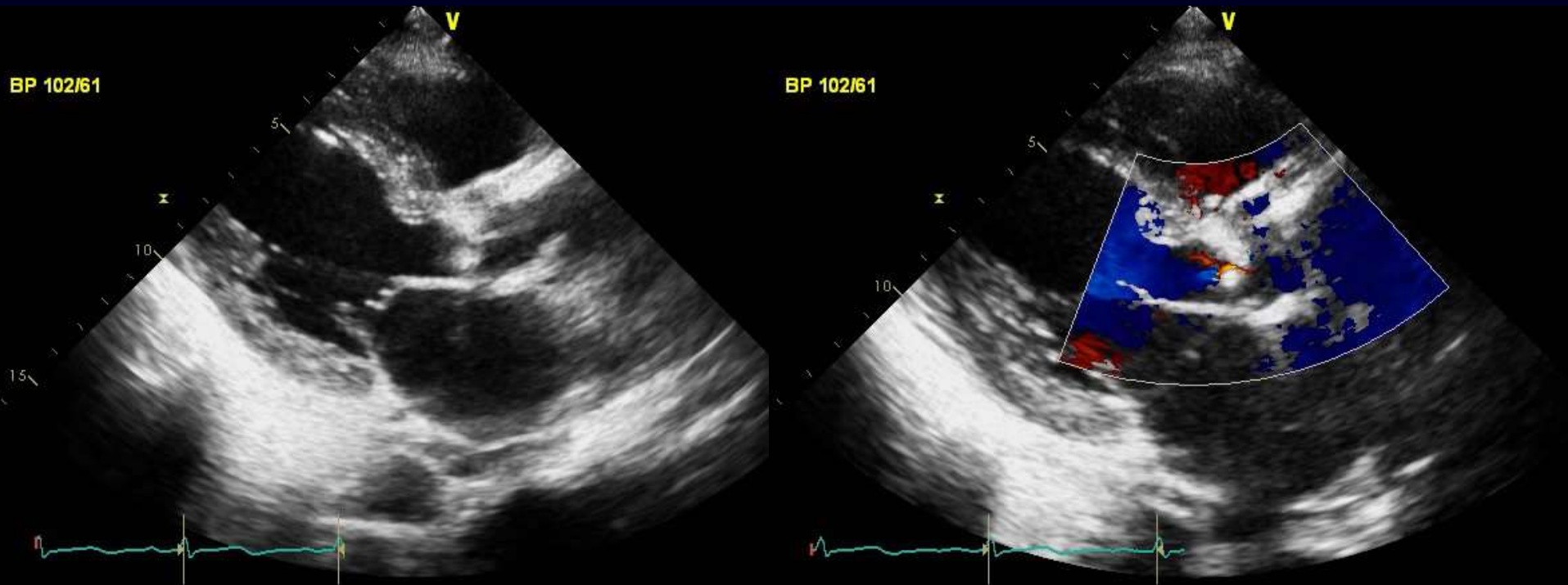


Emergency TAVI in cardiogenic shock due to severe aortic stenosis

Case

- **Female/ 87 years old**
- **Chief complain: dyspnea (NYHA IV)**
- **CCU care with intubated state**
- **Comorbidities**
 - **Hypertension**
 - **Diabetes mellitus**
 - **Hx: refusal of surgical AVR or TAVI due to severe AS (2012)**
- **Logistic euroscore: 81.8%**
- **STS score : 58.8%**

Echocardiography (2016-01-29)



**Severe AS (AVA: 0.41cm²) with heavy calcification
normal global LV systolic function (EF : 55%)
-----→ refusal of TAVI**

■ Current diagnosis

Aortic stenosis, severe, AVA 0.41 [16.01.29]

Minimal CAOD - CAOD CT [12.06.13]

HTN

DM

Dyslipidemia

■ Present illness

상기 87세 여환 HTN, DM 으로 medication 중이며 2008 년 Chest discomfort 를 주소로 본원 심장내과 내원하여 Moderate AS 진단받고 F/U 중 Severe AS 로 progression 소견보여 TAVI 시행 권유하였으나 보호자 refuse 하여 F/U loss 되었던 환자임.

환자 최근들어 medication 양 많아 모두 중지하고 지내던 중 내원 당일 오전 9시경 외출하고 난 이후 dyspnea/chest discomfort 발생하여 ER 내원하여 시행한 CXR 상 Pulmonary edema 소견보여 심장내과 협진의뢰 됨.

** 보호자 TAVI 등의 intervention 원하지 않음. (Medical Tx only)

■ Answer

Fellow notify 하였습니다.

환자 F/U TTE 상 Aortic valve area 0.41 cm² 소견보여 TAVI recommend 하였으나 보호자 환자 advanced age 등을 고려할 때 TAVI 시행 refuse 하였습니다.

환자/보호자에게 입원하여 medication 조절 필요함에 대하여 강력히 설명하였으나 보호자 medication 처방 후 OPD F/U 원하여 자의퇴원 합니다.

심장내과 F

- 전과 퇴원-완쾌 퇴원-경쾌 퇴원-호전안됨
 가망없는 퇴원 자퇴 전원 사망

Alert mental state

Discharge against admission at ER

■ Current diagnosis

Aortic stenosis, severe, AVA 0.41 [16.01.29]
Minimal CAOD - CAOD CT [12.06.13]
HTN
DM
Dyslipidemia

■ Present illness

상기 87세 여환 HTN, DM 으로 medication 중이며 2008 년 Chest discomfort 를 주소로 본원 심장내과 내원하여 Moderate AS 진단받고 F/U 중 Severe AS 로 progression 소견보여 TAVI 시행 권유하였으나 보호자 refuse 하여 F/U loss 되었던 환자임.

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** 보호자 TAVI 등의 intervention 원하지 않음. (Medical Tx only)
내원 수 일 전부터 cough 있어 medication 하던 중 내원 전일부터 dyspnea 있어 pulmonary edema impression 하 타병원 입원치료중 dyspnea aggravation 되어 intubation 시행 후 전원됨

@ Bedside TTE

1. Severe AS with heavy calcification
2. Moderate global hypokinesia
3. Decreased LV systolic function
(LVEF visually estimated 30~40%)
4. Eccentric LVH

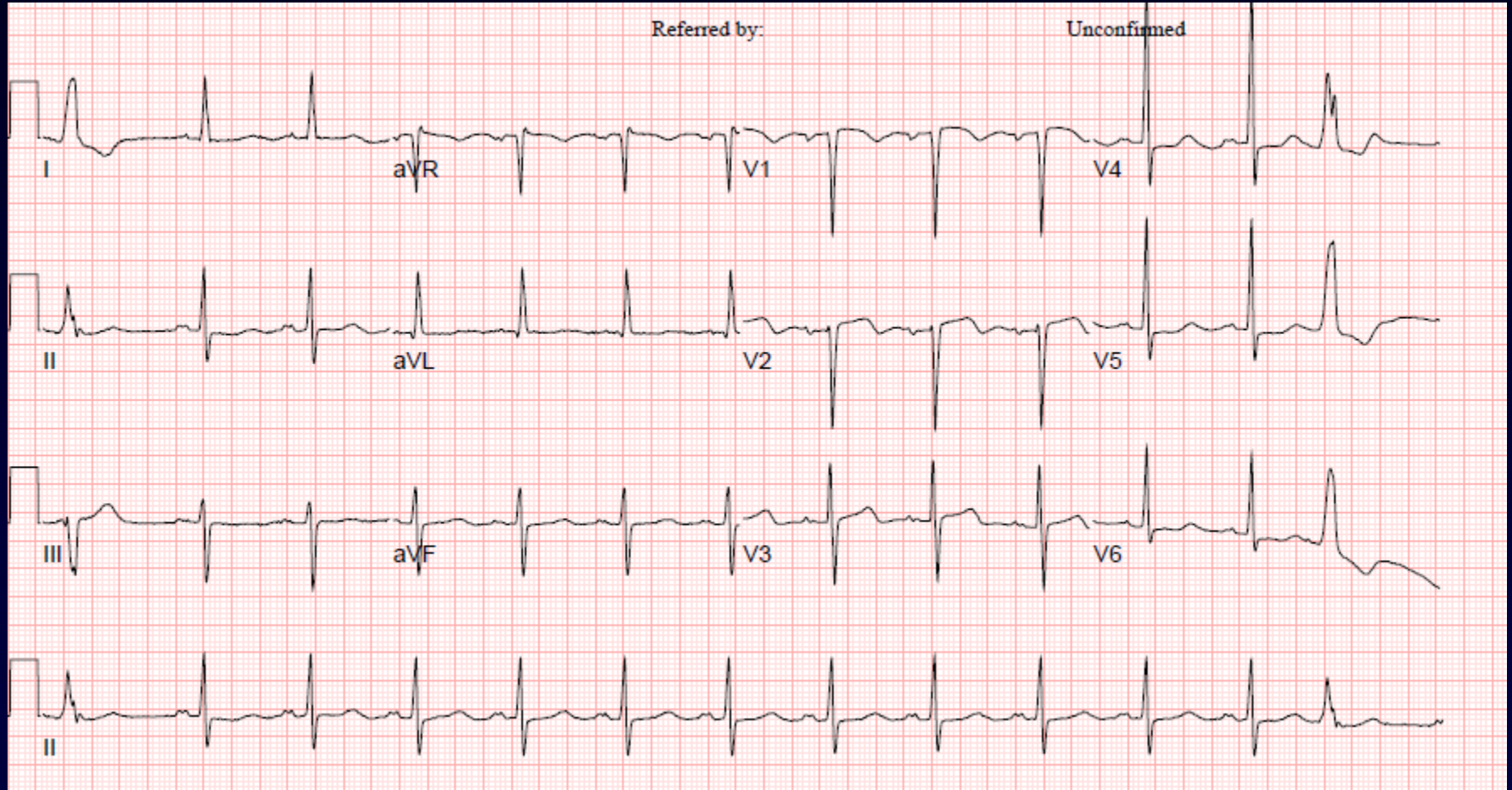
심장내과 R3

Transferred from
other hospital with
intubated state
about 2 weeks later

Chest PA (2016-02-15)



EKG (2016-02-15)




Echocardiogram (2016-02-15)

경흉부 심장초음파 검사 결과-M3 [2016-02-15]

Exam Date 2016-02-15 14:30:55

Echo No 16-4438

Referring Dr. 

1. Comments

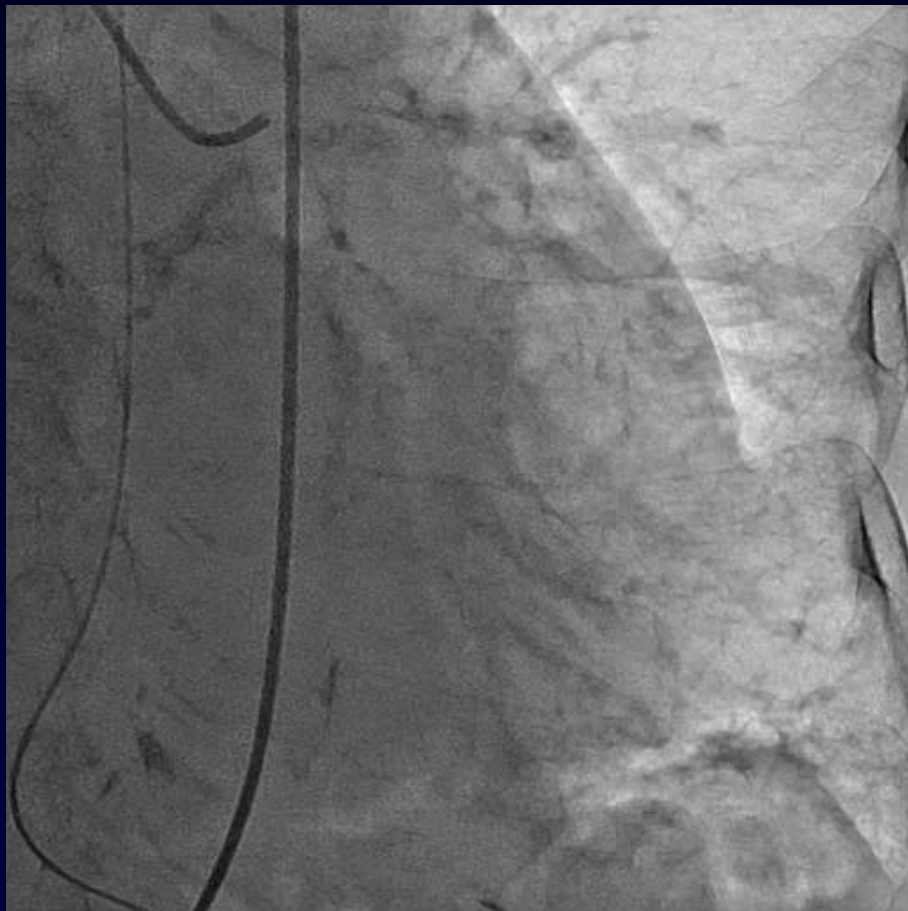
-Portable echo: known severe AS, HTN, DM, minimal CAOD (CAOD CT, 12.06.13)-

* Compared with previous echo (16.1.29)

1. Newly developed RWMA: compatible with RCA territory
2. Severe AS (AVA : 0.41->0.37cm by C.E, peak/mean PG :91/60->92/59mmHg) due to degenerative change with heavy calcification, without significant interval change.
3. Decreased LA(LAVI: 63->48 ml/m²) with reduced global LV systolic function (EF : 55->48% by biplane)
4. Relaxation abnormality of LV filling pattern (E/E' : 23->22)
5. Mild pulmonary HTN (RVSP : 57->40mmHg) with IVC plethora (25mm)
6. Eccentric LVH

The patient family were still reluctant to any intervention

CAG (2016-02-19) for TAVI screening



At 3rd injection, coronary perfusion decreased....

Progress: cardiogenic shock



BP: 40/30 mmHg → CPR for 6 minutes → BP: 90/60 mmHg

What's your next plan?

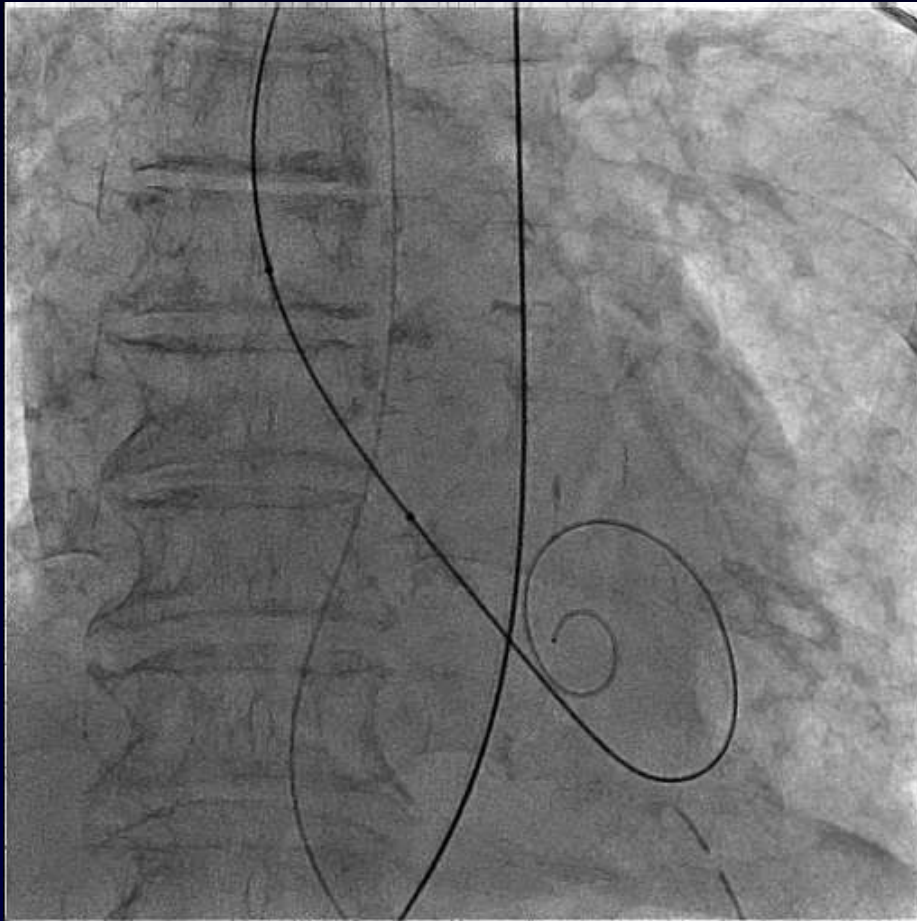
There were no information of TEE, Cardiac CT and peripheral angiography at the time of diagnostic coronary angiography

1. Continued supportive care until elective TAVI

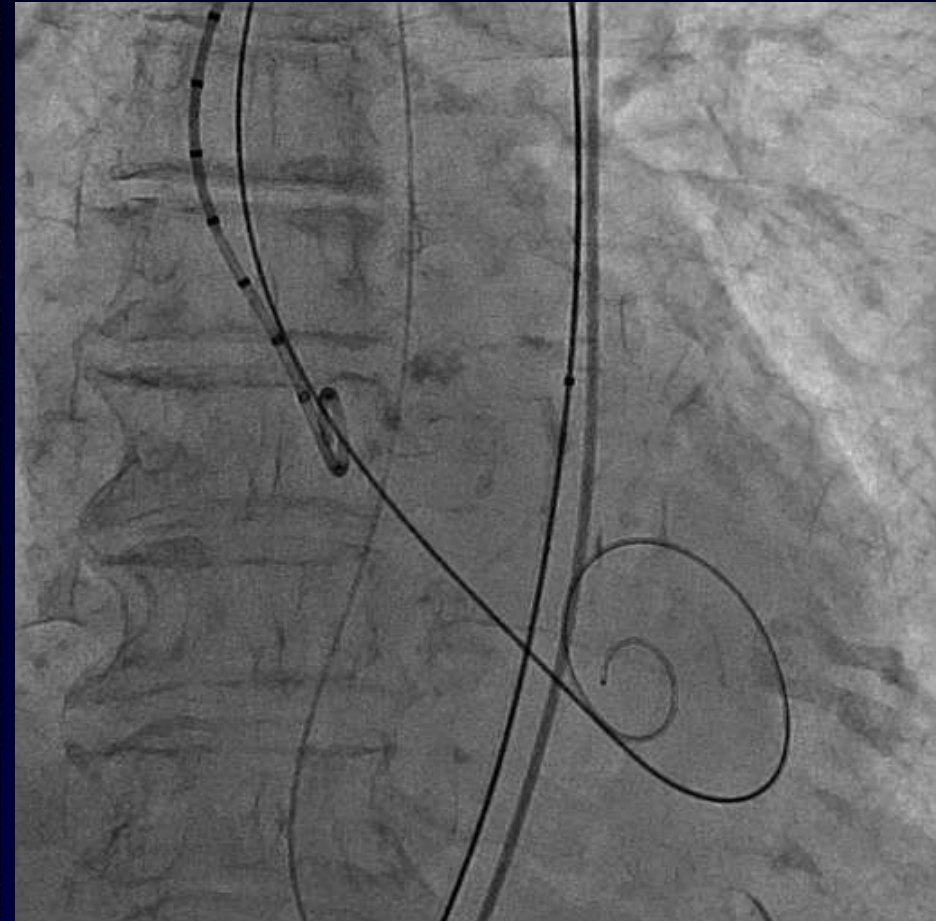
2. Emergent balloon valvuloplasty

3. Emergency TAVI

Predilation

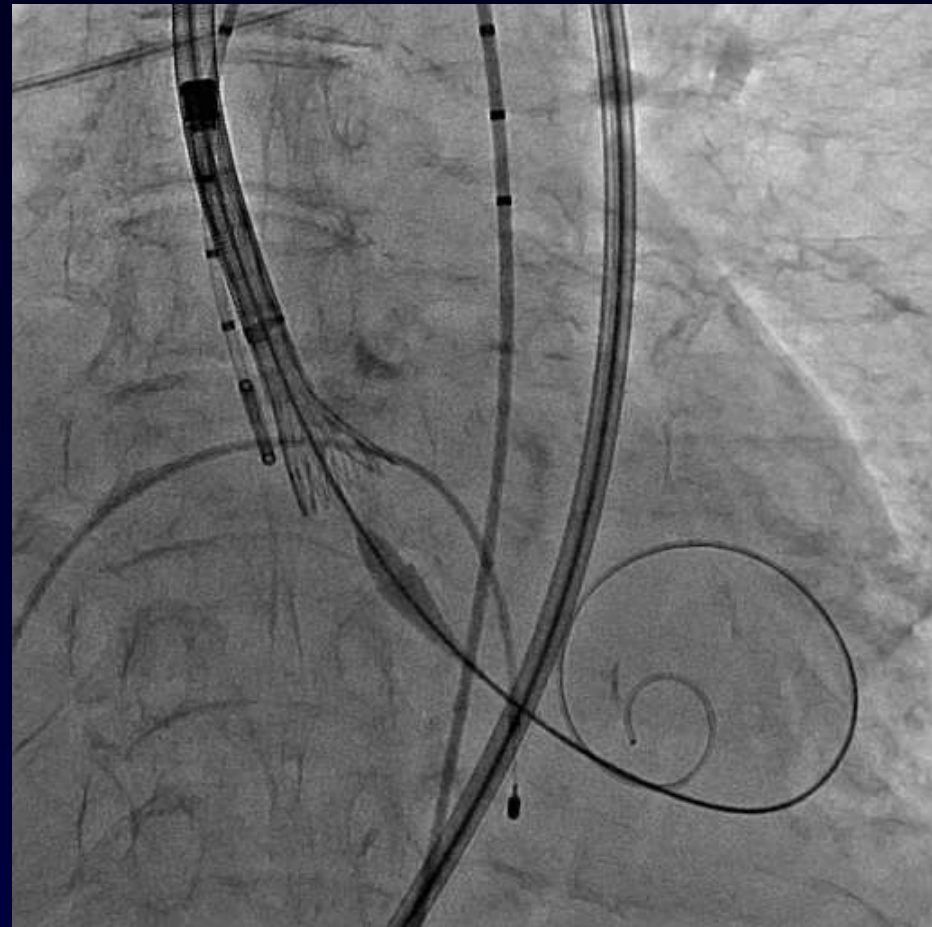
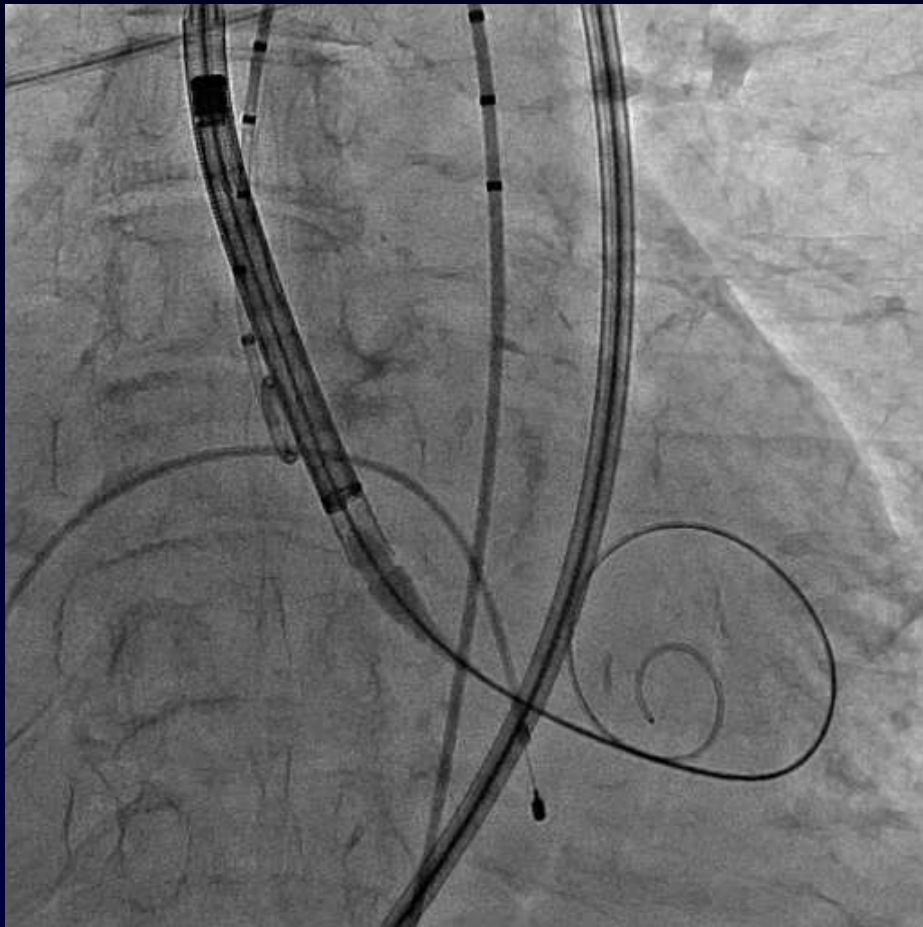


Balloon valvuloplasty (20mm)



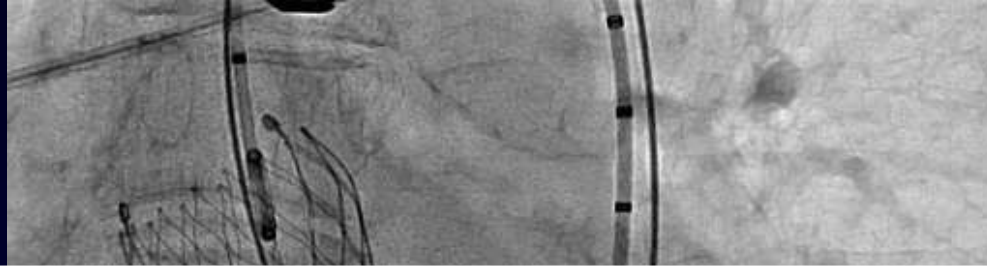
Aortogram

Emergent TAVI without guidance of TEE and information of cardiac CT (2016-02-19)

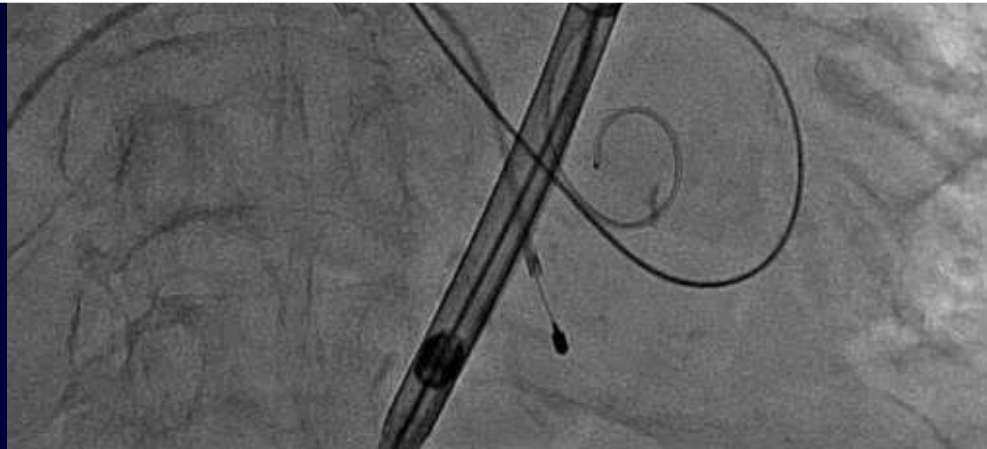


EvolutR (26mm)

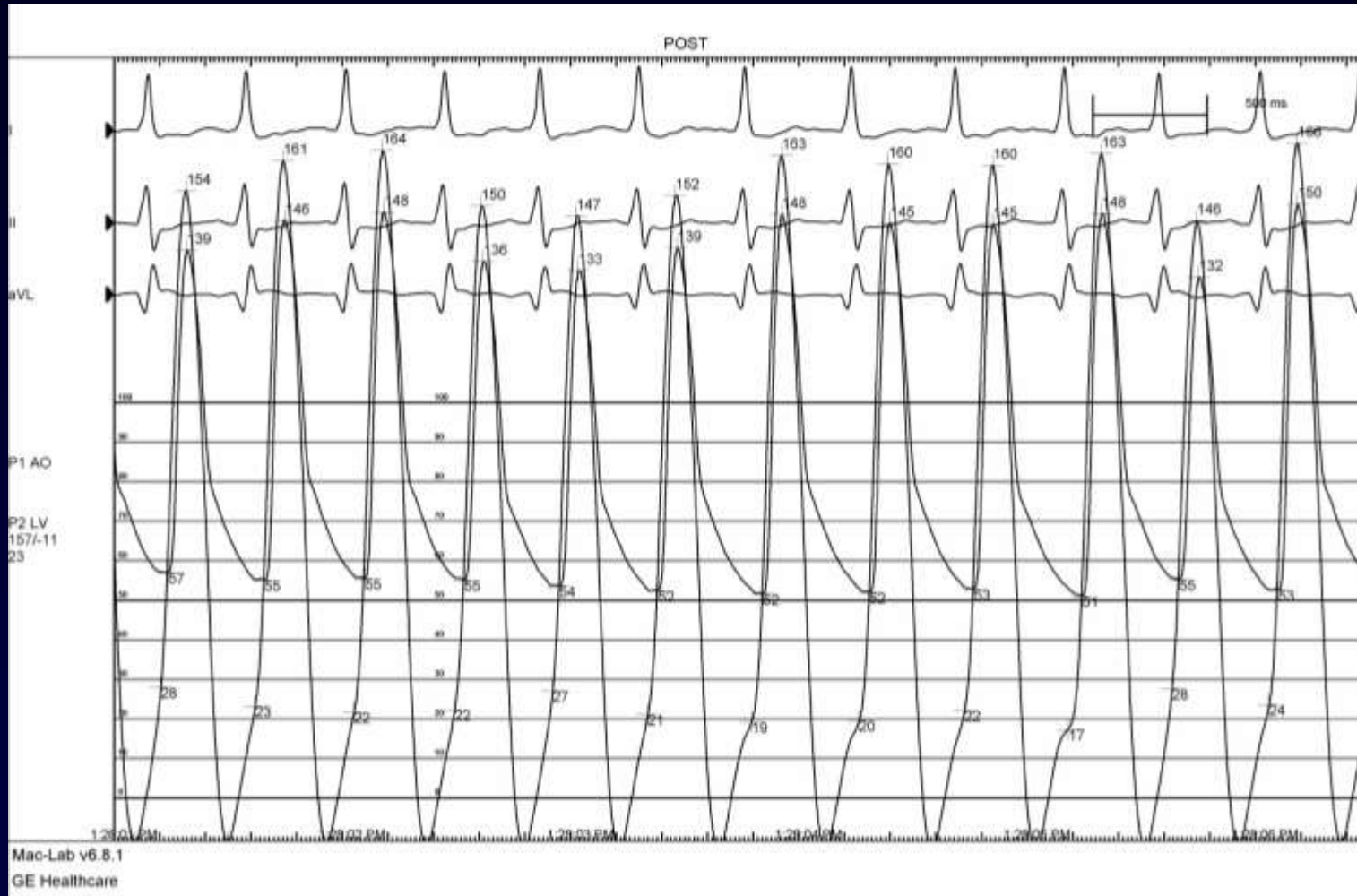
Final



**Time duration from CPR to the end of emergent TAVI
= 30 minutes**

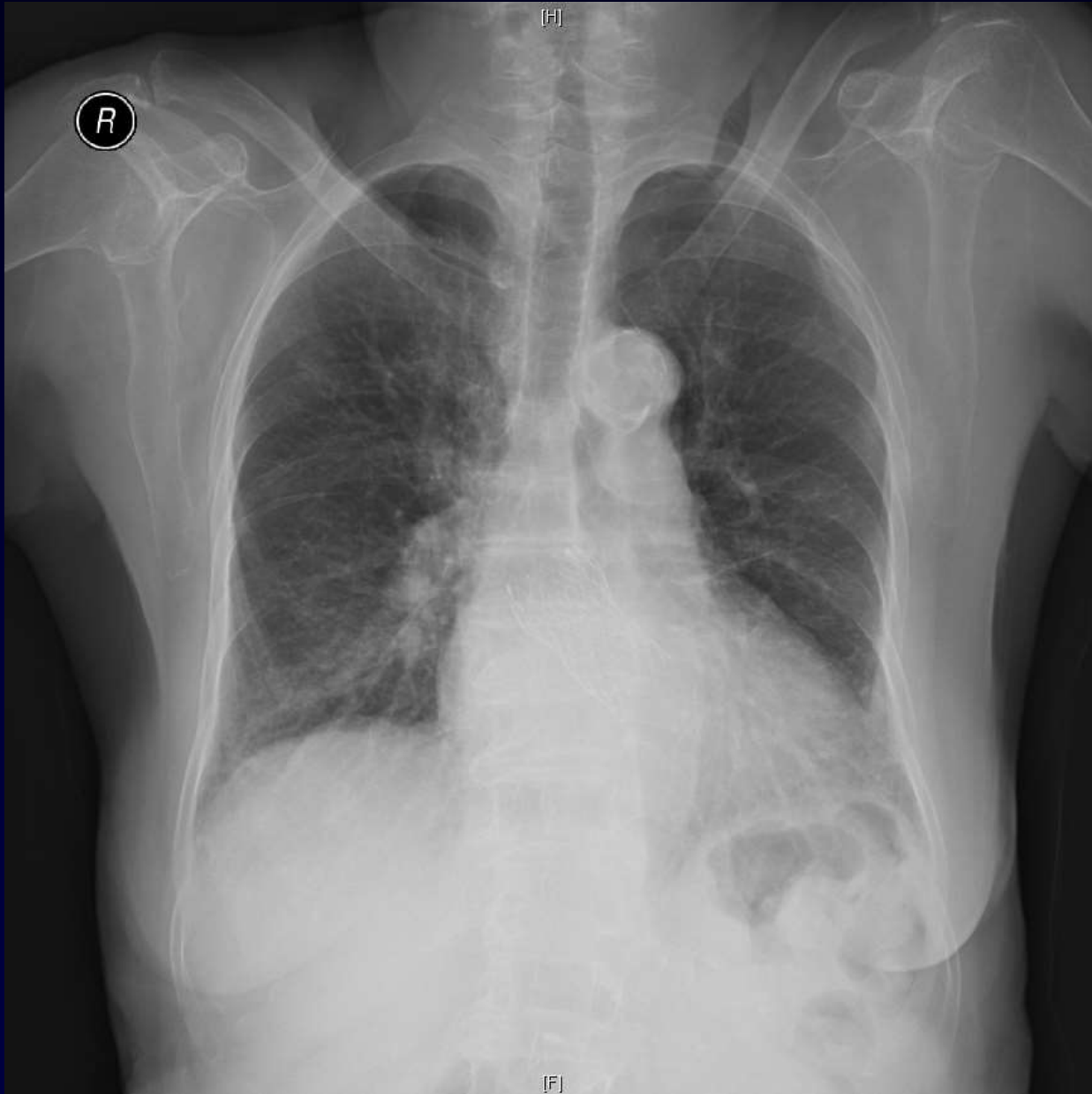


Final pressure gradient

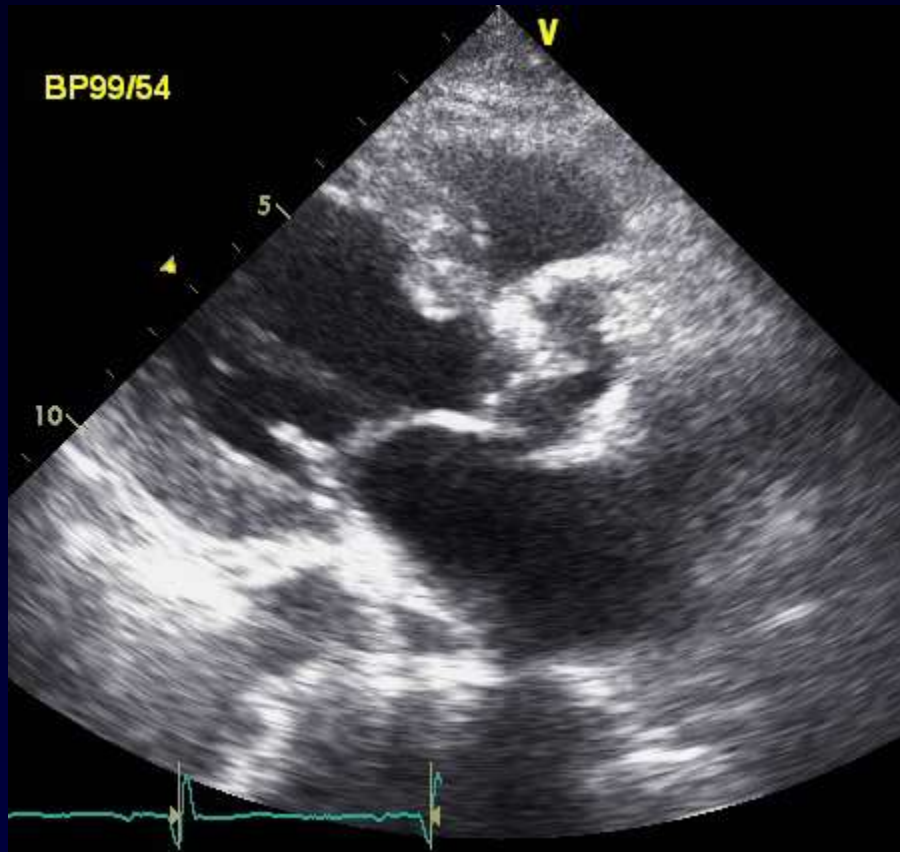


Chest PA

Post-TAVI (2016.4.8)

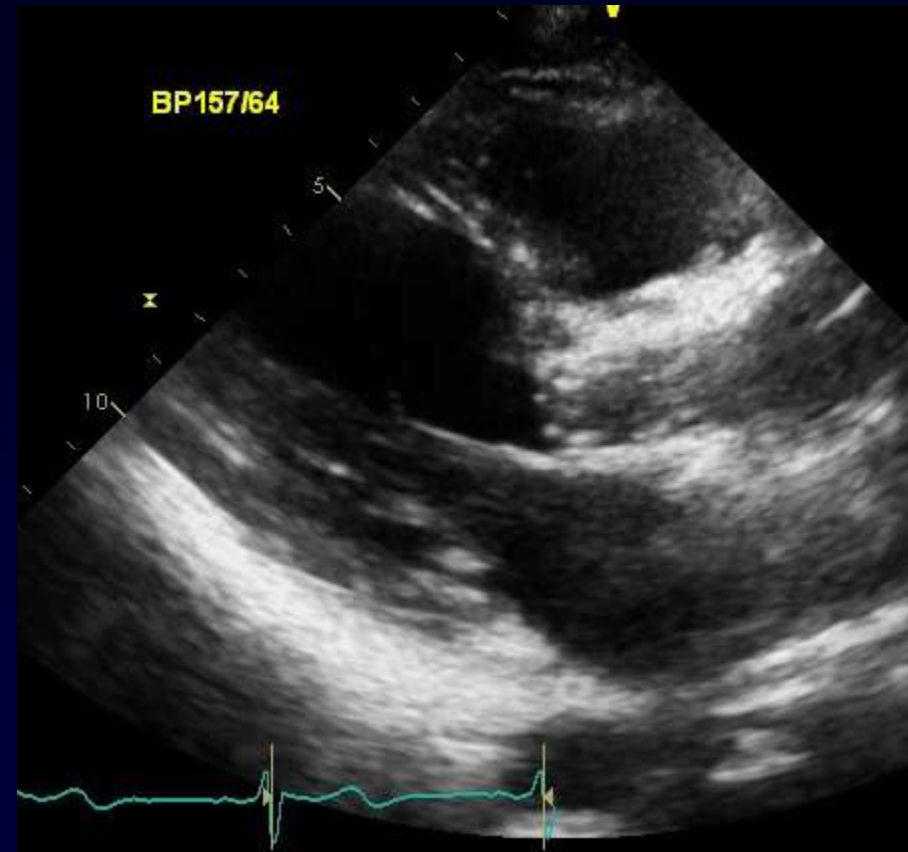


Echocardiography



Severe AS (AVA 0.37 cm²) by C.E
LVEDD/ESD 54/43 mm, EF 48%

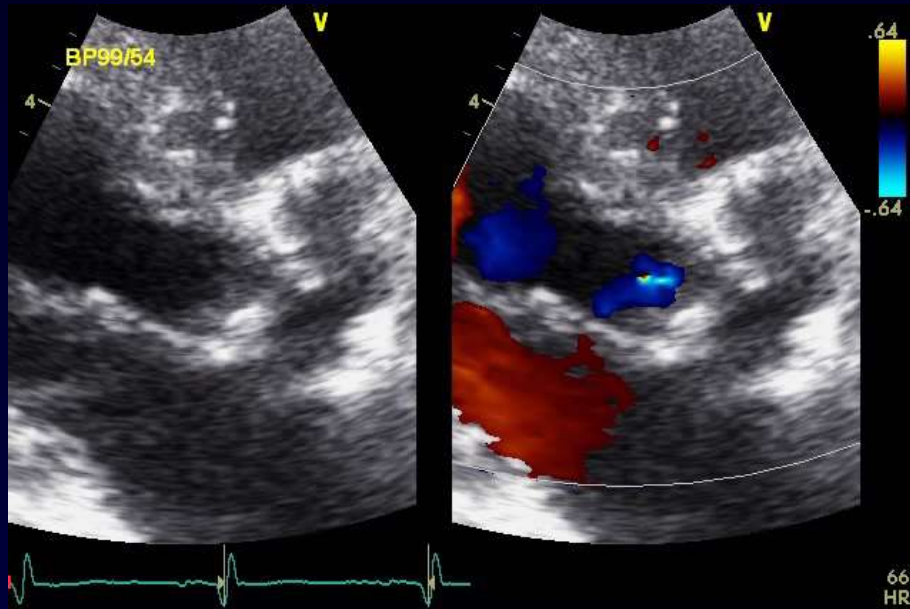
Pre-TAVI (2016.2.15)



AVA 2.96 cm² by C.E
LVEDD/ESD 48/33 mm, EF 57%

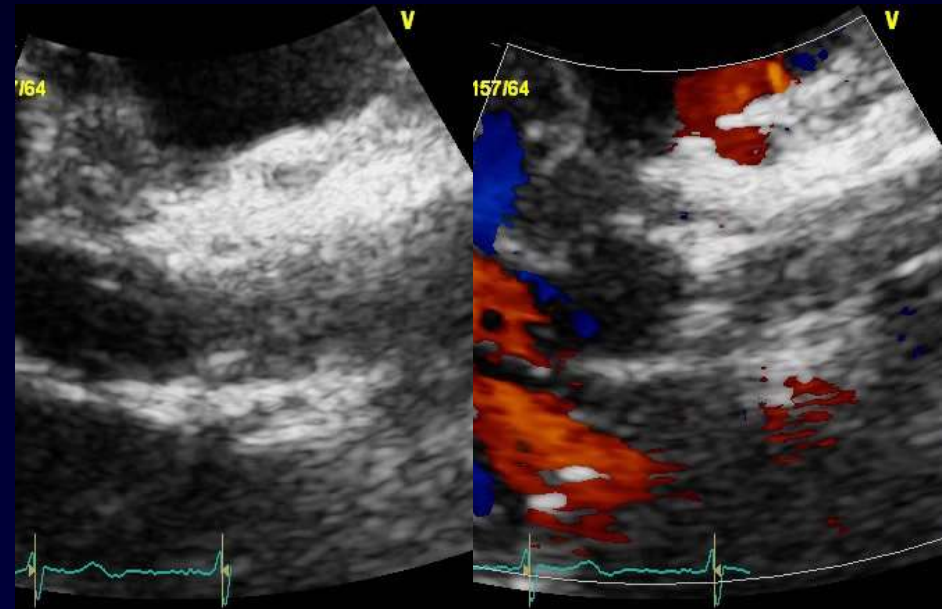
Post-TAVI (2016.4.8)

Echocardiography



Severe AS (AVA 0.37 cm²) by C.E

Pre-TAVI (2016.2.15)



AVA 2.96 cm² by C.E
Perivalvular AR (Gr I-II) at LCC side

Post-TAVI (2016.4.8)