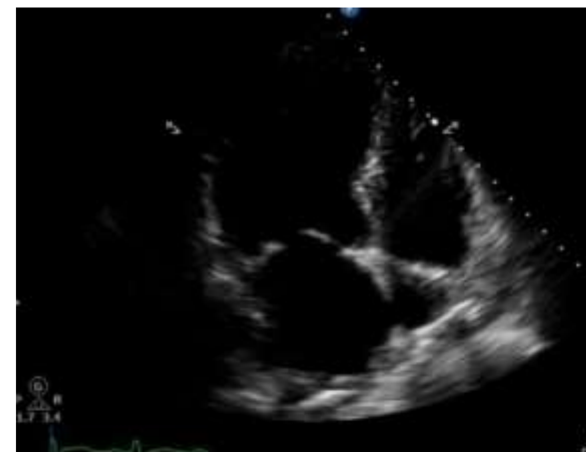
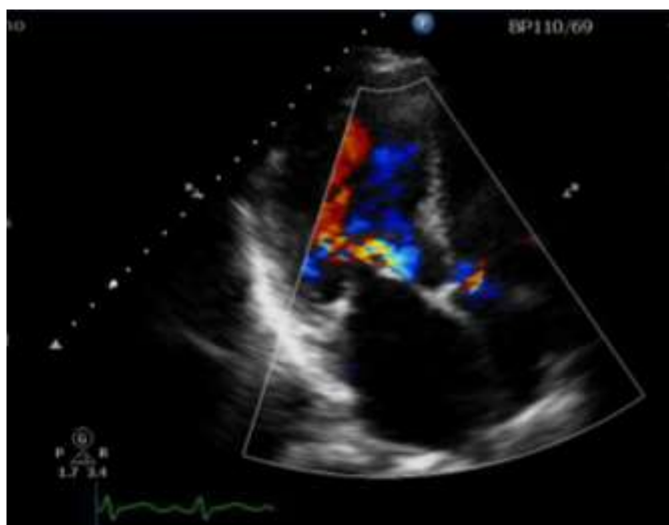
Cardiac Center

CAG & Primary PCI: April 17th, 2017



Echo (the day of MI): April 17th, 2017

- ↓ EF = 40%
- Infero-postero-lateral AK
- Worsening MR → at least moderate
- PG = 67, MG = 32

April 18-19th, 2017

- Initial BP = 120/70 with **class IV heart failure**
- **Creatinine: 0.6 → 1.6**
- Developed atrial fibrillation with rapid ventricular rate, required IV amiodarone
- **BP slowly came down**
- With inotropes, and diuretic, **HF appeared to be refractory**

Status: April 19th, 2017

- With recent STEMI, intractable HF, rising serum creatinine, impending cardiogenic shock?, her risk is now …

	ACC
STS (urgent) = 18.9	TAVR risk (urgent) = 18.6
STS (emergent) = 25.4	TAVR risk (emergent) = 22.1

Cardiac surgeon now refused to do SAVR

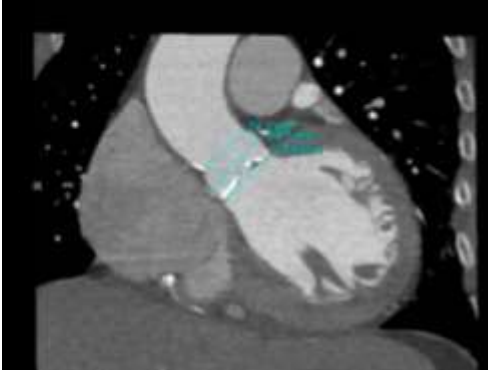
And CTA has NOT been done!

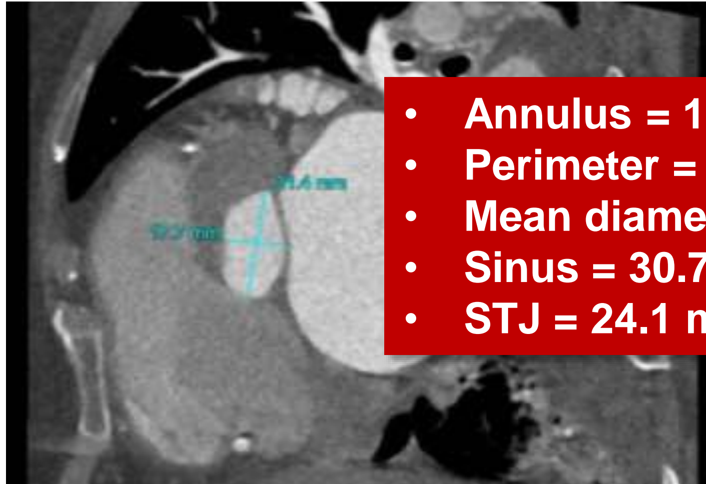
The issues

1. Does she require urgent/emergent TAVI (or just valvuloplasty)?
2. Should we do CTA or not? (still in HF and with rising serum creatinine)
3. Should we use echo derived parameter to select valve size (21 mm by TTE)?
4. With both iliac arteries appeared to be too small on previous angiogram, what should be the alternative route (and back to question 2)?

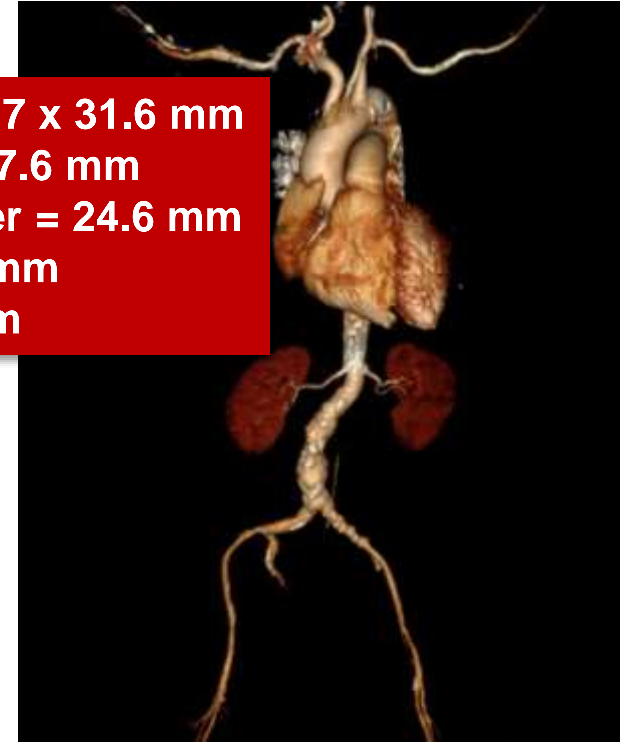
Cardiac Center

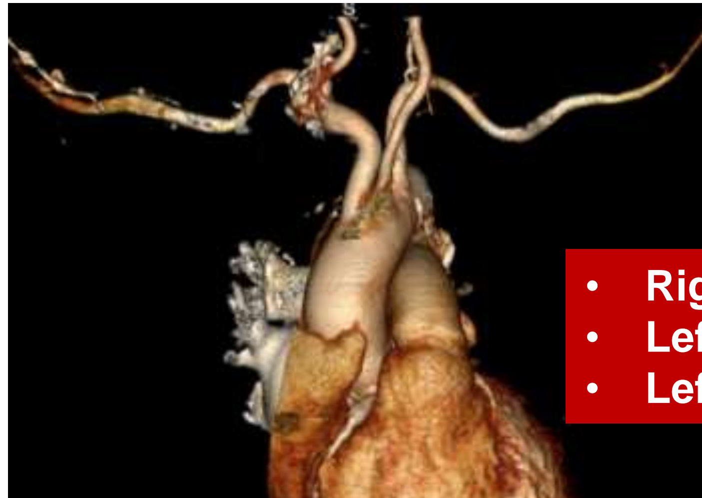
CTA: April 20th, 2017 AM





- Annulus = 17.7 x 31.6 mm
- Perimeter = 77.6 mm
- Mean diameter = 24.6 mm
- Sinus = 30.7 mm
- STJ = 24.1 mm





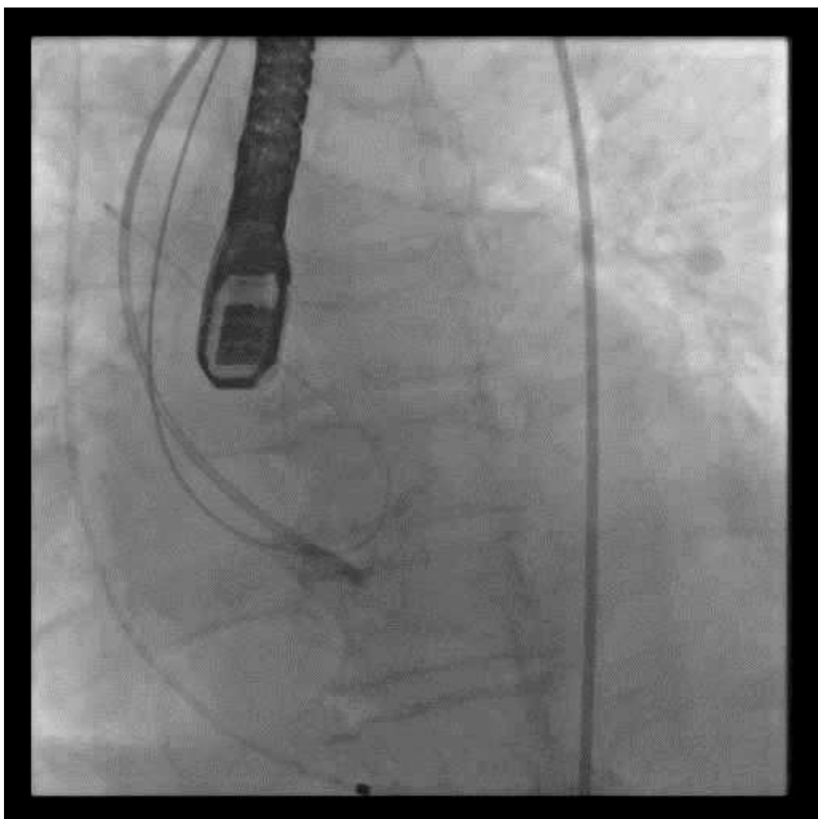
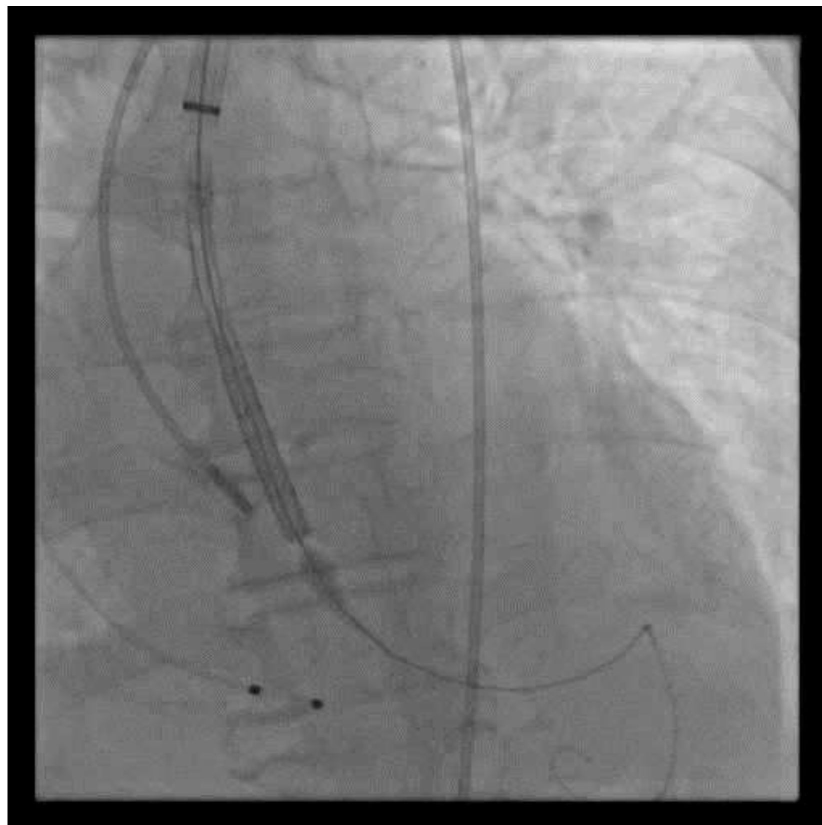
- Right iliac = 4.8 cm
- Left iliac = 4.6 cm
- Left subclavian = 6.8 cm

Hydra THV

- Nitinol
- Bovine

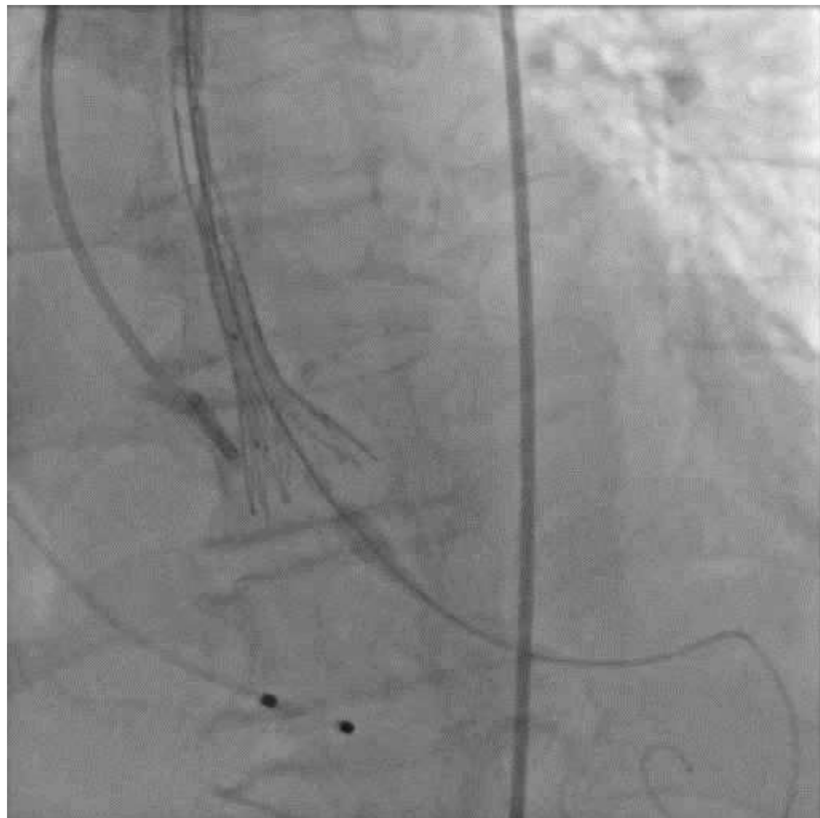
	HYDRA22	HYDRA26	HYDRA30
Diameter (A)	22mm	26mm	30mm
Diameter(B)	36mm	43mm	45mm
Height(H)	55mm	53mm	51mm
For annulus size:	18, to 20 mm	20 To 24 mm	24 to 28 mm

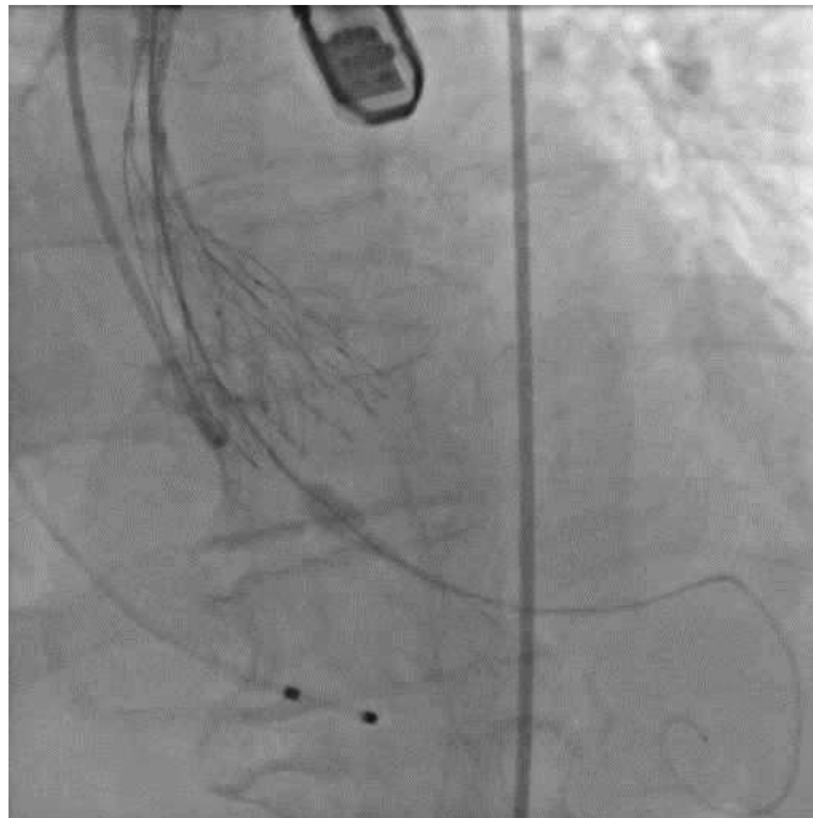
TAVI: April 20th, 2017 PM

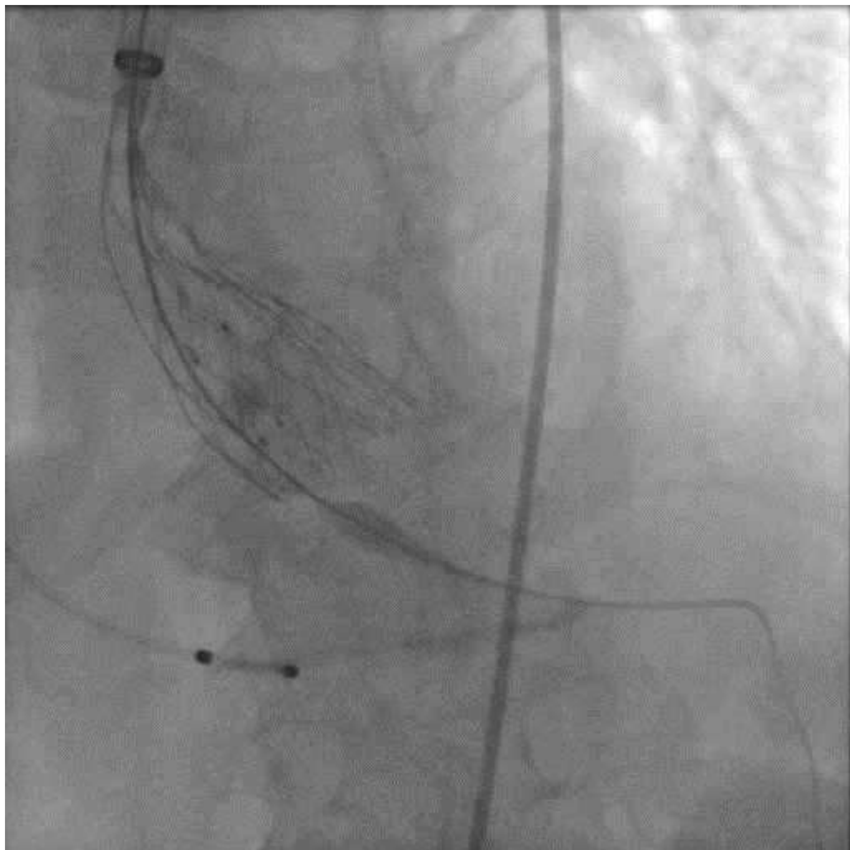
Cardiac Center

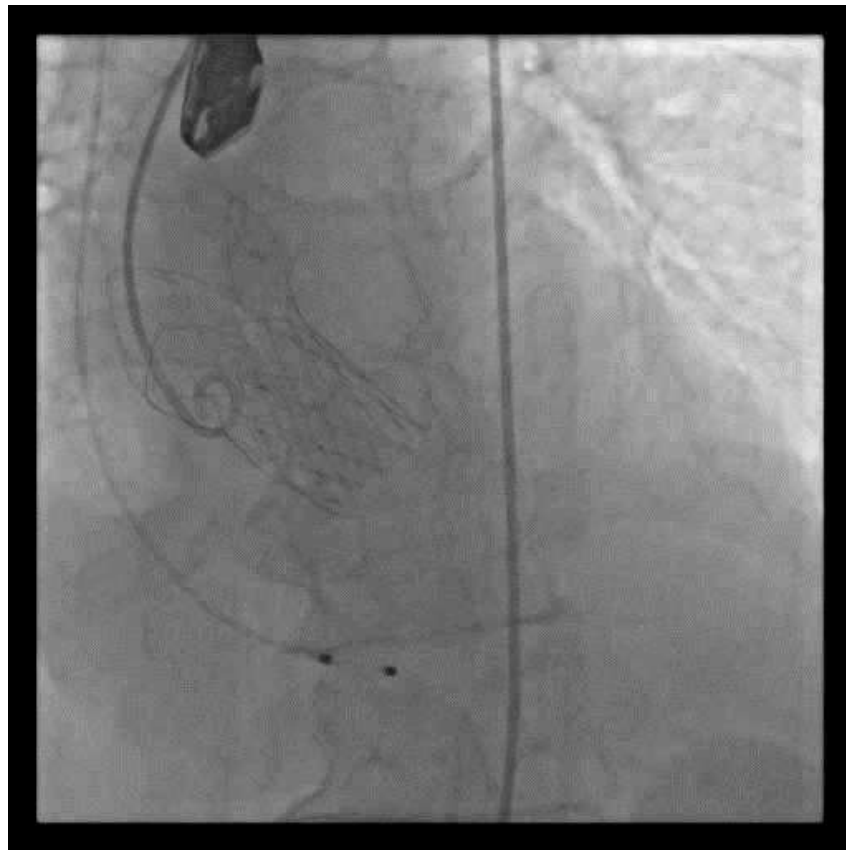
TAVI: April 20th, 2017 PM



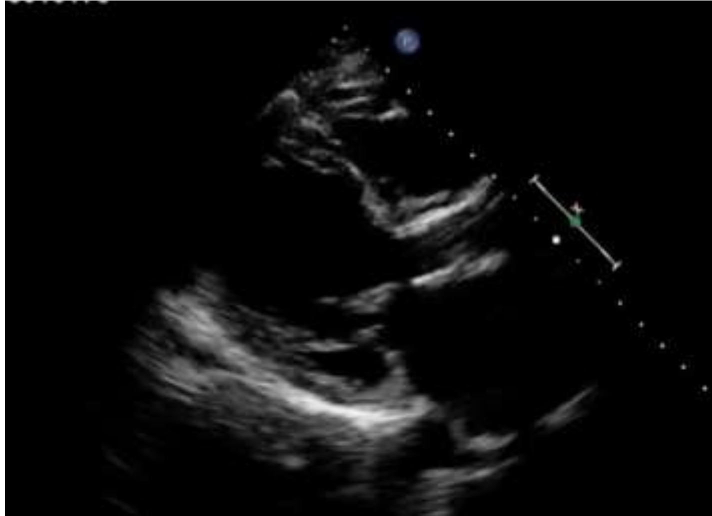


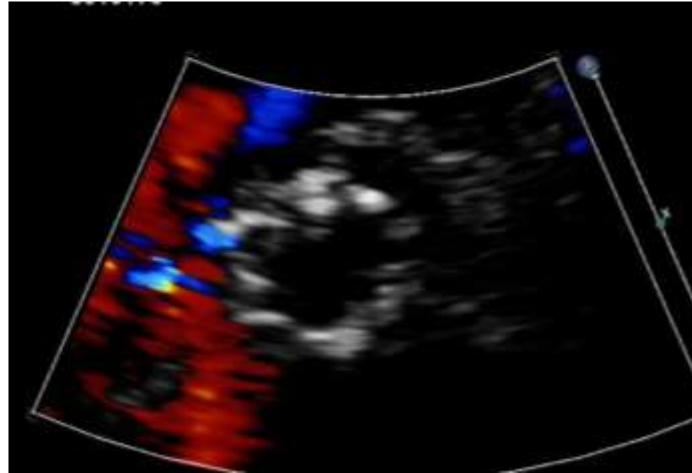
TAVI: April 20th, 2017 PM

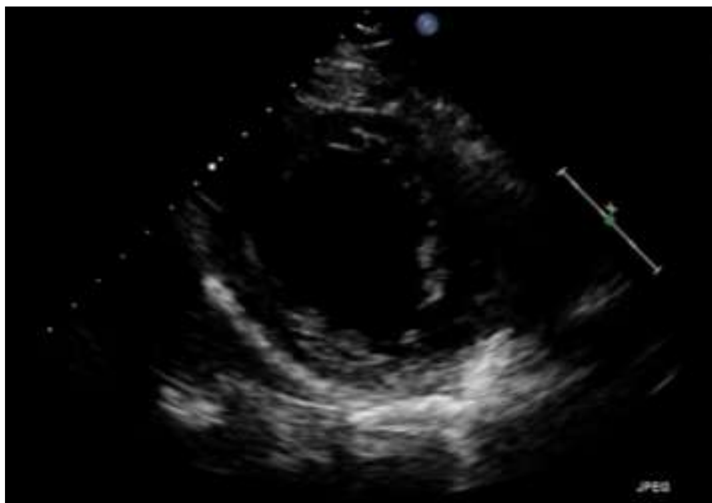


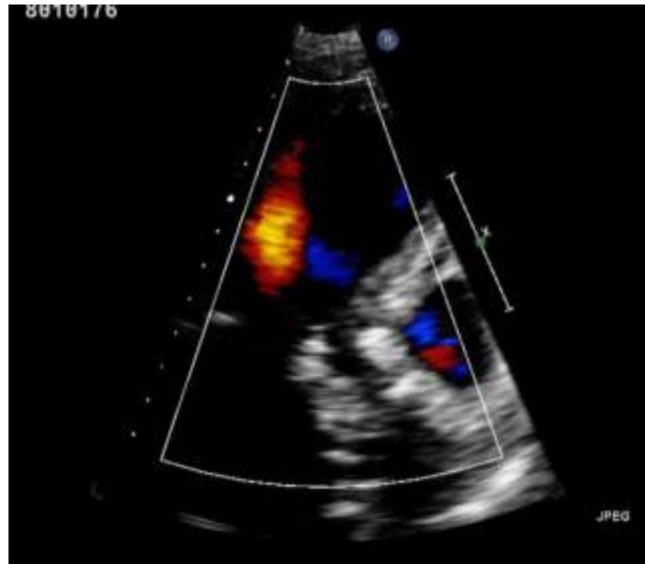


Echo: April 21th, 2017









- EF = 40%
- PG/MG = 15/8
- No leak
- Mod MR

Hospital Course

- IABP and Swan Ganz were placed
- Developed lower GI bleed (sigmoid colon ulcer) → stop spontaneously
- Gradually weaned off all mechanical and pharmacological supports, with BP up to the level that anti HTN agents were needed
- Creatinine went up to 3.03 and came down to 0.6 before D/C
- Length of stay = 6 days

Acute STEMI in patients with severe AS

- Very few case reports, mostly with balloon valvuloplasty

Burning questions…

In low risk patients, when they refused SAVR, ….

- ***Is it the cardiac surgeon's responsibility to try to convince them to the MAX?***

- ***And if they still adamantly refuse, is it an indication for TAVI now?***