UNIDADE DE CARDIOLOGIA DE INTERVENÇÃO

CENTRO HOSPITALAR LISBOA NORTE, EPE

HSM HPV

My most challenging case

A calcified very tortuous and and very horizontal Aorta

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UCIJO, HSM, CHULN
Lisboa, Portugal

Clinical Presentation

- 90 years old female
- Severe symptomatic aortic stenosis
- Moderate mitral regurgitation
- Pulmonary Hypertension
- Arterial Hypertension
- Chronic AF on NOAC (Apixaban)
- Status post right colectomy 40 years ago (Inflammatory bowel disease)
- Colonic diverticulites (recent low gastrointestinal bleeding)
- Meds: Furosemida, Omeprazol, Apixabano 2,5, Trazodona, ACE inhibitor

Diagnostic tests

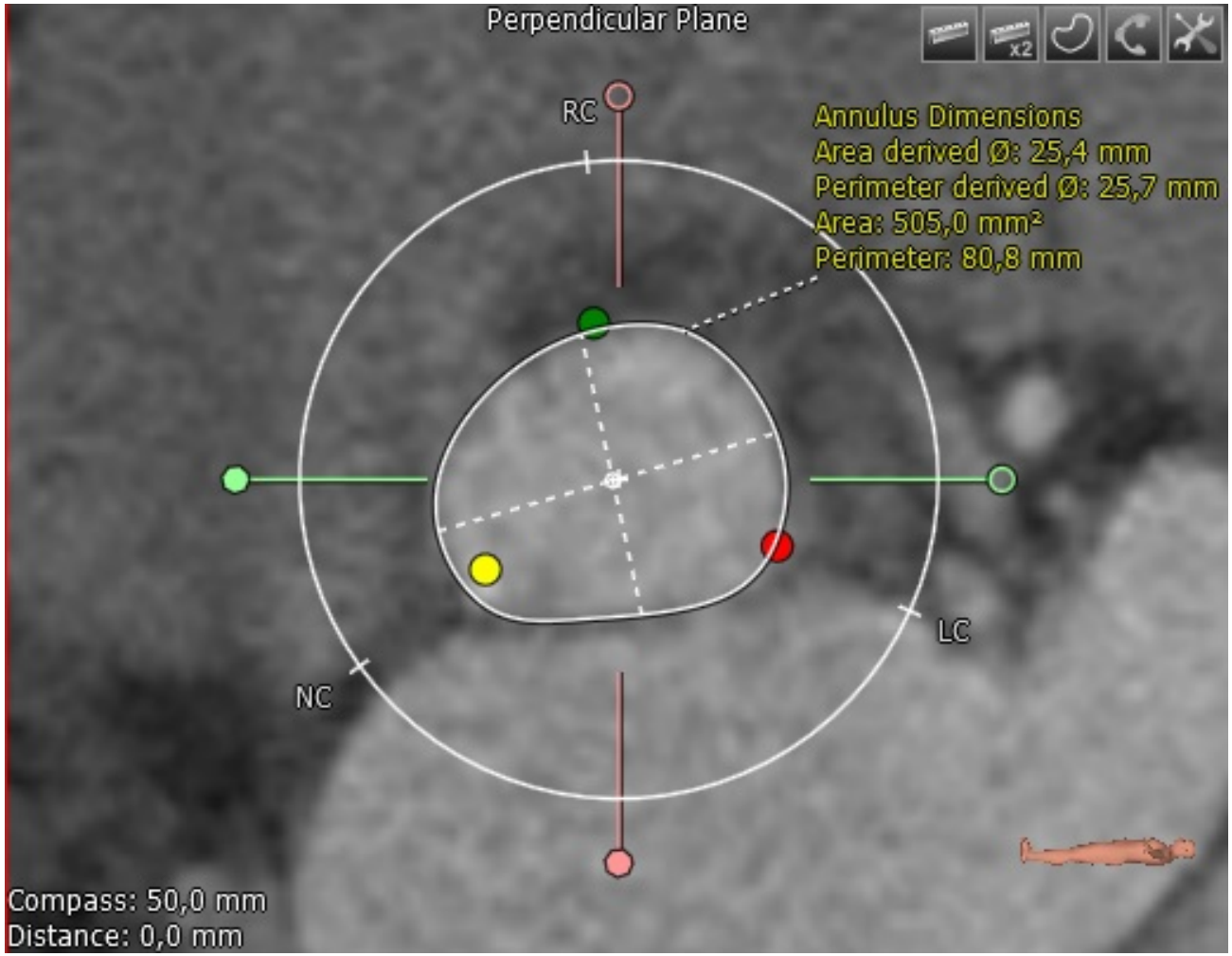
- Hb 15,5 gr
- INR 1,04
- PTT 33 sec
- Creatinine 0,74
- Normal ionogram
- NT-proBNP 1022 (<300 pg/ml)
- Normal CRP
- Normal thyroid function

- ECG:
- A fib; LBBB

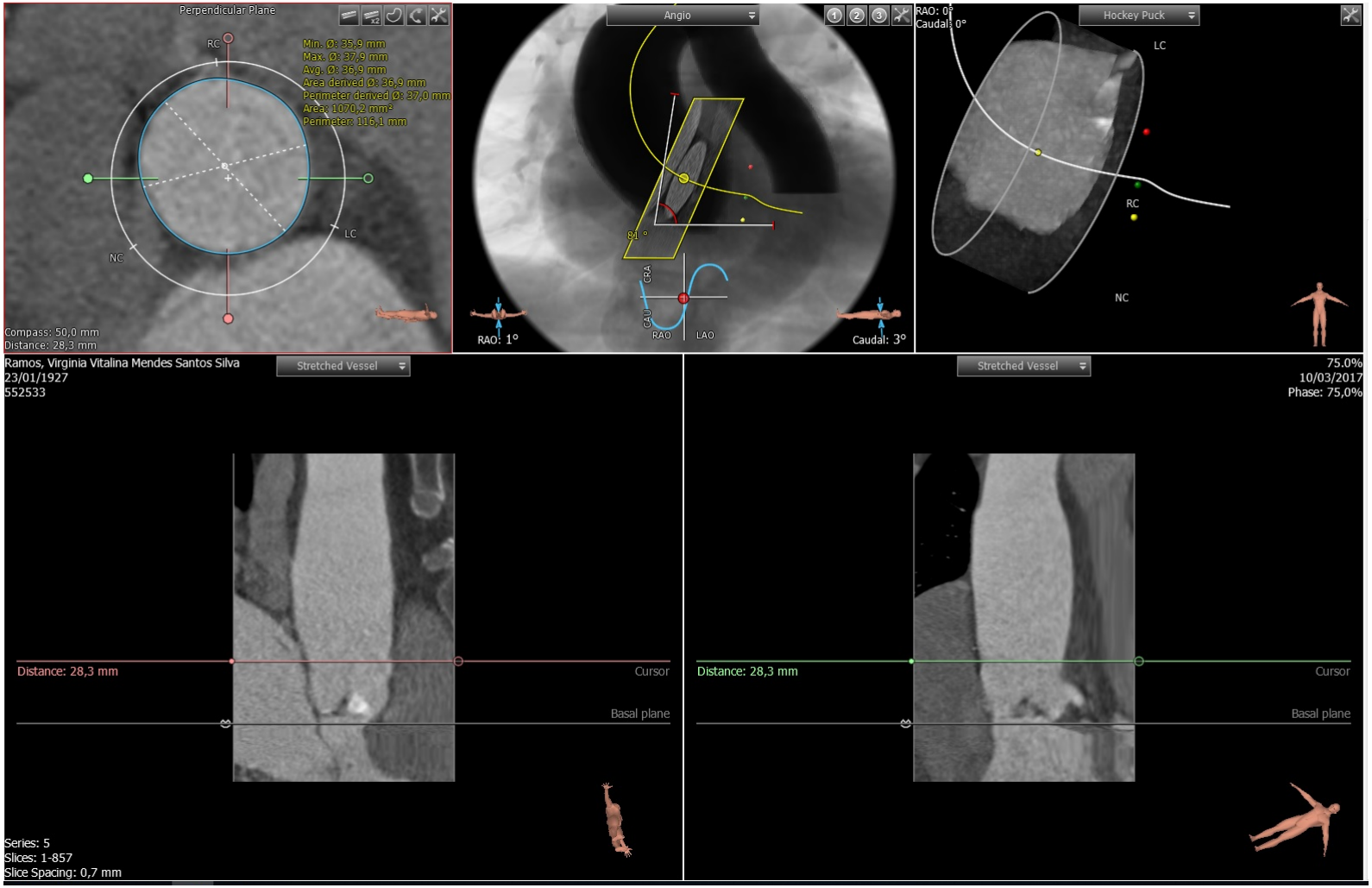
Diagnostic tests

- **Echocardiogram:**
- **Aortic gradient 88/58 mmHg; AVA 0,37 cm2/m2;**
- **LV slightly dilated; Normal function (LVEF >55%);**
- **Enlargement of both atria;**
- **Calcified mitral valve; anterior leaflet prolapse ; moderate eccentric mitral insufficiency;**
- **Normal right ventricular dimension and function (TAPSE- 19 mm);**
- **Pulmonary hypertension - PAP: 47 mmHg**
- **Coronary angiogram:**
- **Normal coronary arteries**
- **Other**
- **Normal respiratory functional tests**
- **No significant carotid disease**

CT scan


Perpendicular Plane
RC
Annulus Dimensions
Area derived Ø: 25,4 mm
Perimeter derived Ø: 25,7 mm
Area: 505,0 mm²
Perimeter: 80,8 mm
LC
NC
Compass: 50,0 mm
Distance: 0,0 mm

CT scan

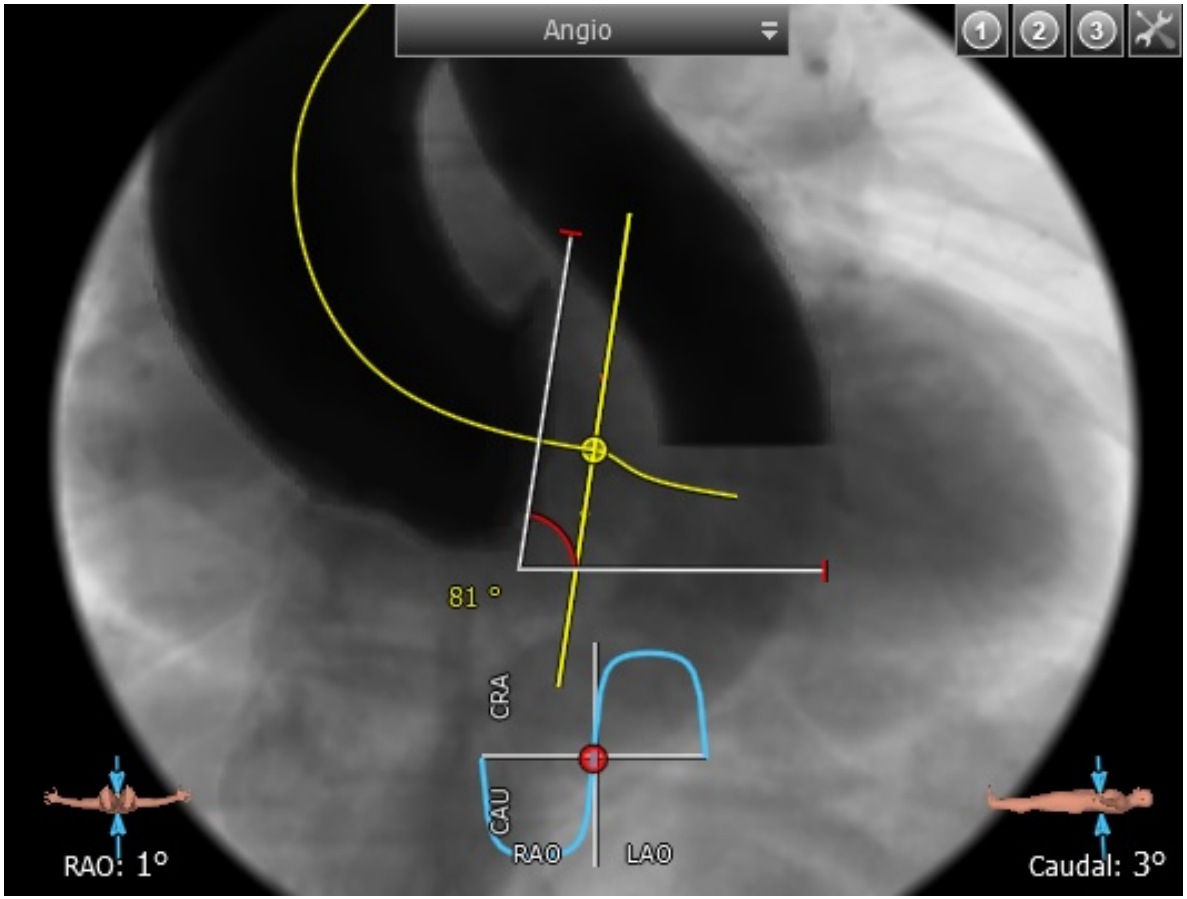

Perpendicular Plane
RC
LC
NC
Min. Ø: 35,9 mm
Max. Ø: 37,9 mm
Avg. Ø: 36,9 mm
Area derived Ø: 36,9 mm
Perimeter derived Ø: 37,0 mm
Area: 1070,2 mm²
Perimeter: 116,1 mm
Compass: 50,0 mm
Distance: 28,3 mm
Angio
81 °
CRA
CAU
RAO
LAO
RAO: 1°
Caudal: 3°
RAO: 0°
Caudal: 0°
Hockey Puck
LC
RC
NC
Ramos, Virginia Vitalina Mendes Santos Silva
23/01/1927
552533
Stretched Vessel
Distance: 28,3 mm
Cursor
Basal plane
Series: 5
Slices: 1-857
Slice Spacing: 0,7 mm
Stretched Vessel
75.0%
10/03/2017
Phase: 75,0%
Distance: 28,3 mm
Cursor
Basal plane

CT scan

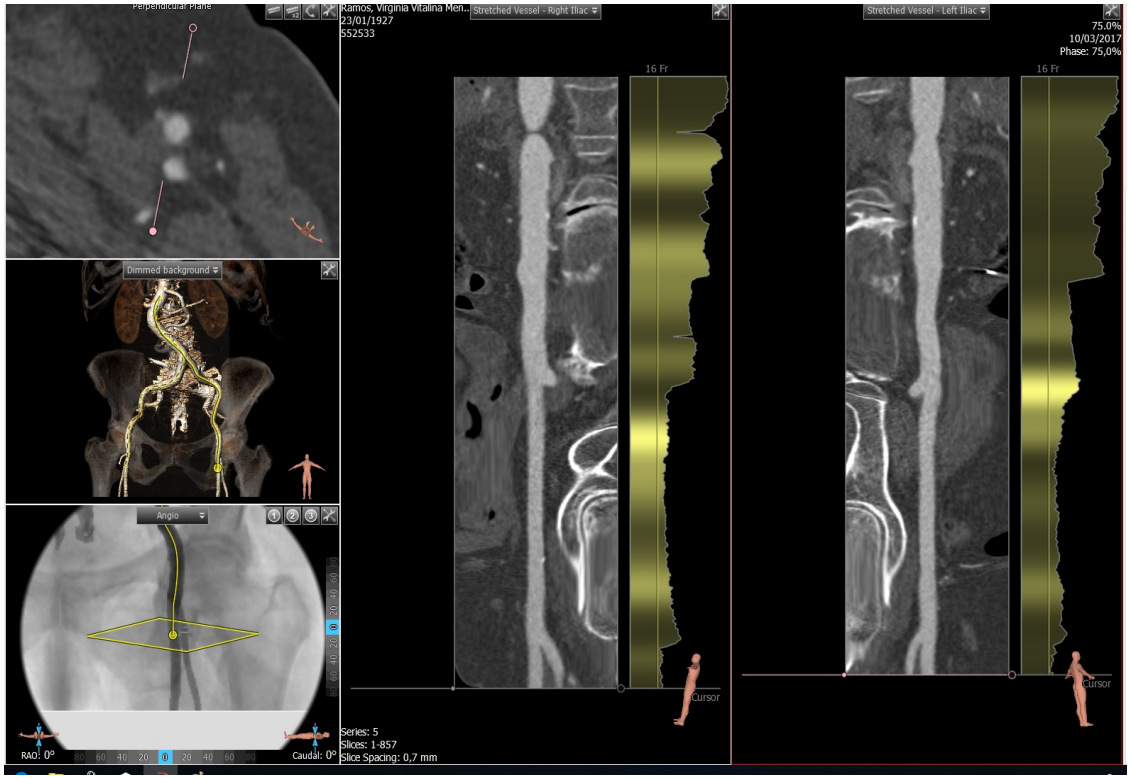

Ramos, Virginia Vitalina Mendes Santos Silva
23/01/1927
552533
Stretched Vessel
21,2 mm
Distance: 9,9 mm
9,9 mm
Basal plane
Series: 5
Slices: 1-857
Slice Spacing: 0,7 mm

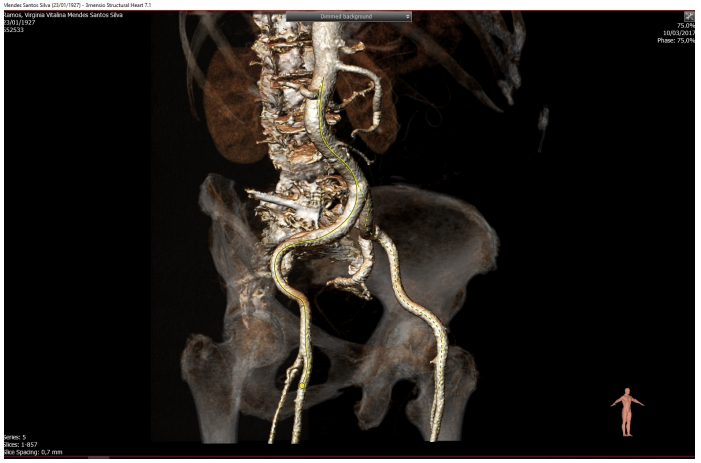

Ramos, Virginia Vitalina Mendes Santos Silva
23/01/1927
552533
Stretched Vessel
20,4 mm
Distance: 20,4 mm
9,9 mm
Cursor
Basal plane
Series: 5
Slices: 1-857
Slice Spacing: 0,7 mm

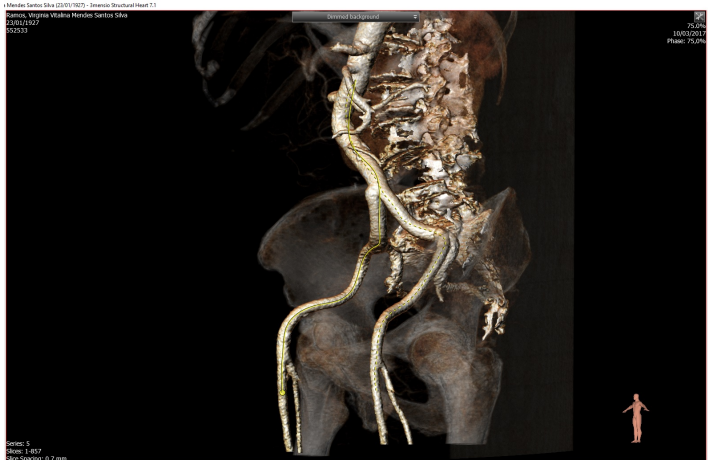
CT scan



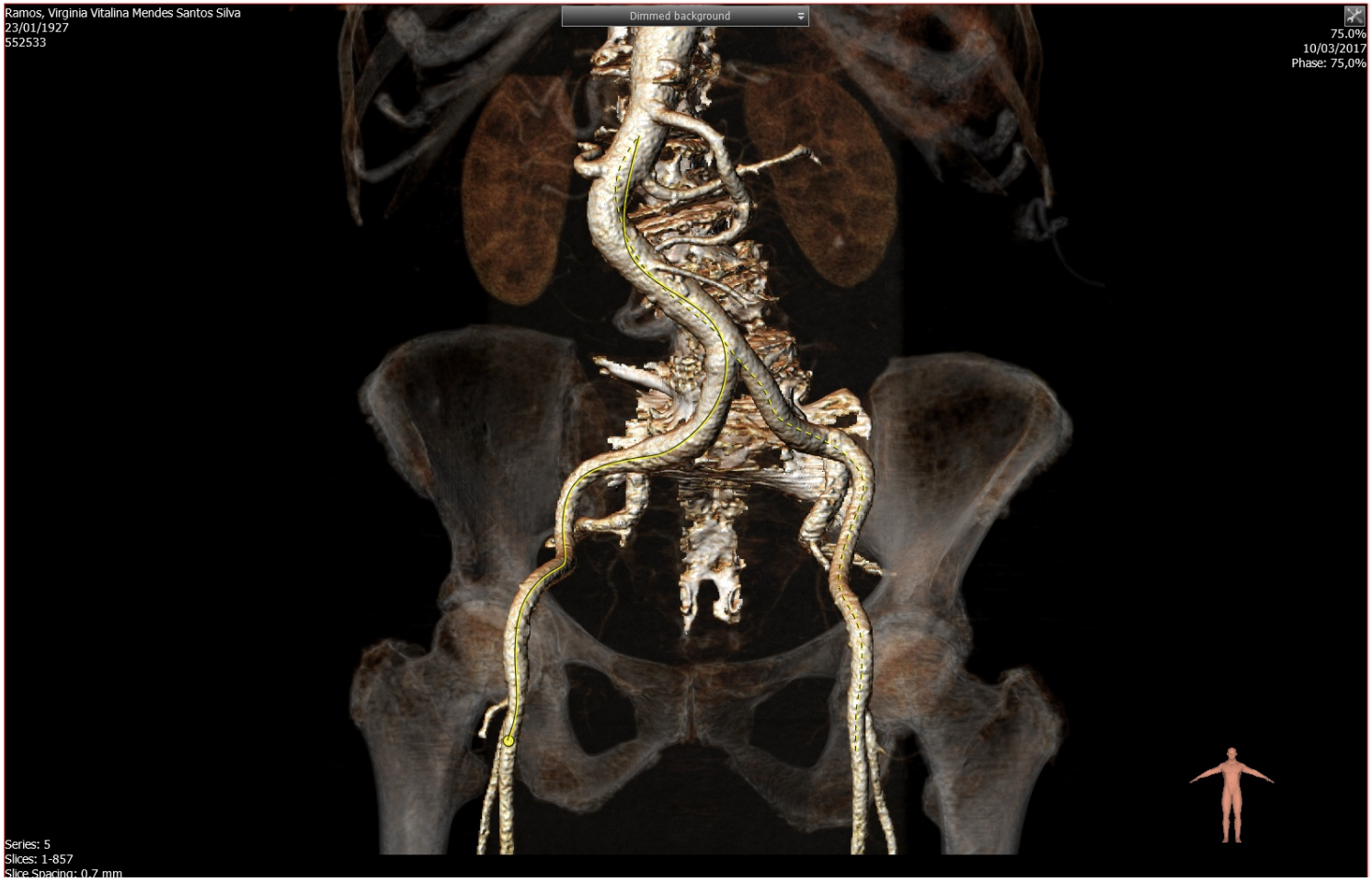
CT scan


Perpendicular Plane
Dimmed background
Angio
RAO: 0°
Caudal: 0°
Ramos, Virginia Vitalina Men...
23/01/1927
552533
Stretched Vessel - Right Iliac
16 Fr
Cursor
Series: 5
Slices: 1-857
Slice Spacing: 0,7 mm
Stretched Vessel - Left Iliac
75,0%
10/03/2017
Phase: 75,0%
16 Fr
Cursor





CT scan


Ramos, Virginia Vitalina Mendes Santos Silva
23/01/1927
552533
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75.0%
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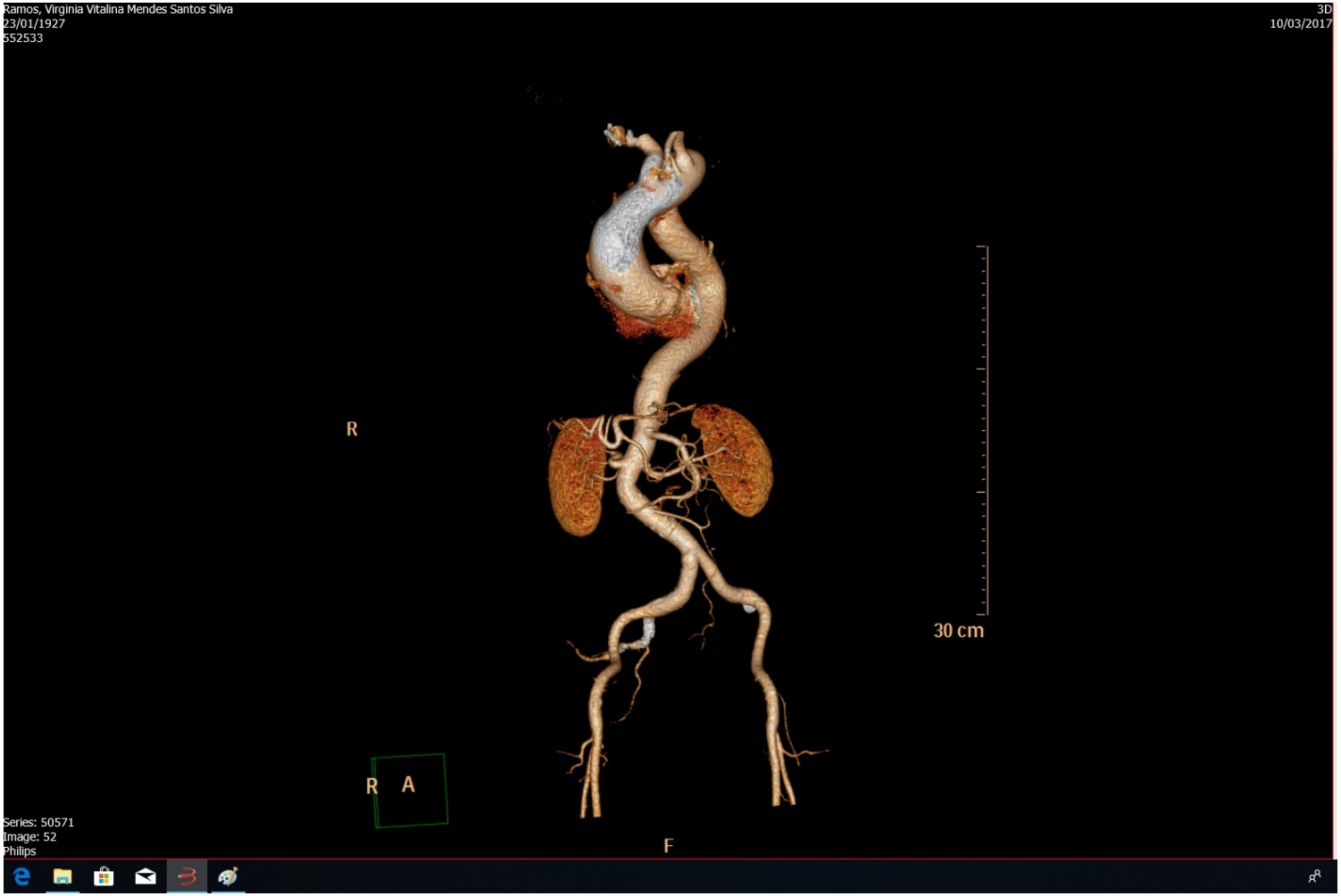
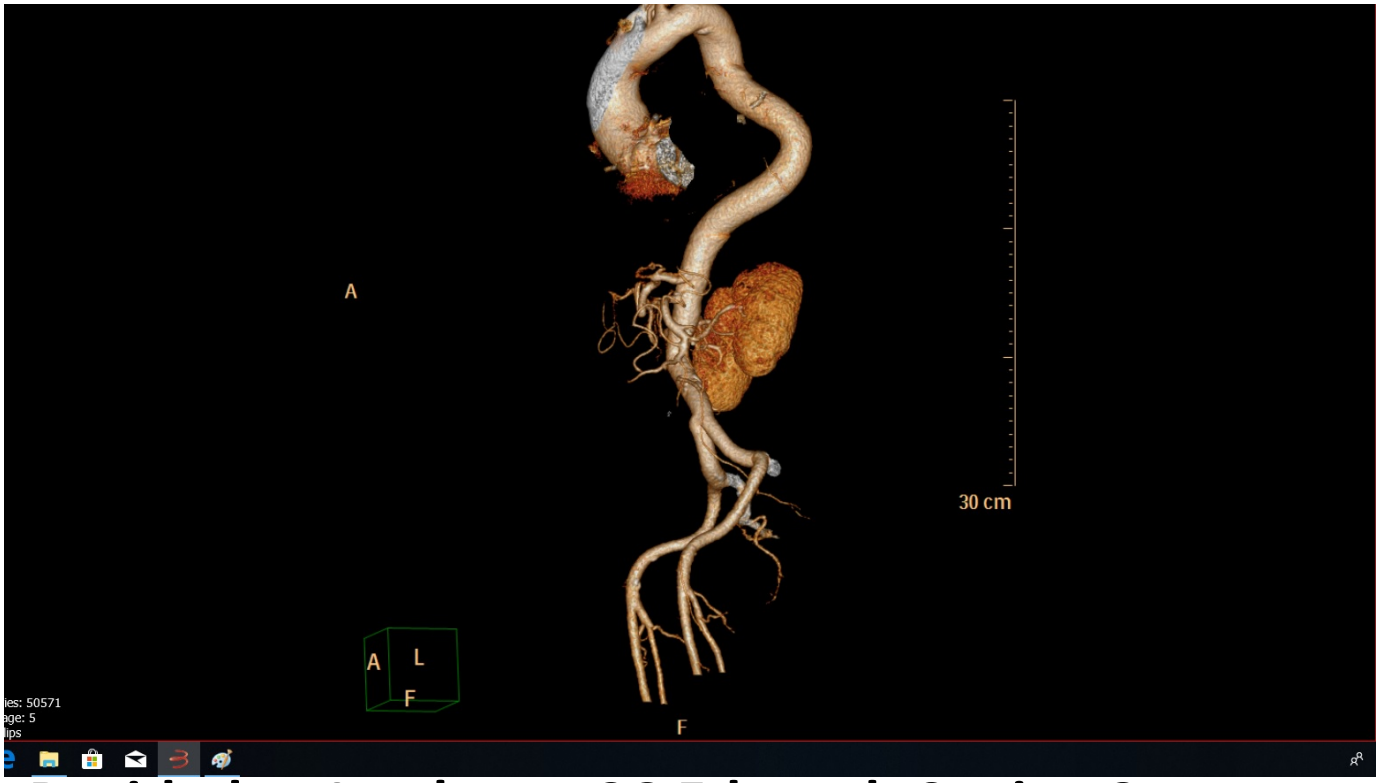
CT scan



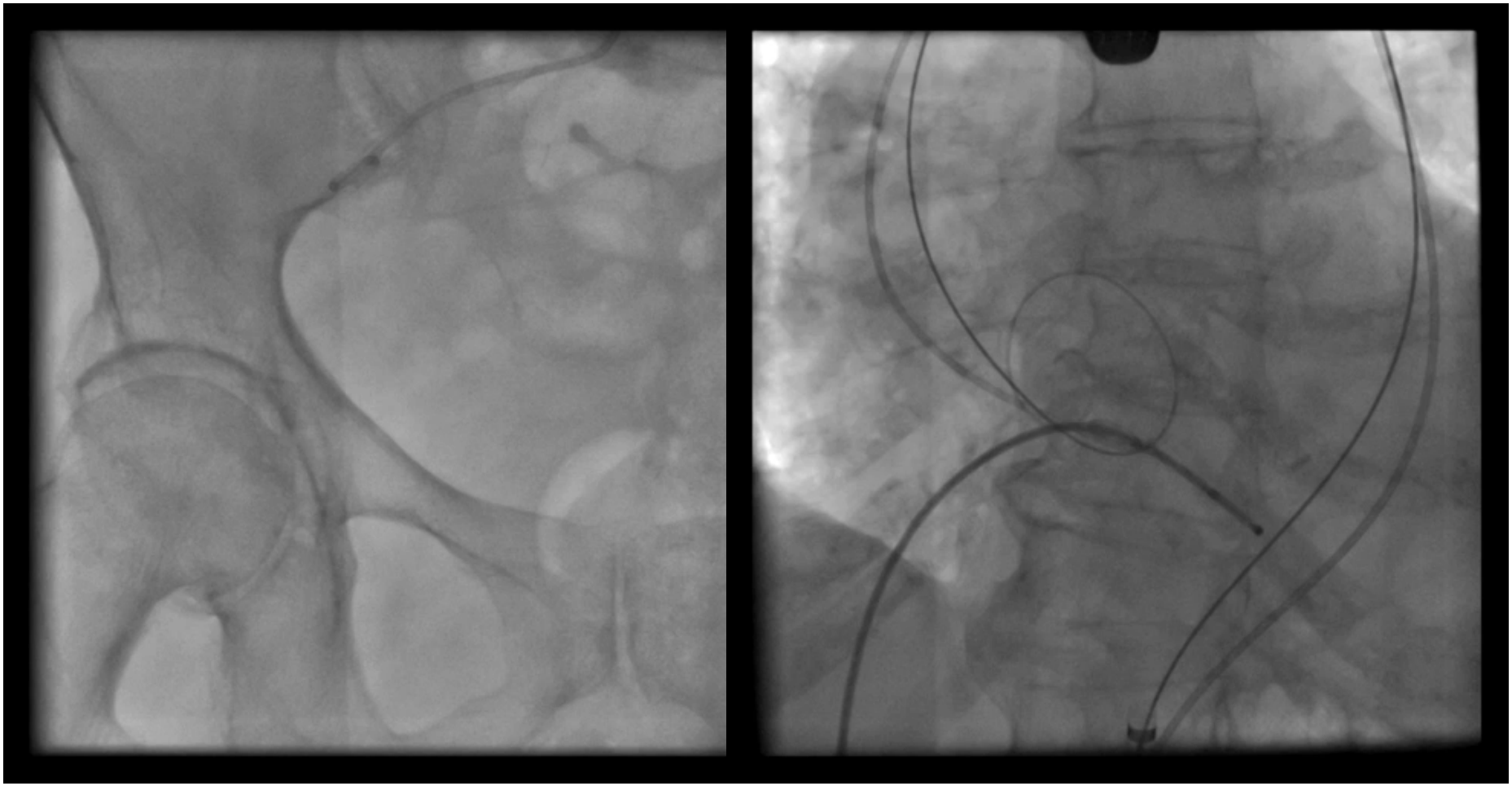
- **Very tortuous aorta and femoral arteries**

TAVI Intervention

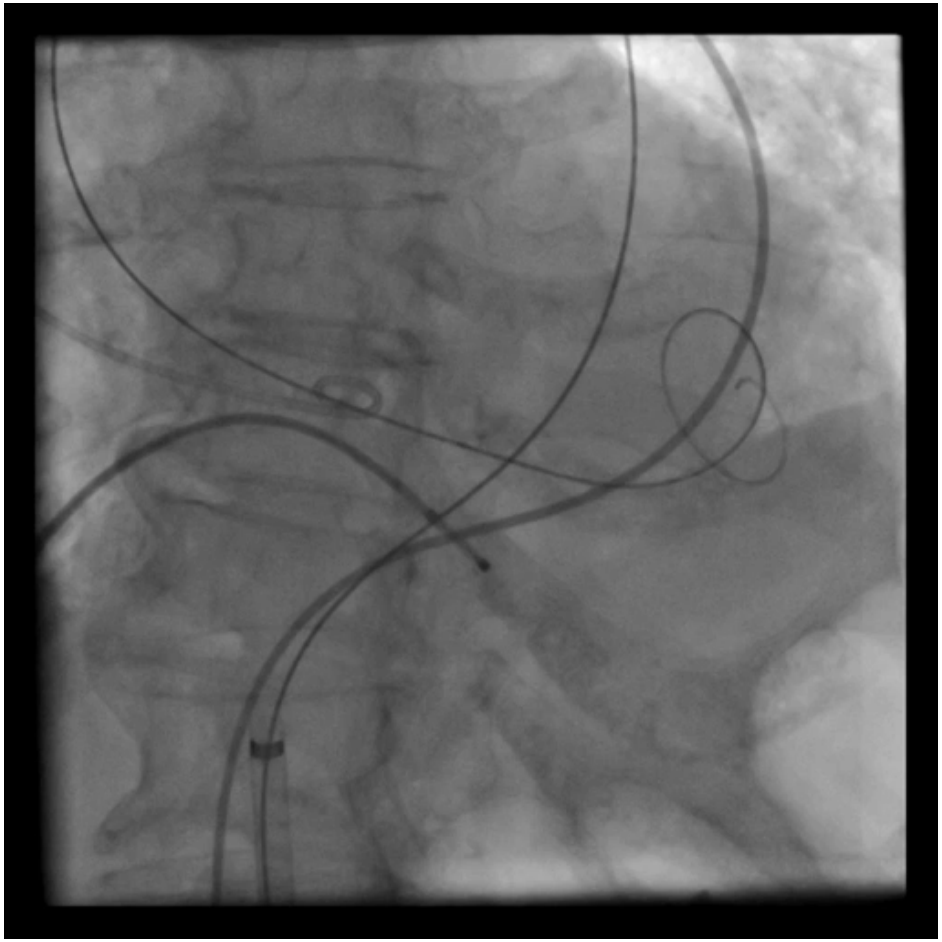


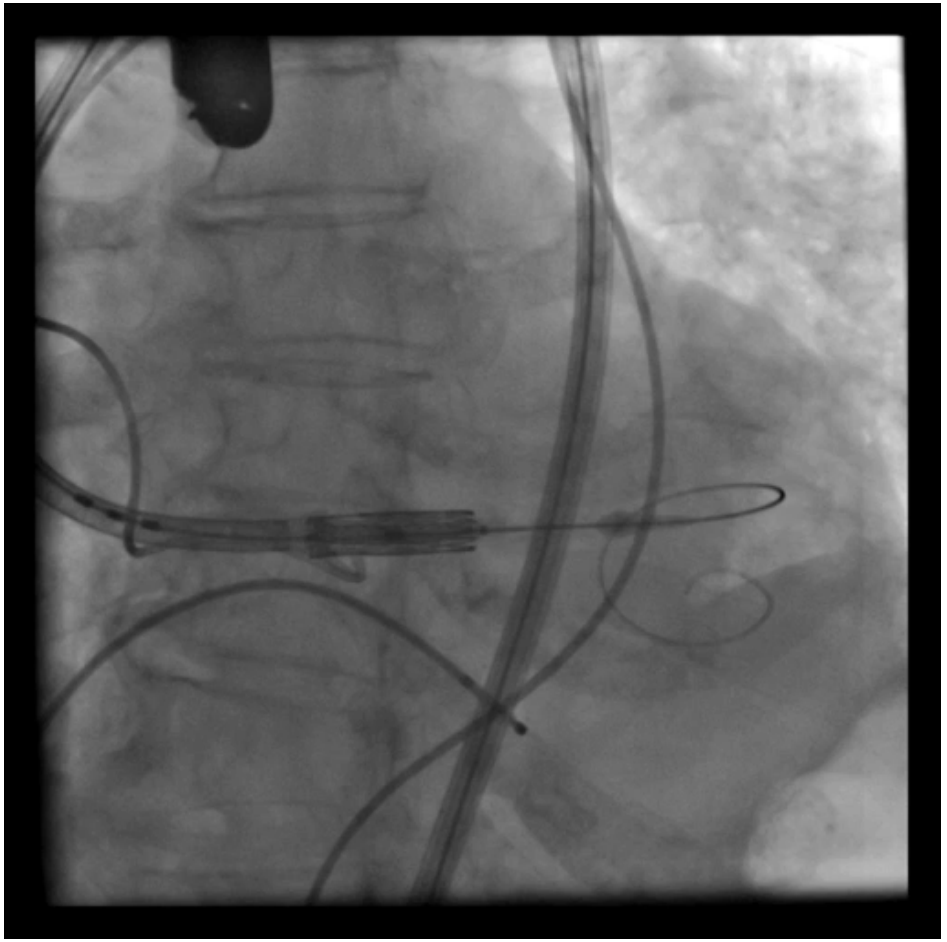
- Decided to Implant a 26 Edwards Sapien 3
- Trans-femoral (right femoral artery; 2 Perclose Proglide)
- General anesthesia (according to anestheologist decision)
- TEE (general anesthesia)
- Temporary pacing lead in right ventricle

TAVI ANGIO

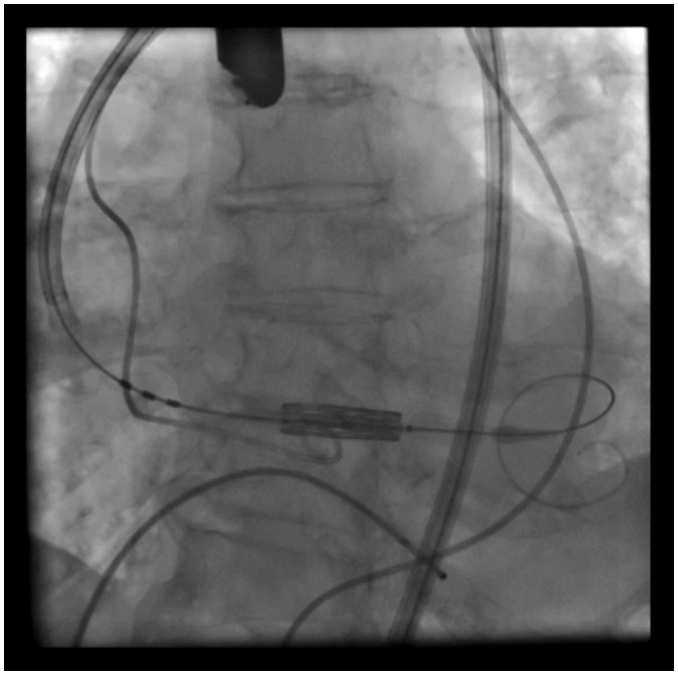


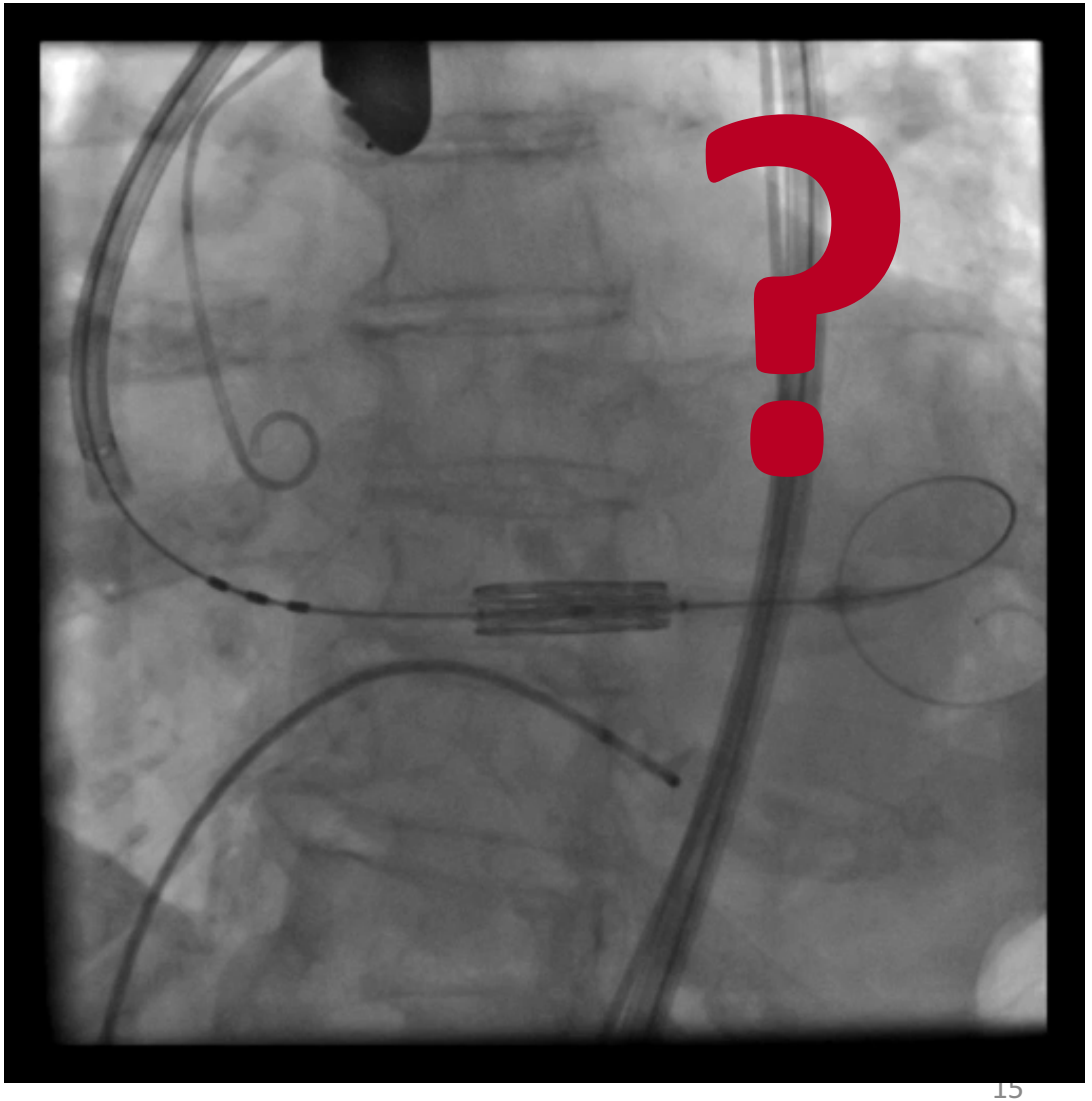
TAVI implantation





TAVI Implantation



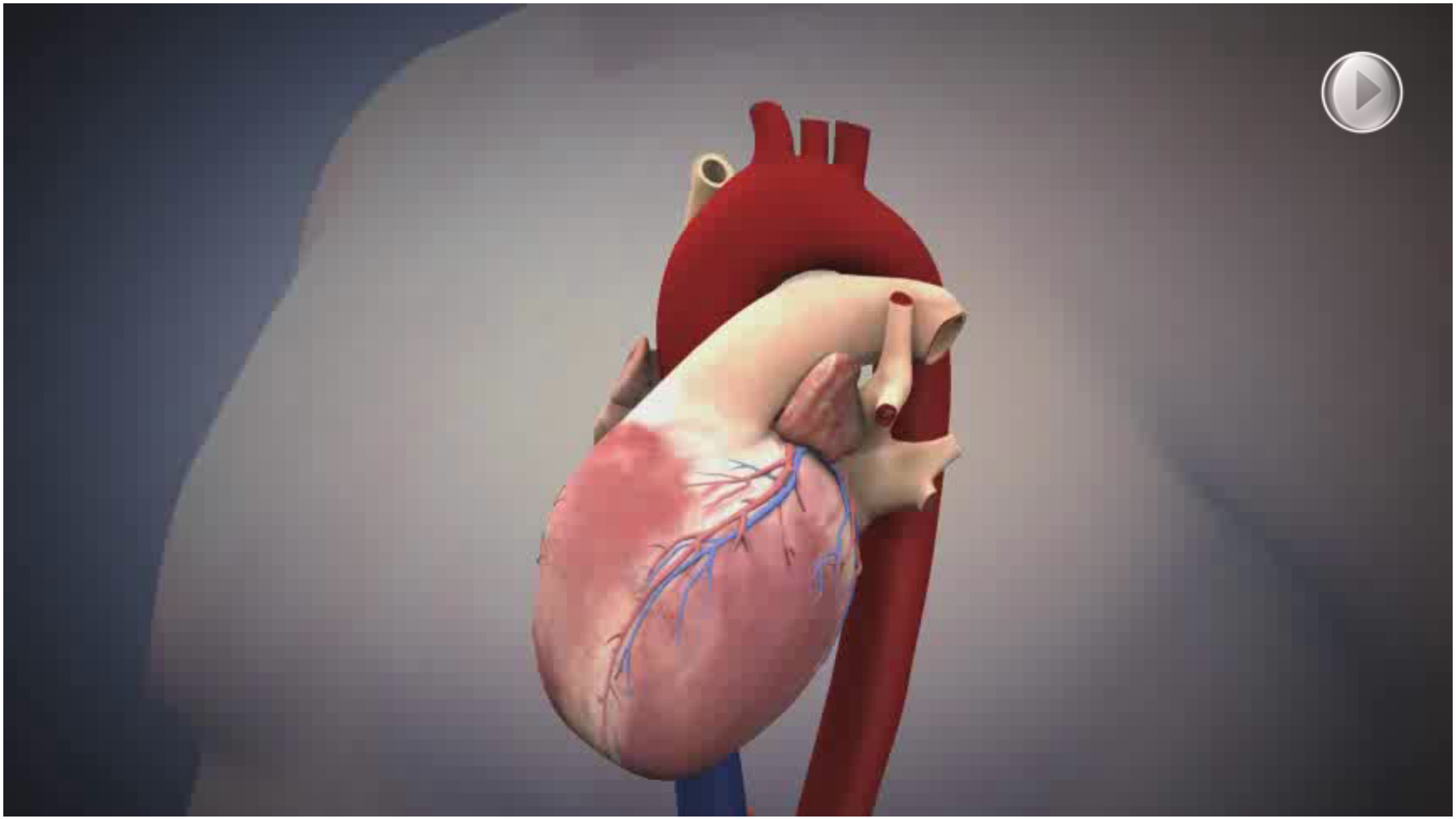


- Pacing ON
- Balloon, Balloon,
- Balloon, Balloon

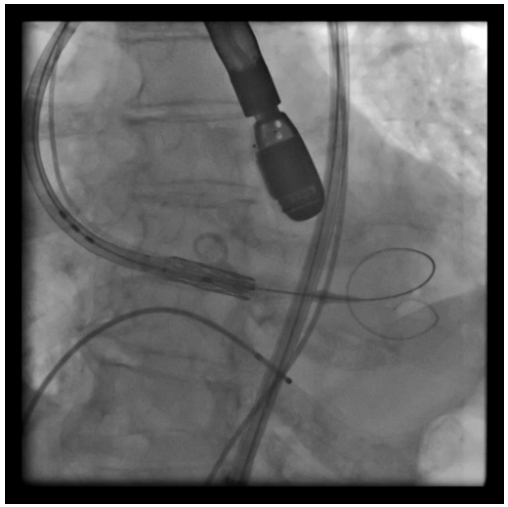
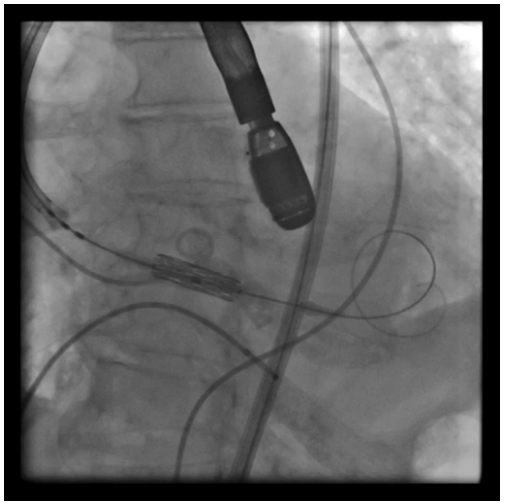
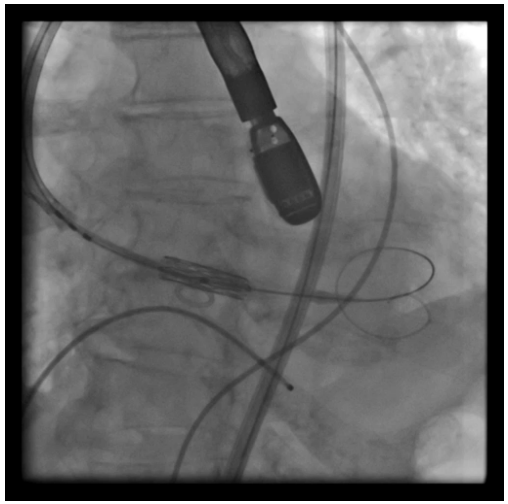
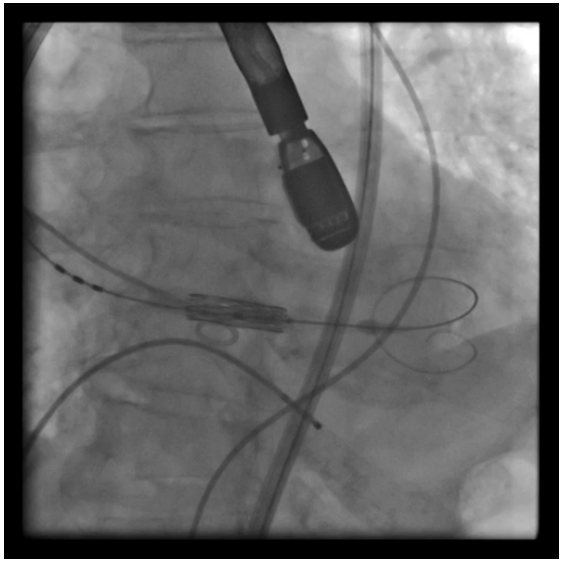
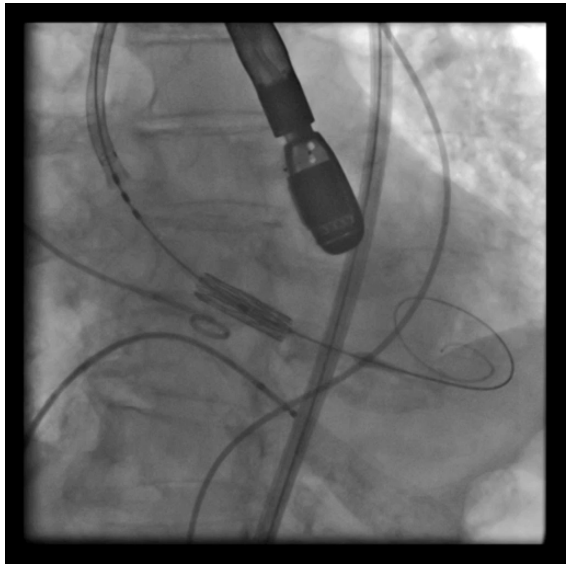
Balloon rupture

- Ruptured balloon
- Redraw the entire system
- Keep the Safari wire in the left ventricle
- New sheath
- New delivery catheter
- New valve

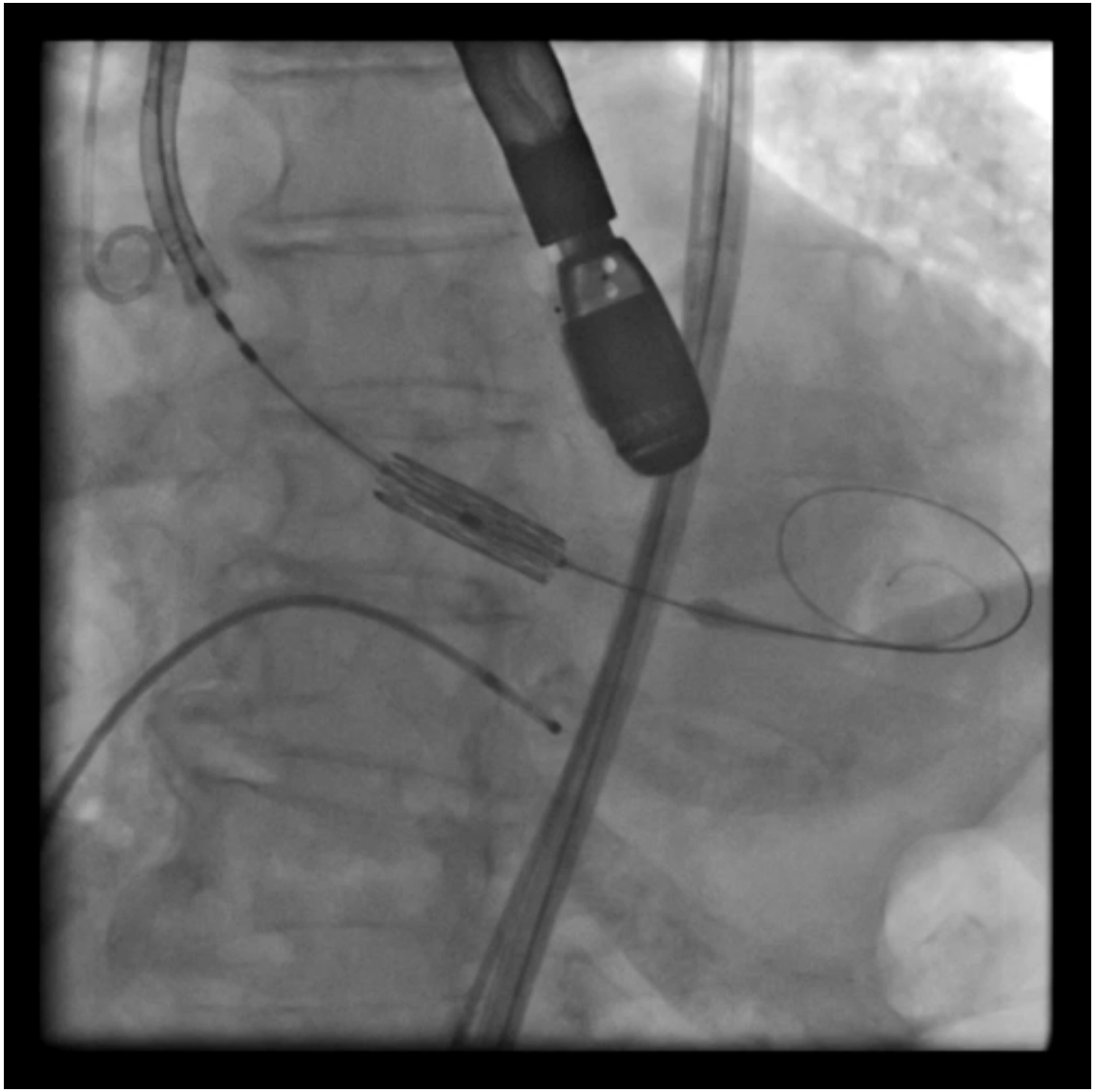
Why ?



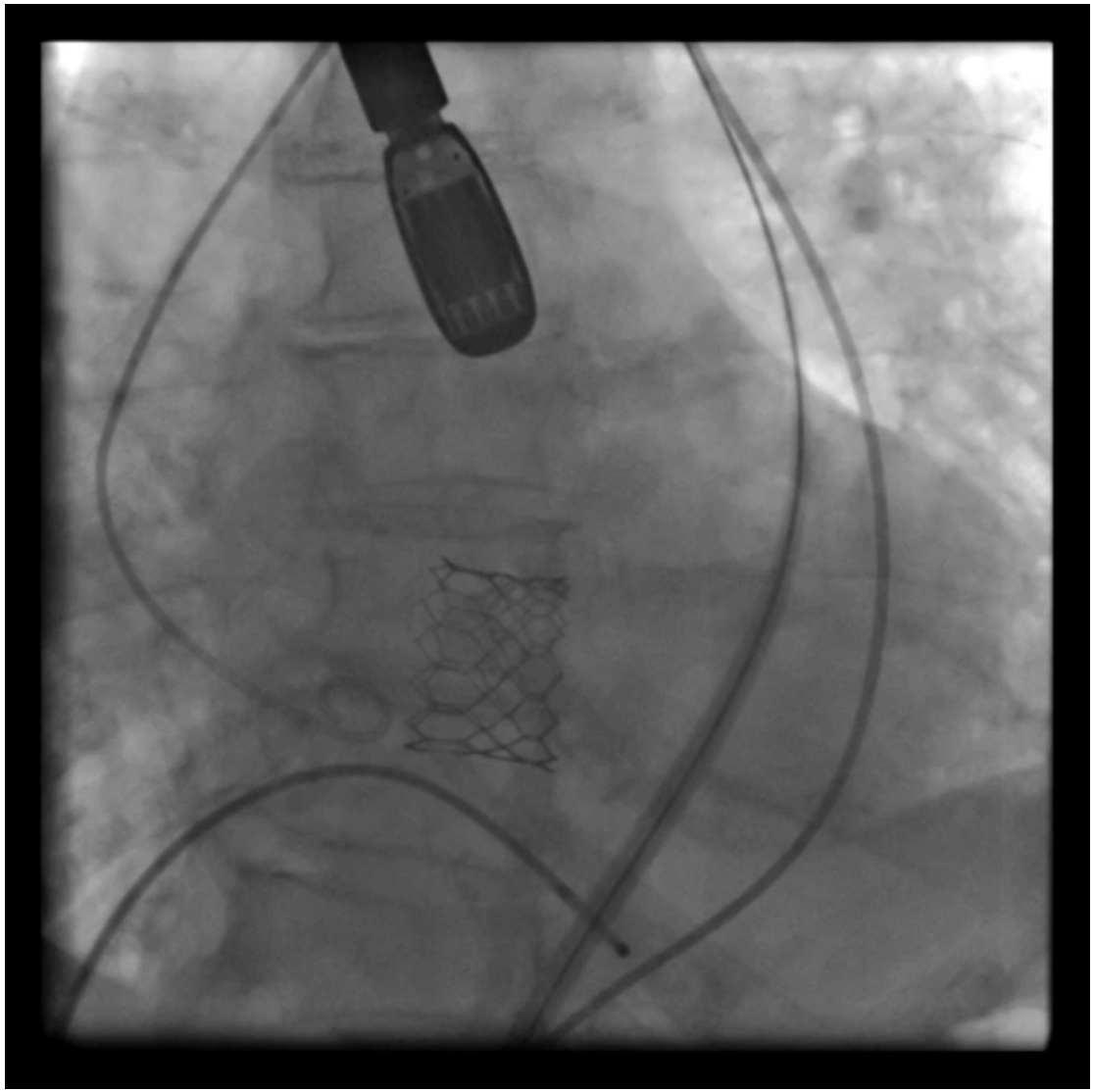
TAVI Implantation

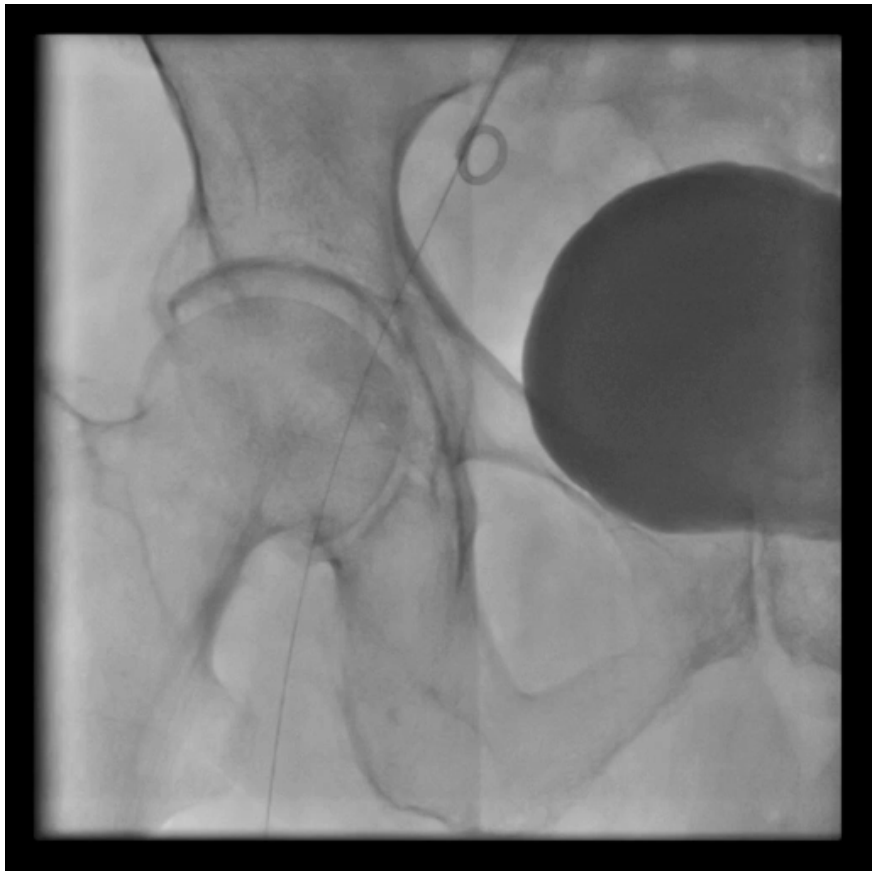
TAVI Implantation



FINAL RESULT



FINAL RESULT II



- **FINAL TEE**
- **Gradient 12/7 mmHg**
- **Normal LV**
- **No pericardial effusion**
- **Pre-discharge Echocardiogram**
- **Gradient 22/12 mmHg**
- **Mild paravalvular regurgitation**
- **Hb 15,5 to 11,5 gr/dl.**
- **Creat 1,3**
- **No need for pacing**
- **Discharge at day 4**

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Thank you