



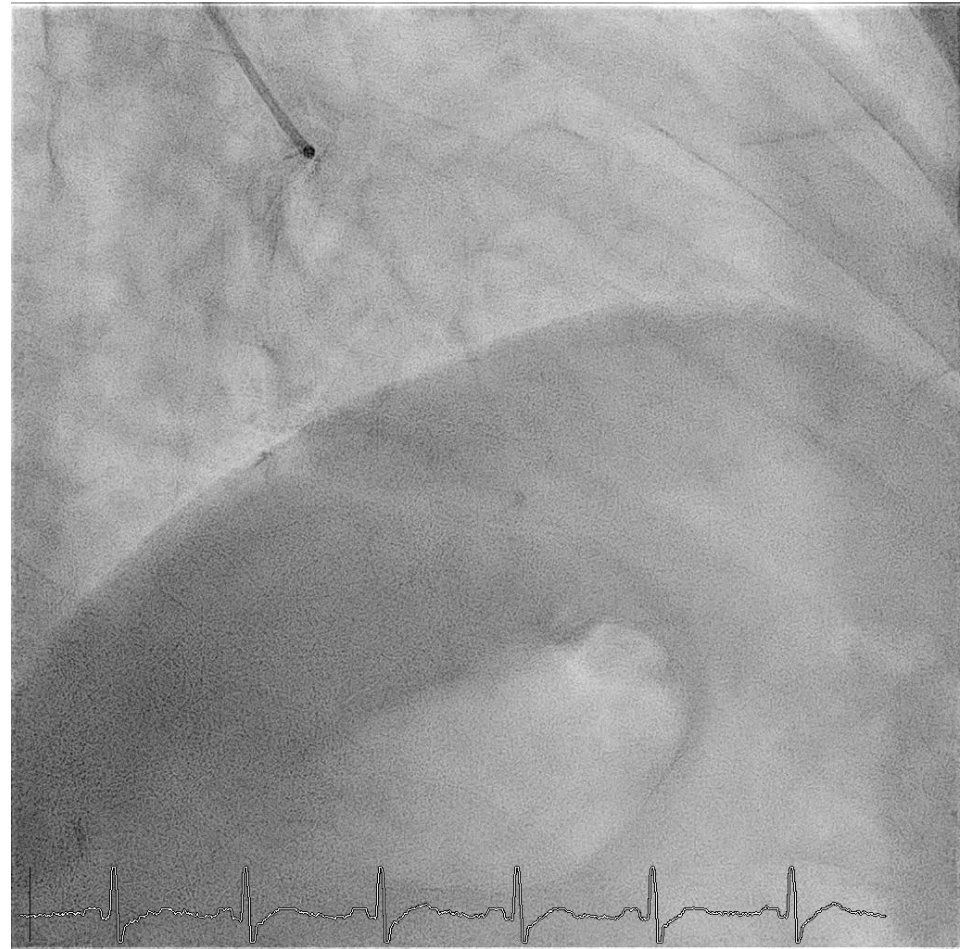
Two coronaries, one cusp and a lot of calcium

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- No conflict of interest

- 73 y. old Patient
- Brought in to our emergency room with angina and cold sweats
- ECG showed bradycardia (36/min), without any ischemic changes
- No elevation of troponin levels
- Cardiovascular risk factors
 - Obesity
 - Typ II Diabetes
 - Hypertension
 - Hyperlipidemia
- History of one vessel disease with non- significant stenosis of RCA and a coronary anomaly (both arteries originating from the right coronary cusp)
- LV function > 60%

- Angiogram **shows** superdominant right coronary artery (RCA) and the LAD originating from the right coronary cusp and the left circumflex artery originating from the distal RCA.
- Mid RCA **possibly** showing a progression of previous known lesion
- **Highly** calcified lesion
- High risk PCI due to calcified lesion and superdominant vessel, equivalent to a leftmain stenosis

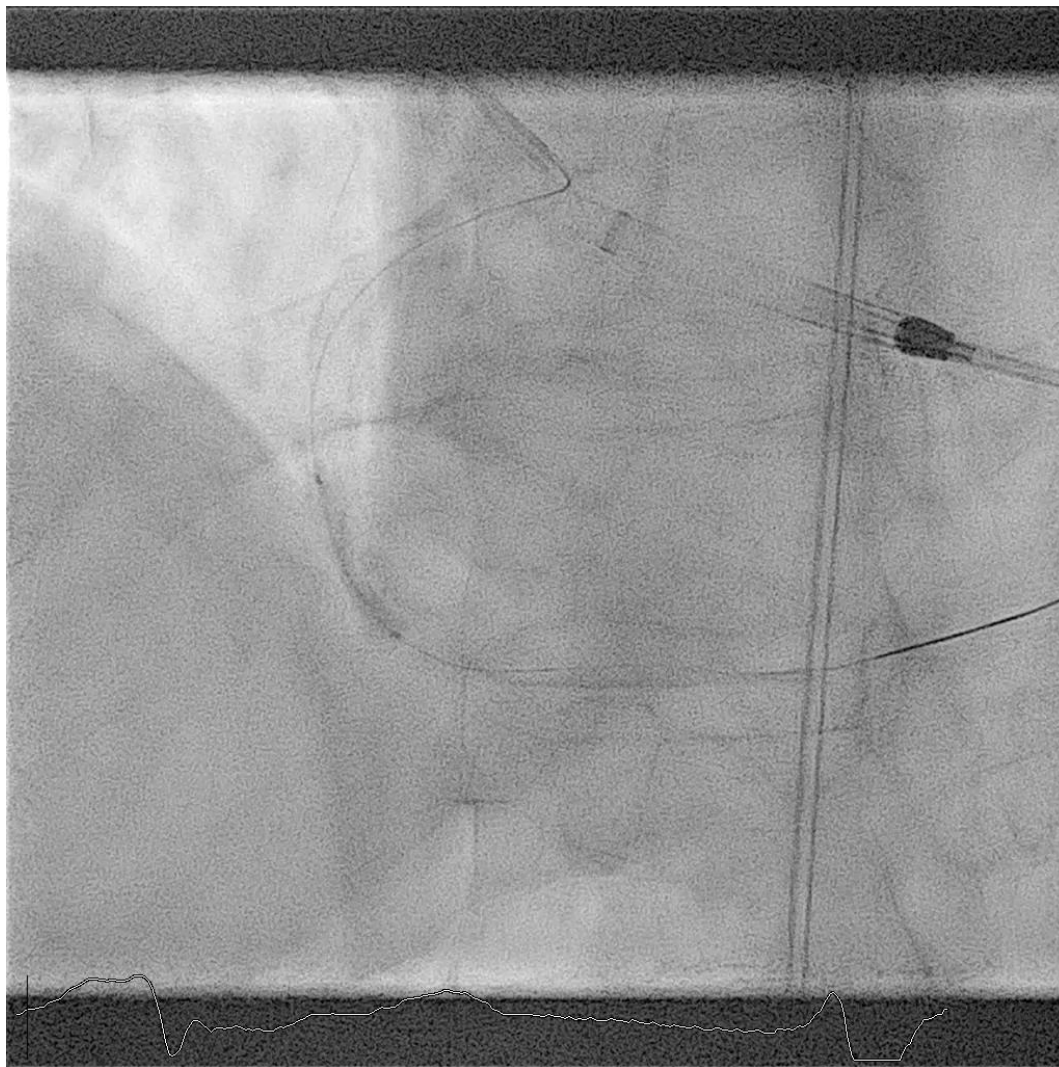


- Coronary anomalies are found in 0,6-1,3% of coronary angiograms
- Congenital absence of the LCX is rare with a reported incidence of 0.03-0.067%

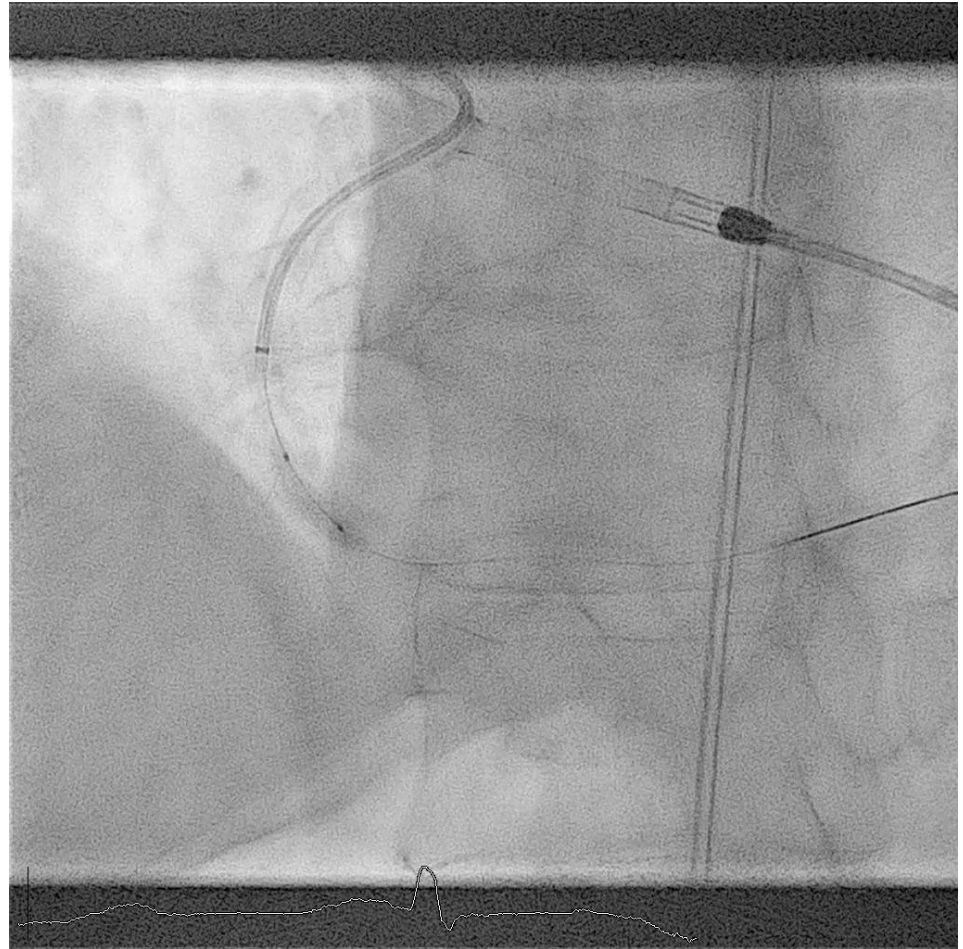


- Femoral approach for Impella 2,5 pump
- Radial sheath, 6F guiding JR cath., pressure wire
- iFR value 0,83, sudden pressure jump in mid RCA
- Wiring of distal RCA with Sion Blue
- Standard approach with 3,0mm NC Balloon

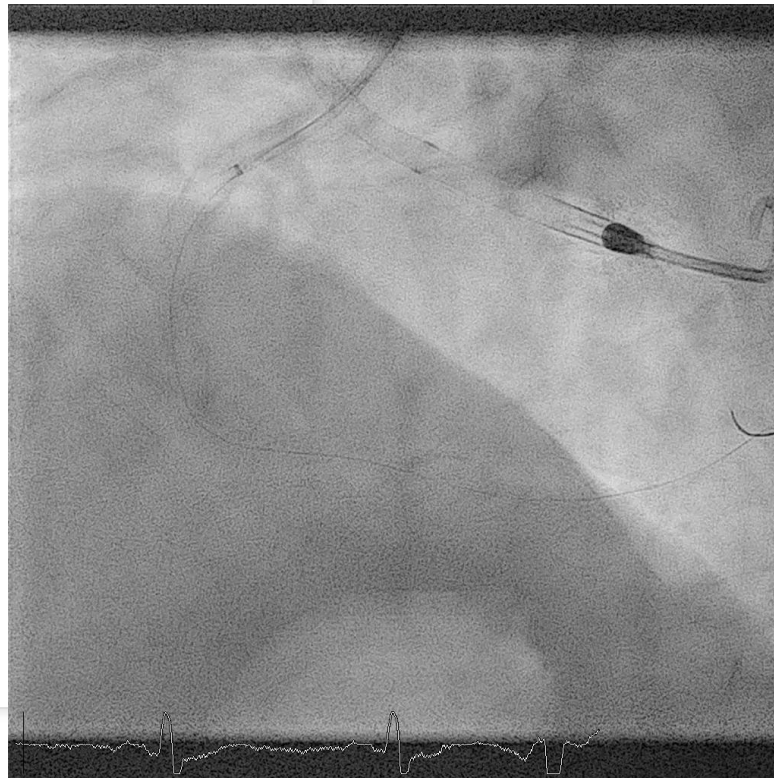
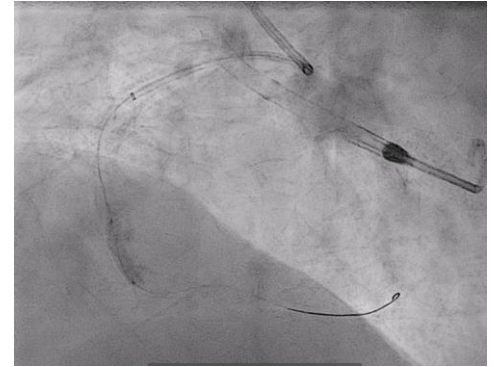
Underexpansion of the 3,0mm NC Balloon



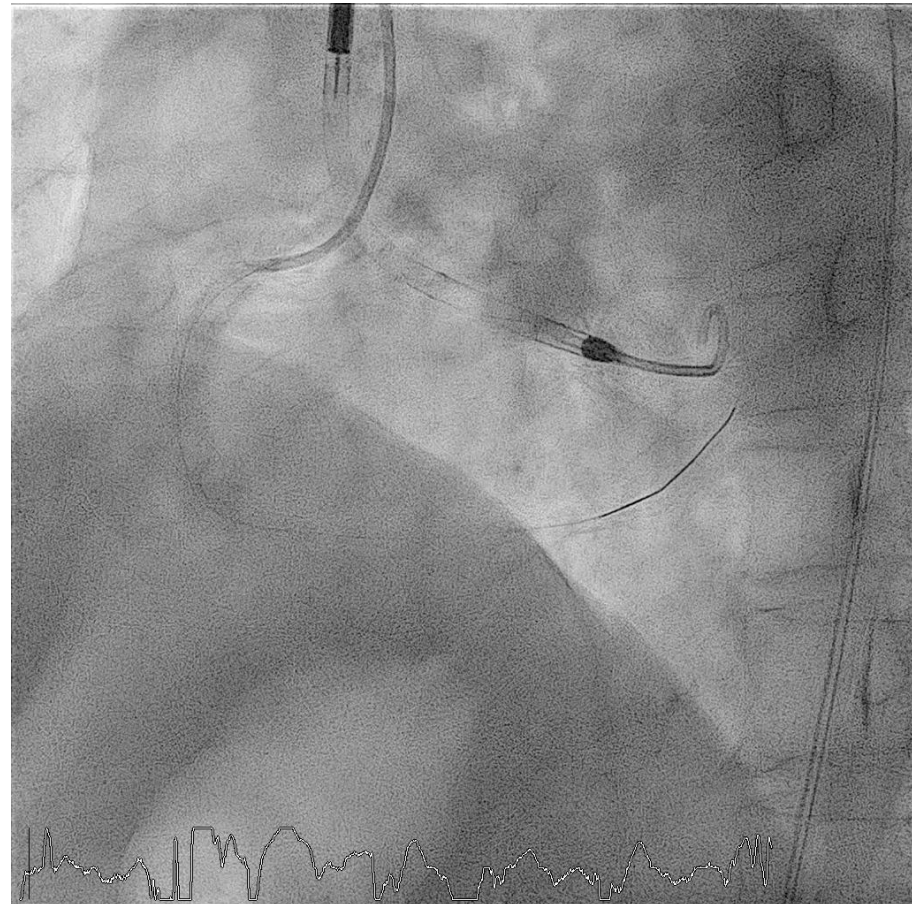
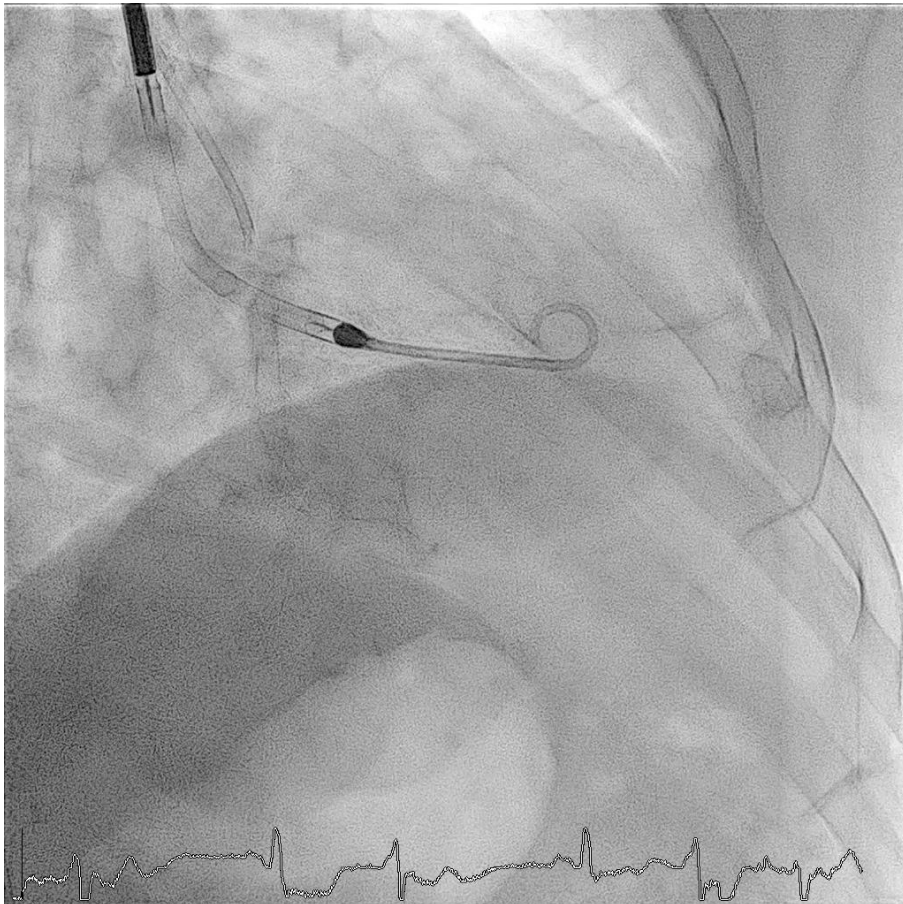
- Cutting Balloon could not be **delivered**
- Guide extension was used due to lack of optimal back up
- Multiple **predilatations until** cutting balloon was **deliverable**
- Ultimately, **dilatation** with **Wolverine** 3,5mm at 10 ATM



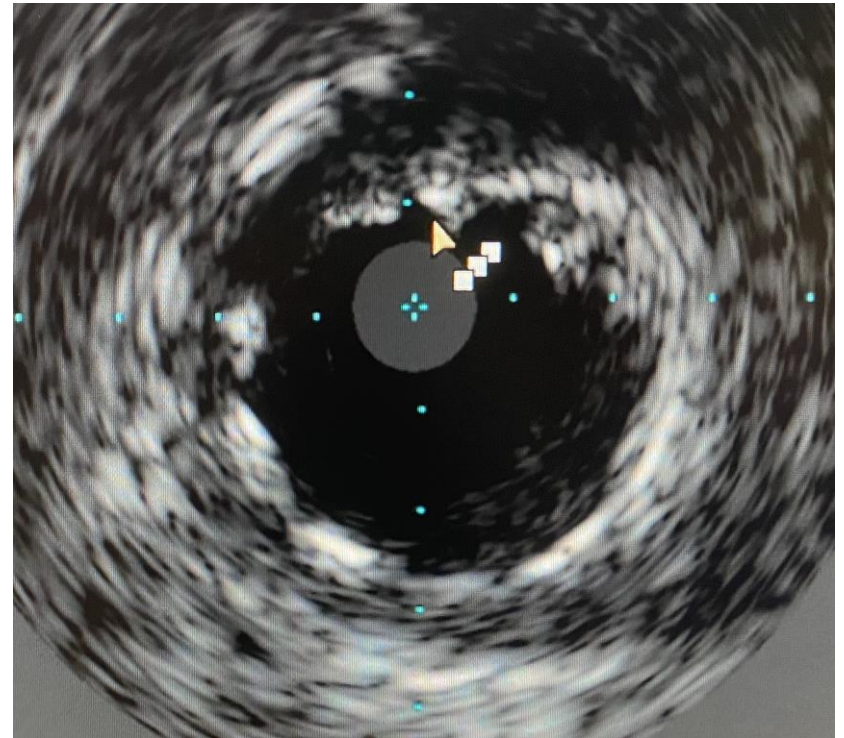
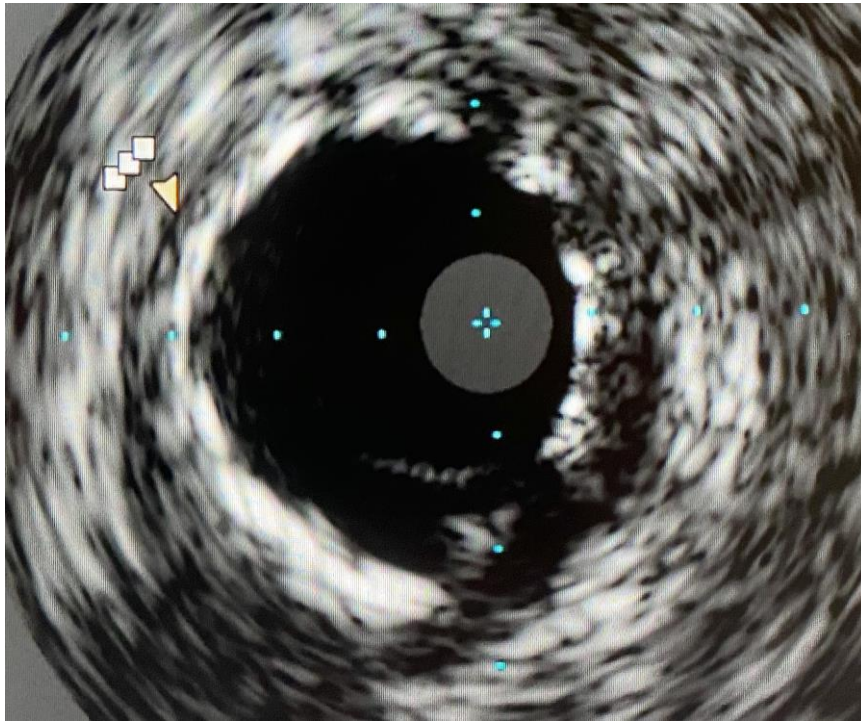
- Further dilatation with 3,5mm **OPN** balloon at 40ATM
- **Full balloon expansion at that stage**



- After implantation of 2 DE-Stents, 3,0mm and 3,5mm



- Ultimately, IVUS showing **the optimal expanded** DES in the mid RCA



- Coronary anomalies might pose difficulties not only in diagnosis but also in treatment due to unusual take-off of the artery and unexpected anatomies, especially in the setting of an acute myocardial infarction and if the anomaly has not been diagnosed before.
- Severity of calcification can cause additional problems with lesion preparation and as such should not be underestimated.
- In such cases as PCI in a superdominant coronary artery using assist- devices is feasible and most probably necessary