



Severe degeneration of a small size Mitroflow aortic bioprosthesis

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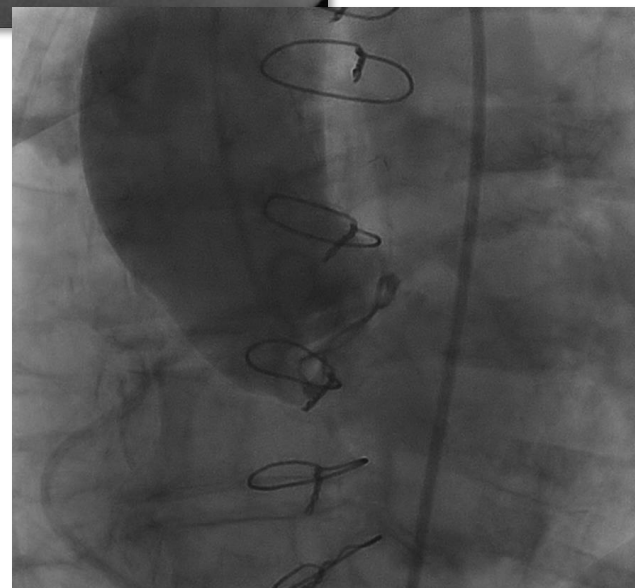
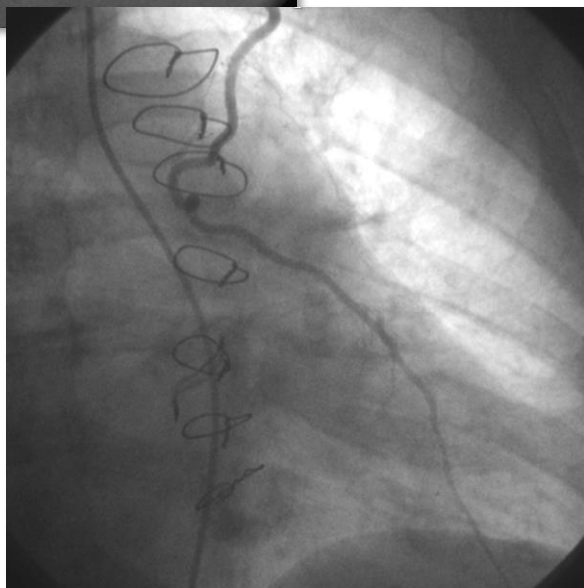
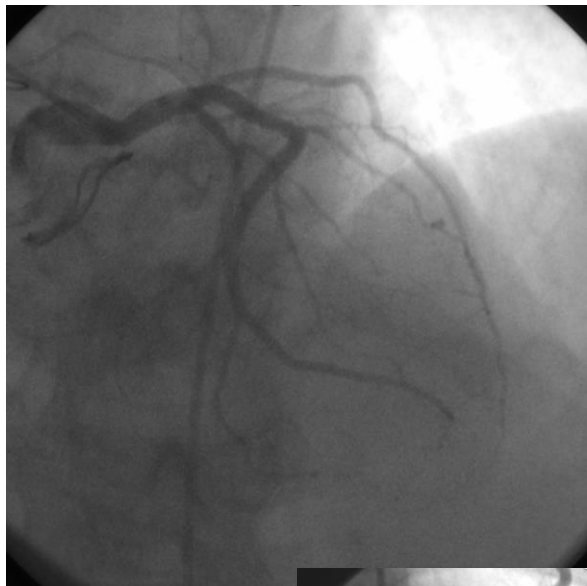
Potential conflict of interest

Speaker's name: Tommaso Fabris

☐ Nothing to disclose

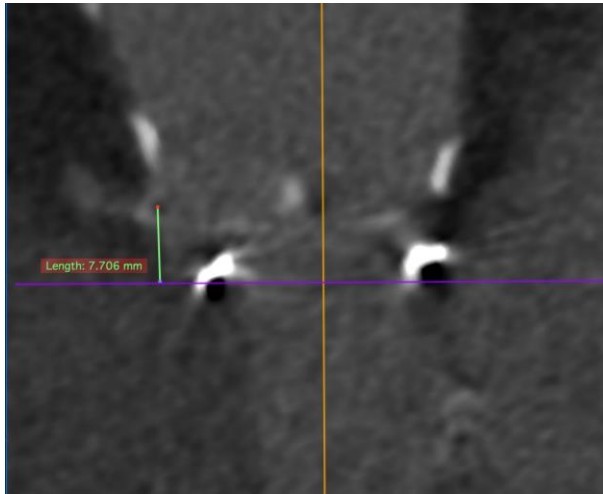
- **Female, 79 years old**
- **Medical history: hypertension, moderate atherosclerotic carotid disease, permanent atrial fibrillation**
- **8 years ago: severe aortic stenosis + severe coronary artery disease of left anterior descending → surgical aortic valve replacement (**Mitroflow 21 mm**) + single CABG with left internal mammary artery**
- **Recent hospital admission for worsening dyspnoea, no angina**
- **TTE: **severe degeneration of surgical aortic valve****
(mean gradient 45 mmHg, indexed effective orifice area 0.51 cm²/m², LVEF 60%)

Coronary angiography + Aortography

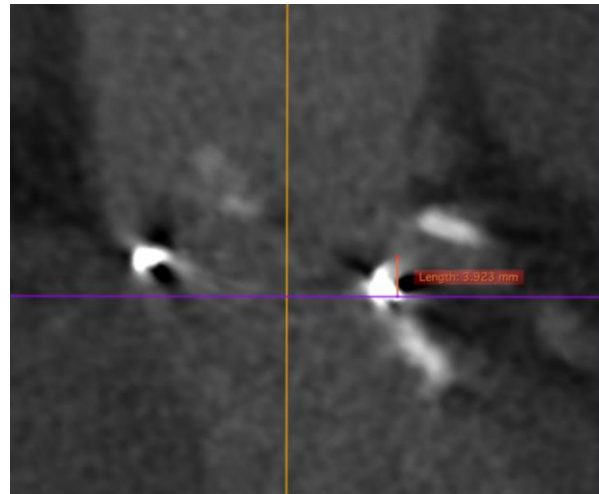


CT analysis

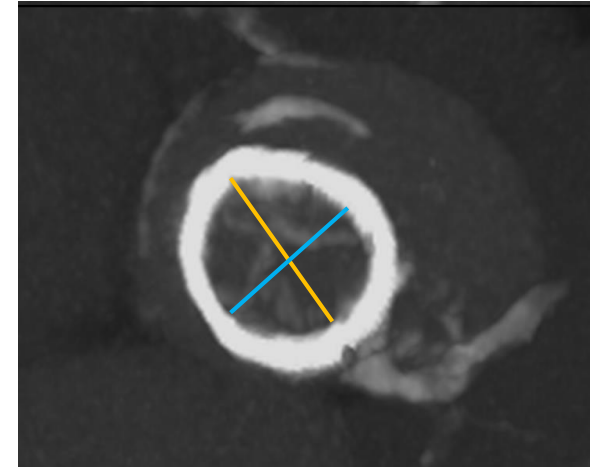
Aortic root + femoral access



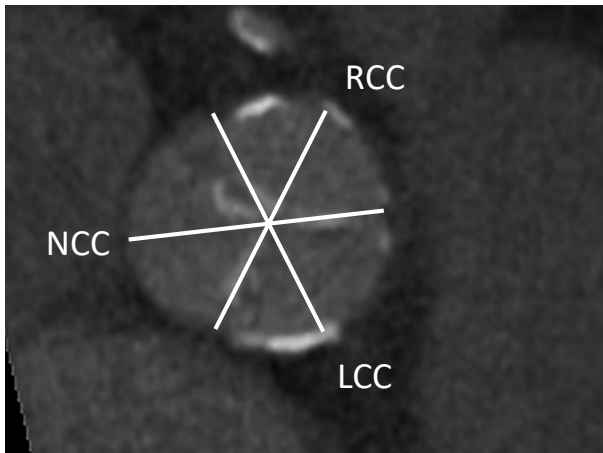
**Right coronary artery
height: 7.7 mm**



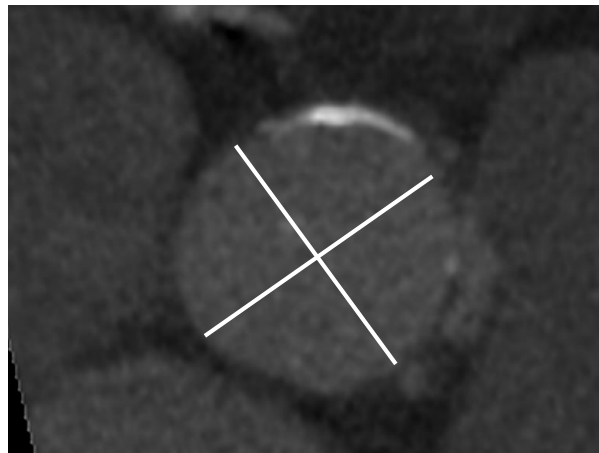
**Left coronary artery
height: 3.9 mm**



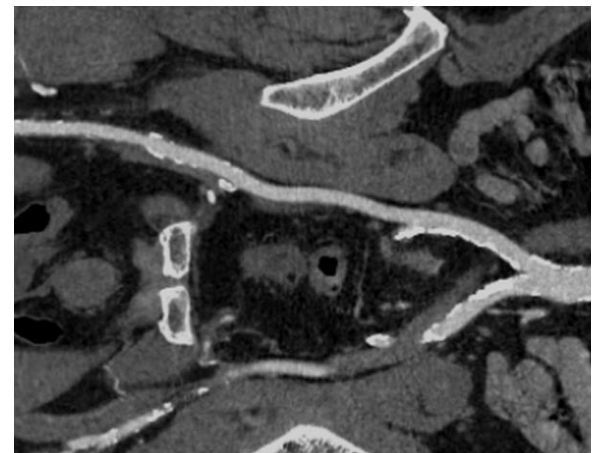
**True internal diameter:
18.6 X 20.2 mm**



Sinus: 27.9 X 28 X 30 mm



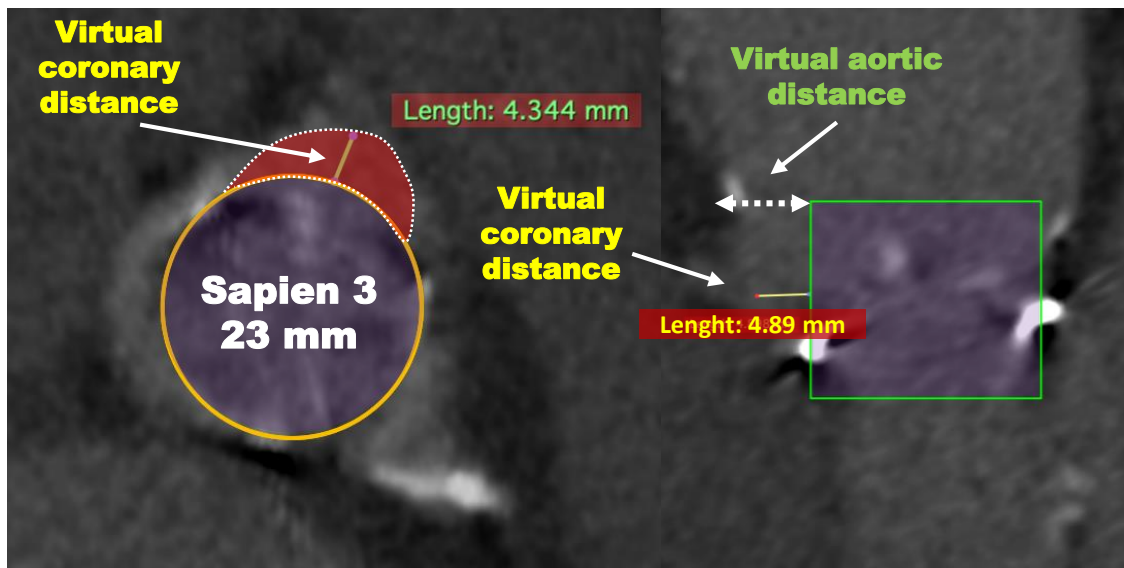
**Sinus tubular junction:
35.9 X 34.2 mm**



Right access >6 mm

CT planning Virtual model with Sapien 3 23 mm

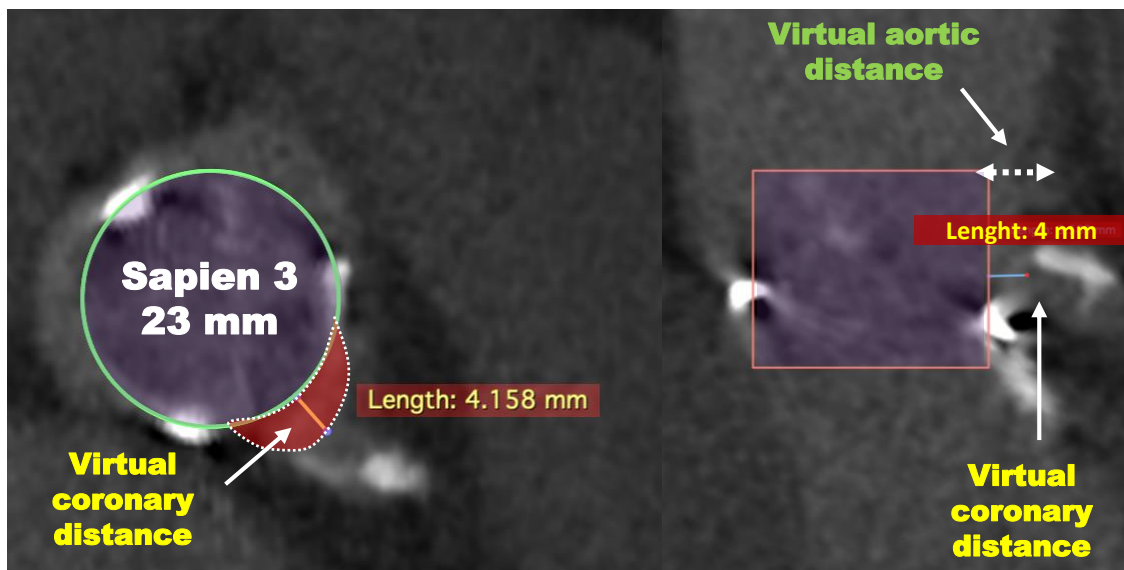
Right coronary artery



Virtual coronary distance: > 4 mm

Virtual aortic distance: 5.6 mm

Left coronary artery



Virtual coronary distance: > 4 mm

Virtual aortic distance: 4.1 mm

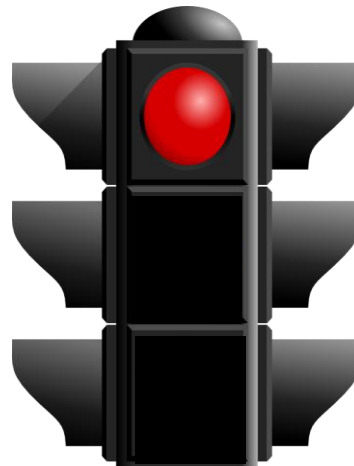
CASE SUMMARY

- **Female, 79 years old**
- **Degenerated Mitroflow 21 mm**
- **Low coronary take-off**
- **High bleeding risk**
- **Society of Thoracic Surgeons score for mortality 7%**
- **TAVI trans-femoral amenable**



SURGERY

- High risk
- Redo-complex

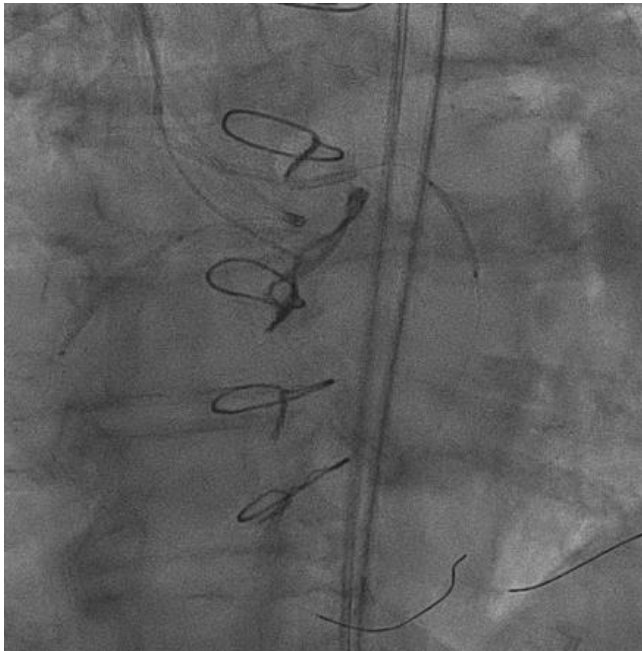


TAVI valve in valve

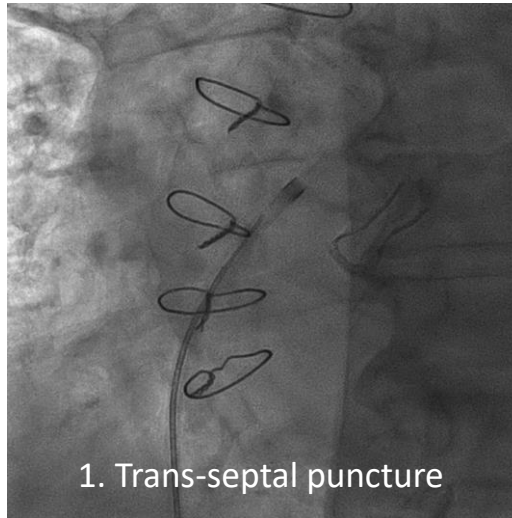
- Coronary obstruction risk
- Expected prosthesis-patient mismatch

- ❑ **TAVI valve-in-valve (trans-femoral)**
- ❑ **Upfront strategy of coronary protection (guidewire + stent)**
- ❑ **Sapien 3 valve 23 mm (underfilled) implant**
- ❑ **Balloon valve ring fracture as bailout strategy if high residual gradients**

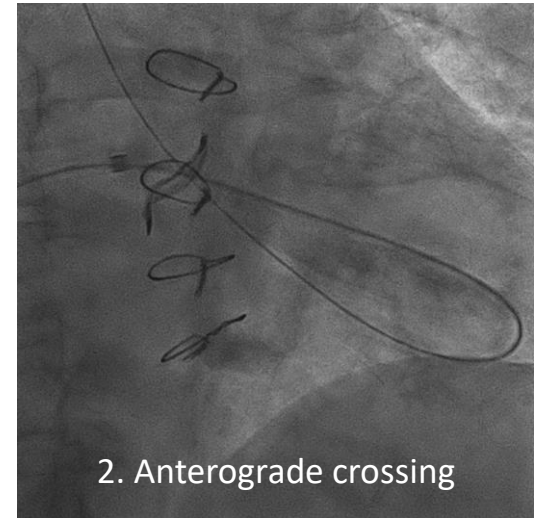
1. **Coronary protection with guidewire and stent**
2. **Multiple unsuccessful attempts to retrograde surgical valve crossing**



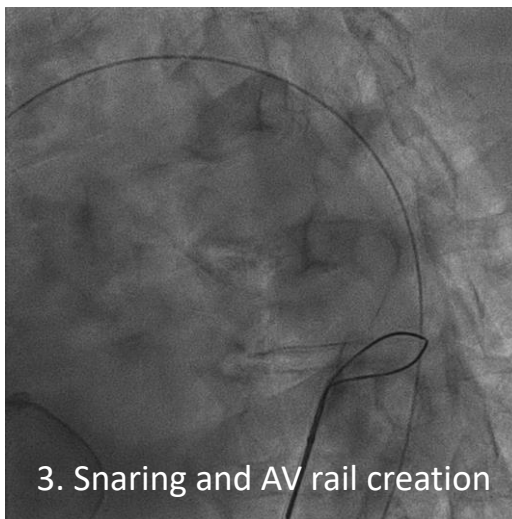
3. Switch to trans-septal anterograde procedure



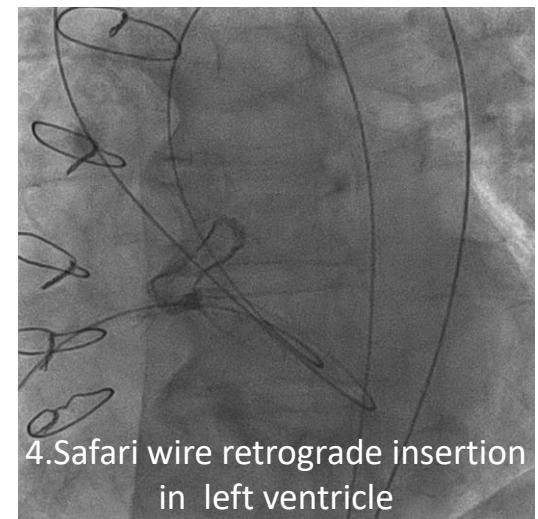
1. Trans-septal puncture



2. Anterograde crossing



3. Snaring and AV rail creation

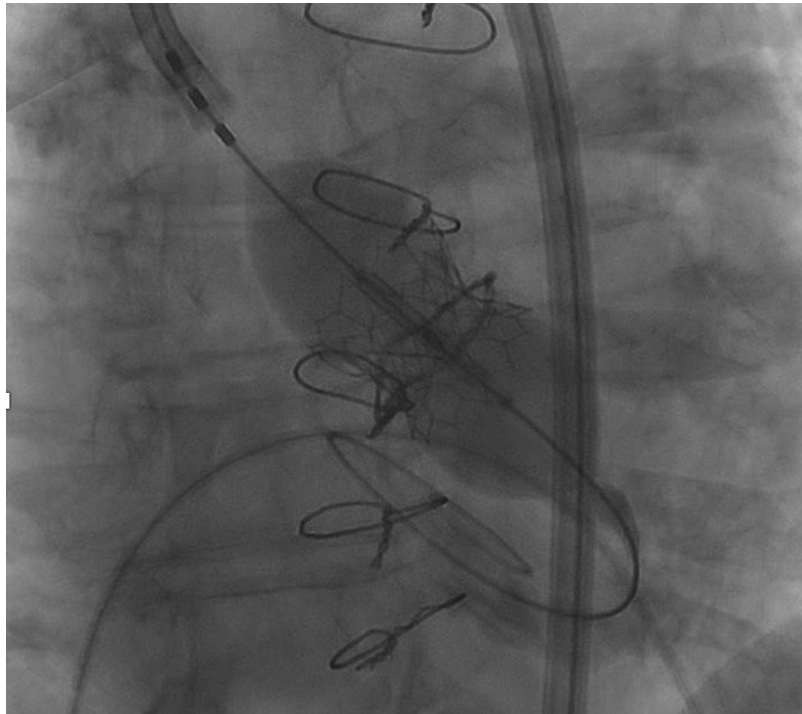


4. Safari wire retrograde insertion in left ventricle

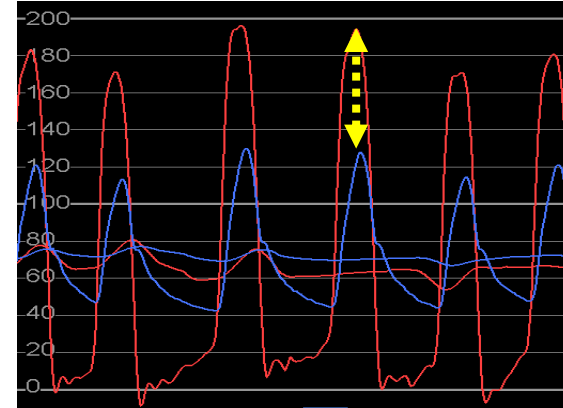
**Initial hemodynamic
destabilization**



**4. Direct Sapien 3 23 mm
implantation without coronary
protection**



**High residual gradients without coronary
obstruction**



**5. Balloon valve ring fracture attempt
with True dilation balloon 23 mm
at 14 atm**

