

# Impella-protected PCI in a 53-year-old patient with end-stage refractory angina

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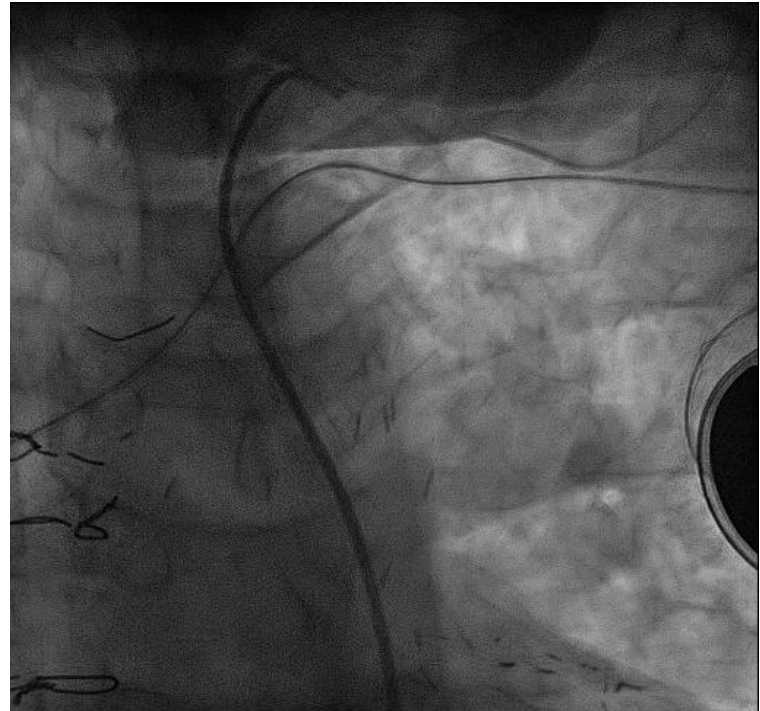
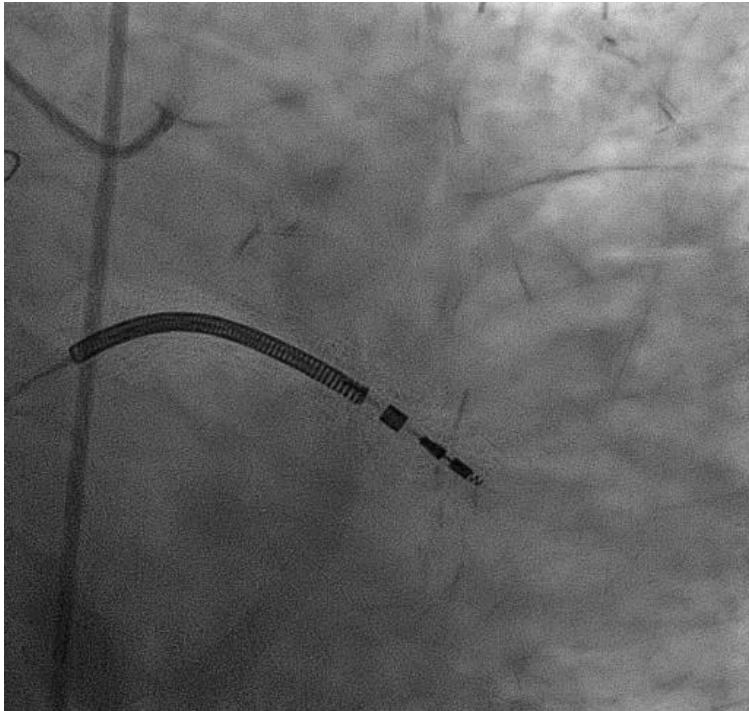


# Patient History

- Male, 53 years old with post-ischemic DCM and end-stage refractory angina
- CV risk factor: hypertension, DM type II, former smoker, obesity
- Comorbidities: AF on DOAC, CKD with baseline creatinine 2,1 mg/dl, NASH, chronic thrombocytopenia due to bone marrow hypoplasia
- Previous PCI on Cfx, RCA and DA and previous CABG: LIMA-DA, Y-graft with RA on RI and OM
- TT Echo: diffuse hypokinesia with akinesia of the posterior IVS, inferior and inferolateral walls resulting in a moderately depressed EF ( 33%)

# Patient History

- Last angiogram performed during a NSTEMI on 11/2022 was evaluated as an end-stage case and was treated conservatively.

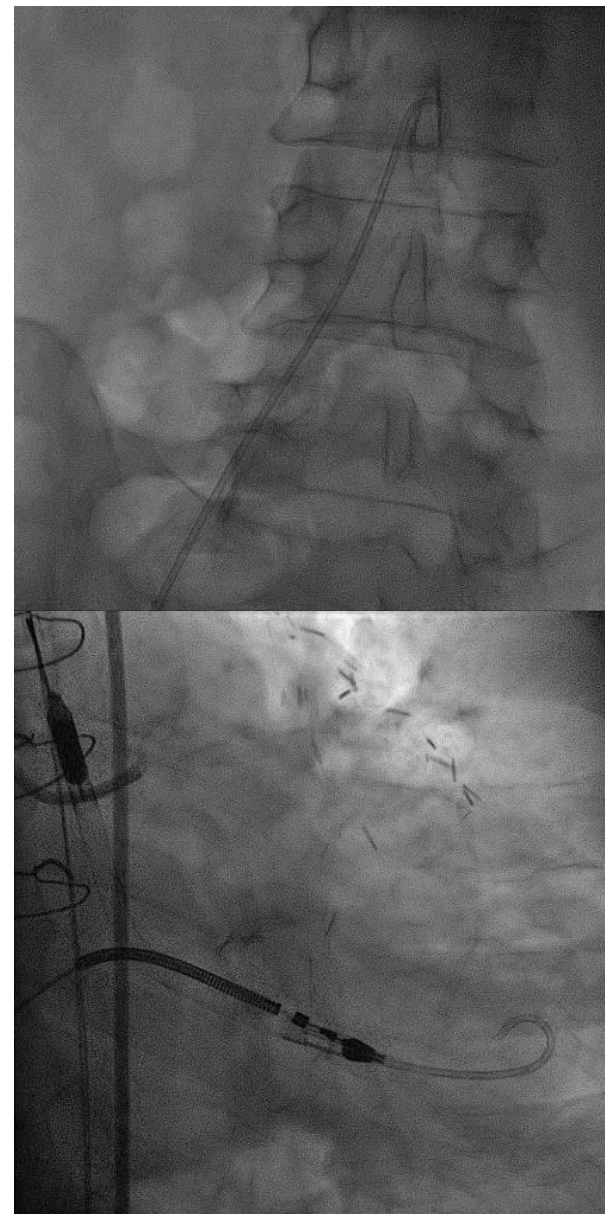


# Patient History

- Presented to our hospital with recurrent NSTEMI ( 6 hospitalizations during the last year) and CHF
- Currently on FU at Hub Tertiary Center for end-stage angina where he was judged not amenable to cardiac transplantation or any MCS
- After an inter-hospital Heart Team discussion, we decided to perform an Impella-protected high-risk PCI on the native coronary arteries

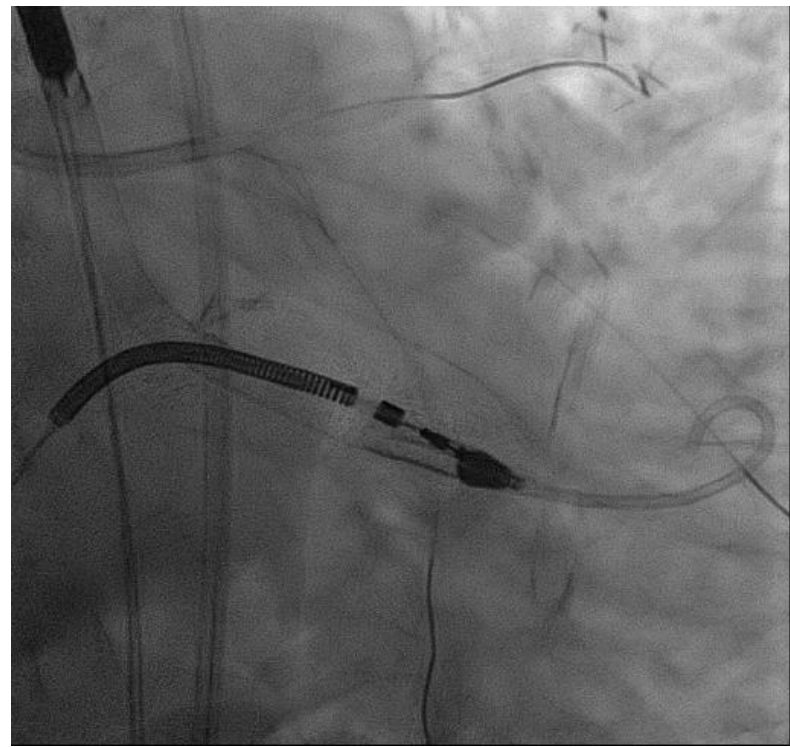
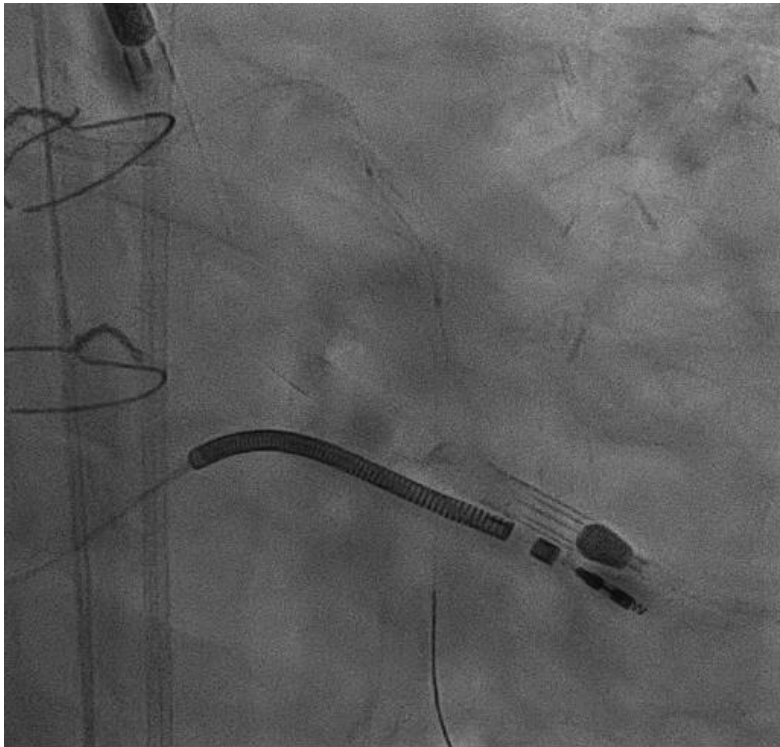
# Treatment Strategy

- CT scan of the abdomen and of the lower limbs revealed a > 50% stenosis on the origin of the external right iliac artery and a lesser degree atherosclerotic disease on the left-axis
- Impella SmartAssist CP was therefore placed in a standard fashion through a left femoral access and a right femoral access was used for the XB 3.5 PCI catheter



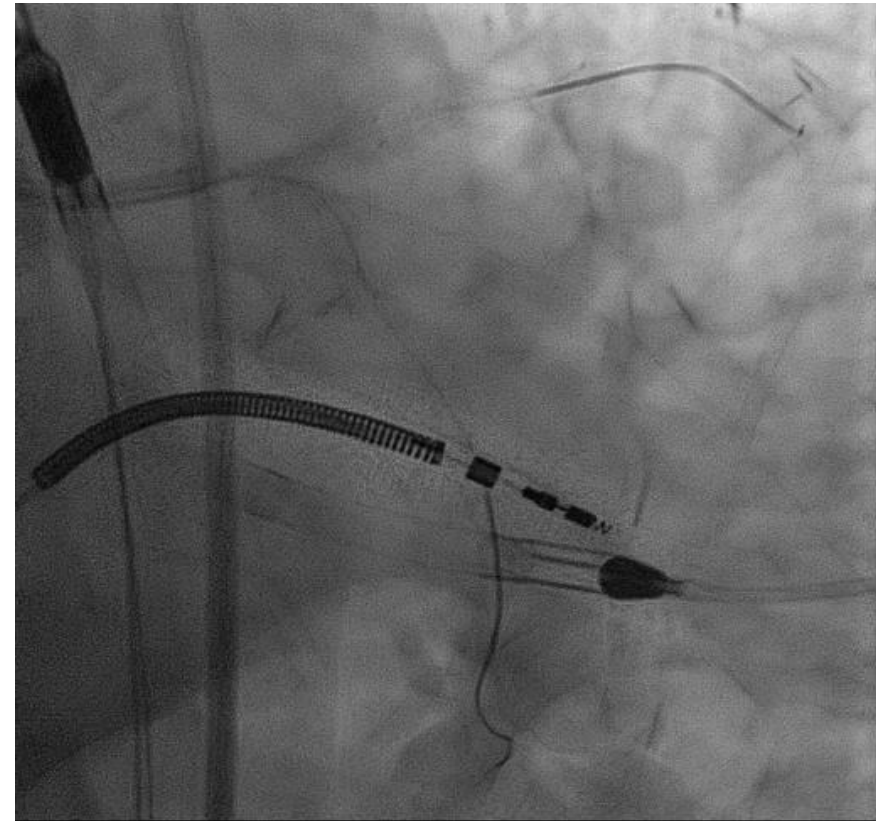
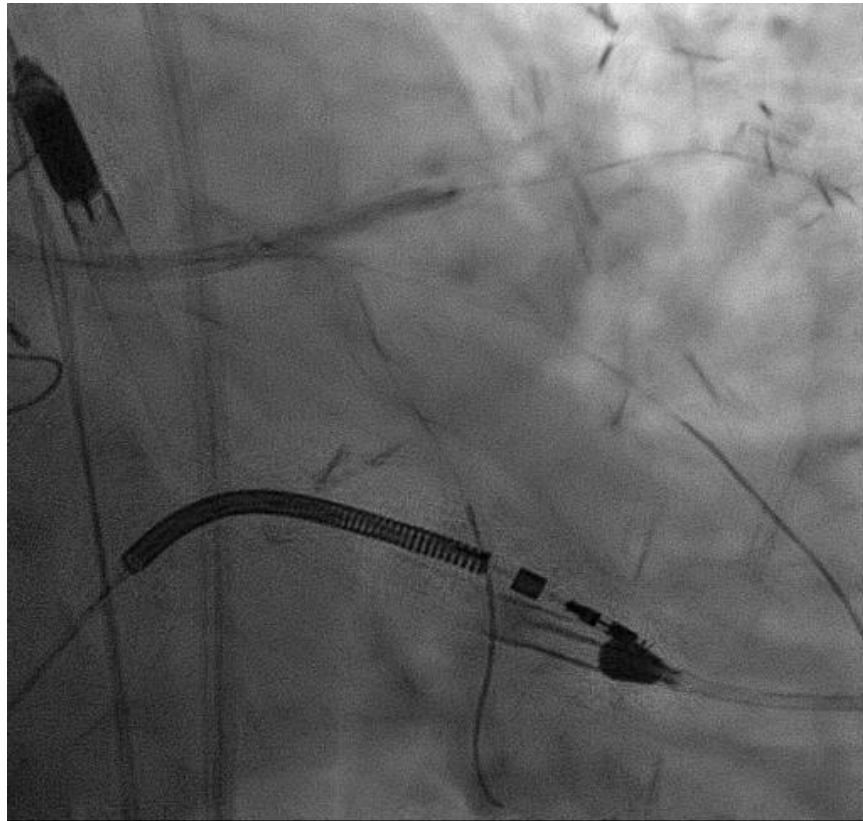
# Treatment Strategy

- After several attempts to deliver Shockwave balloon ( buddywire, child-in-mother) we pretreated the calcific ISR on CX with crescent diameter NC balloons. Subsequently we were able to deliver crescent diameter Shockwave balloons ( 2,5 and 3 x 12 mm) ( 8 x 10"). To complete this stage of the procedure, we positioned proximally to the ISR 1 DES Cr8 Evo 3,5 x 20 mm.



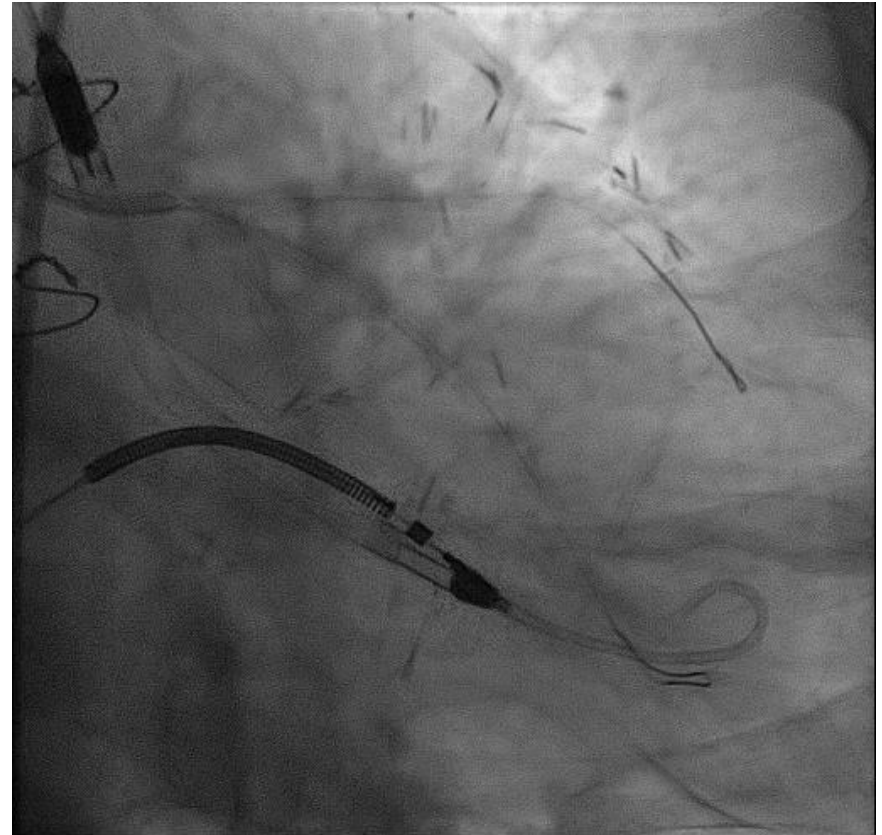
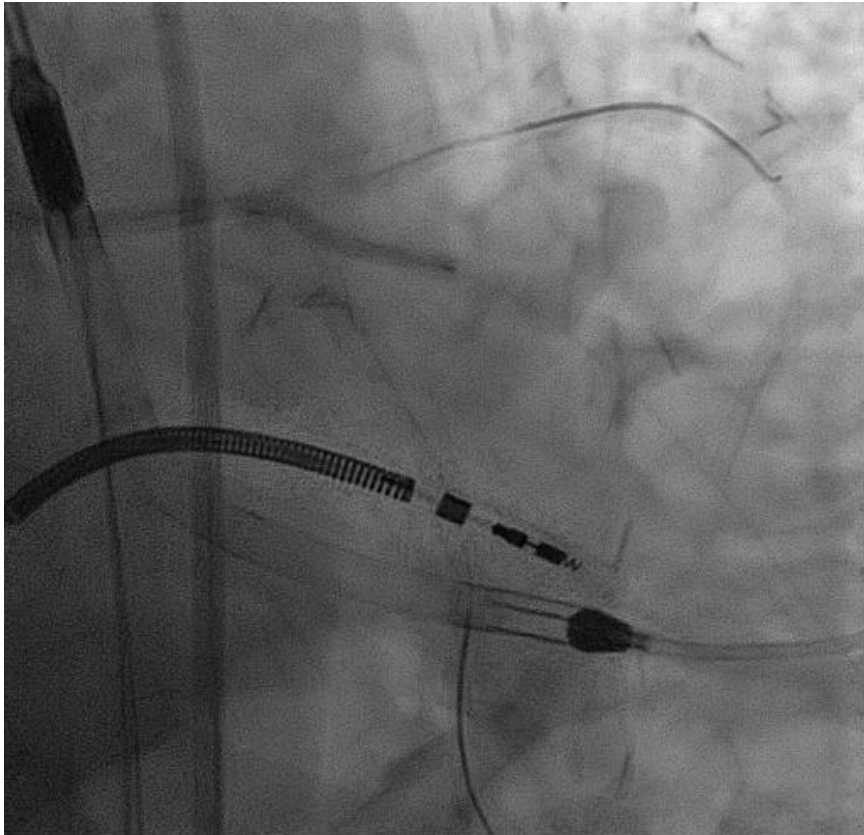
# Treatment Strategy

- Afterwards we treated the DA/D1 bifurcation lesion. D1 was predilatated, and then, we positioned a 2.5 x 26 mm Cr8 Evo DES distally and proximally on the LM/DA axis a 3,5 x 13 mm Cr8 Evo DES



# Treatment Strategy

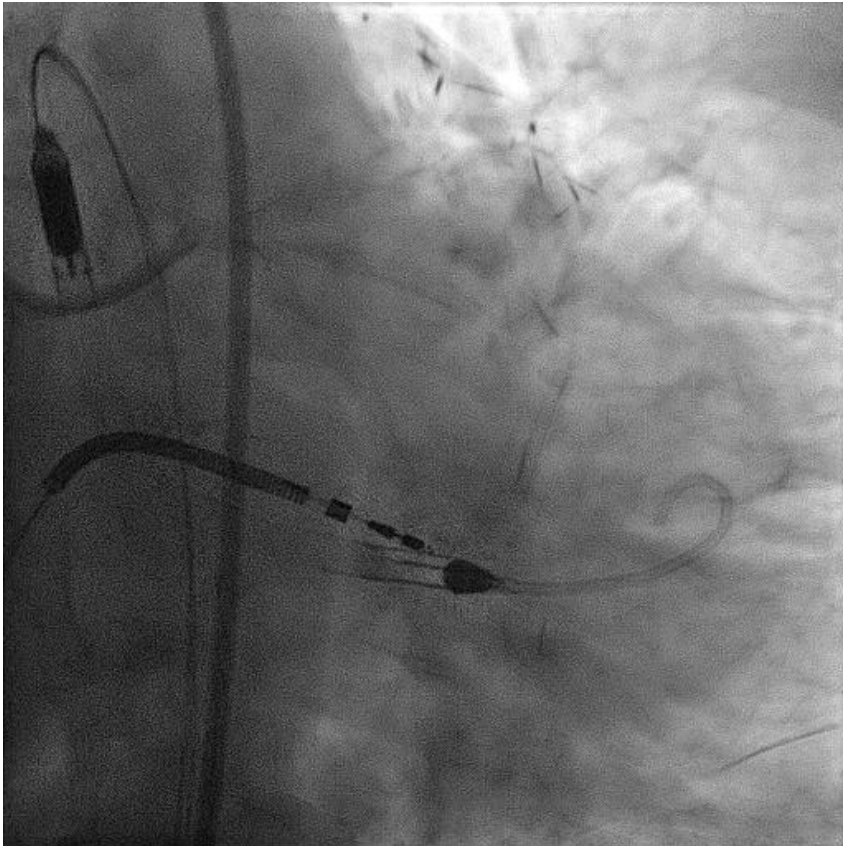
- On RI we firstly debulked the calcific lesion with Shockwave 2.5 x 20 mm ( 8 x 10") and then placed two DES Cr8 Evo 3 x 26 mm and 2.5 x 20 mm.





# Treatment Strategy

- Final angiographic result after KBI



- At the end of the procedure we safely obtained hemostasis with two Proglide on the 14 F Impella access and with Angioseal on the 7 F right femoral access
  
- Procedure duration: 349 min
- X-Ray time: 157 min
- Contrast medium 240 ml
- Diuresis during the procedure: 80 ml/h

# Case Conclusion

- Post-procedure creatinine 2,2 mg/dl → overall burden of contrast medium was diminished by maintaining central perfusion with Impella CP
- Patient was discharged free of angina after 1 week of hospitalization
- Still on FU at Hub Tertiary Center, no further hospitalizations in the last 4 months
- Patient currently CCS grading of angina Level 1 with improved quality of life according to KCCQ questionnaire

# Take-home messages and perspectives

- With the advent of Impella protected high-risk PCI, patients with formerly refractory angina pectoris in end-stage coronary artery disease are often judged not end-stage anymore.
- The benefit on angina relief has not yet been investigated after these extremely complex procedures.
- The know-how of these procedures is elaborate and the operator learning curve can be extremely challenging but the benefits for the patients could be tangibles and life-changing