Optical coherence tomography imaging during ostial left main stent implantation

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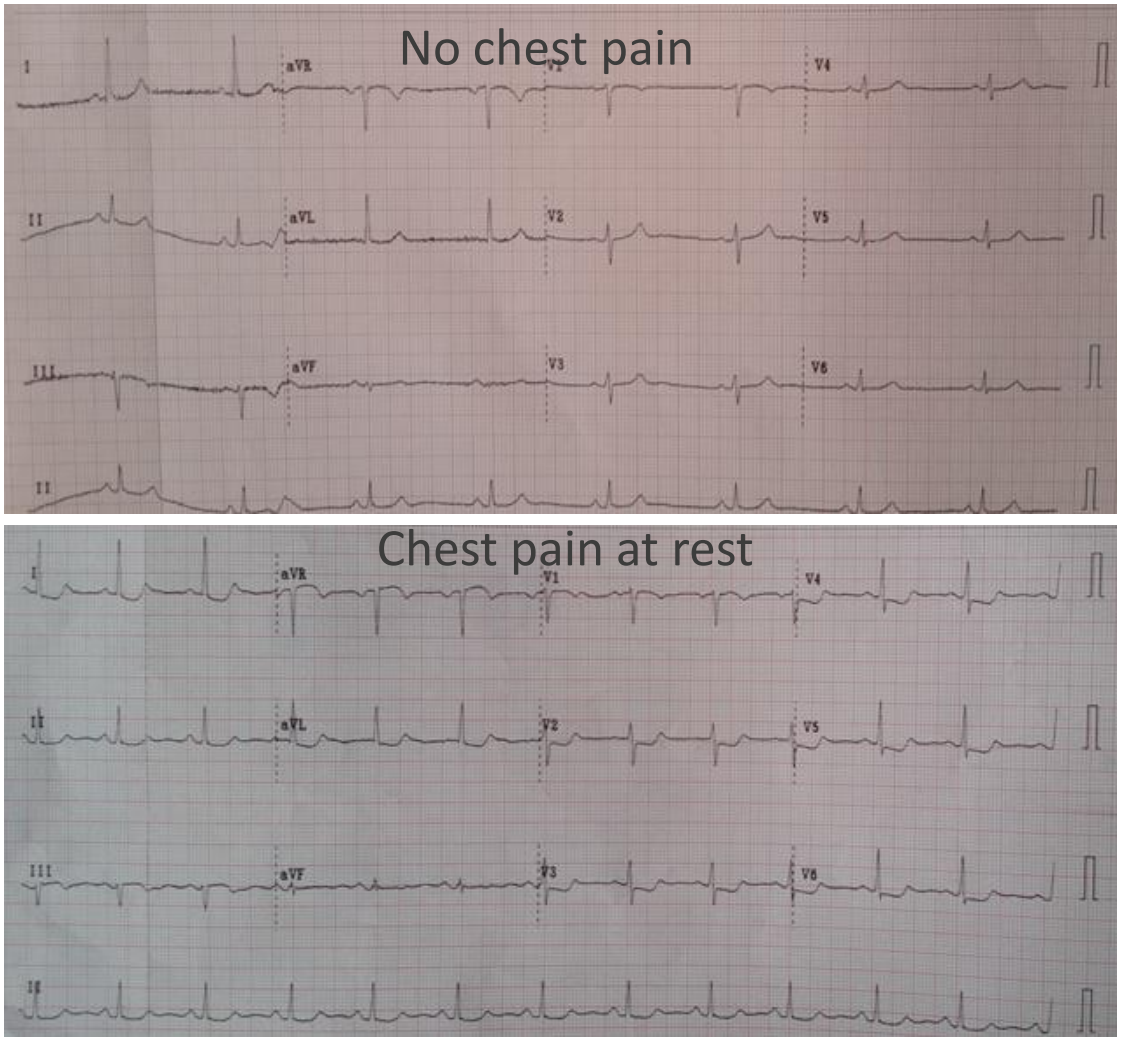
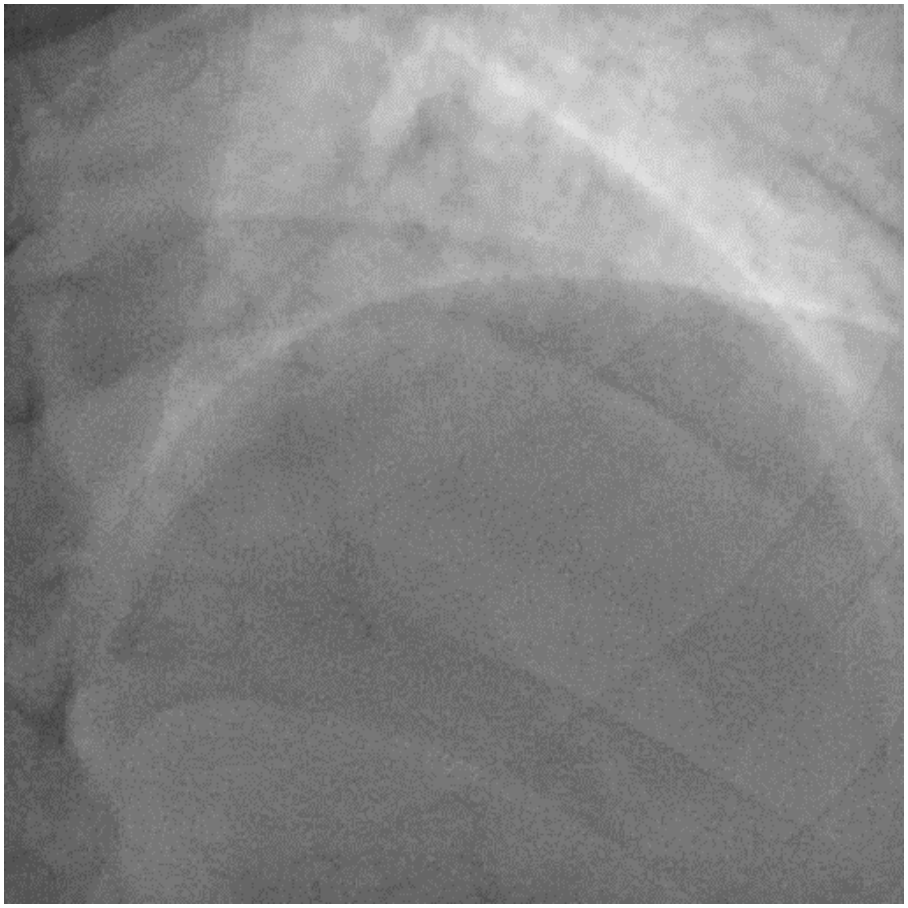
The patient

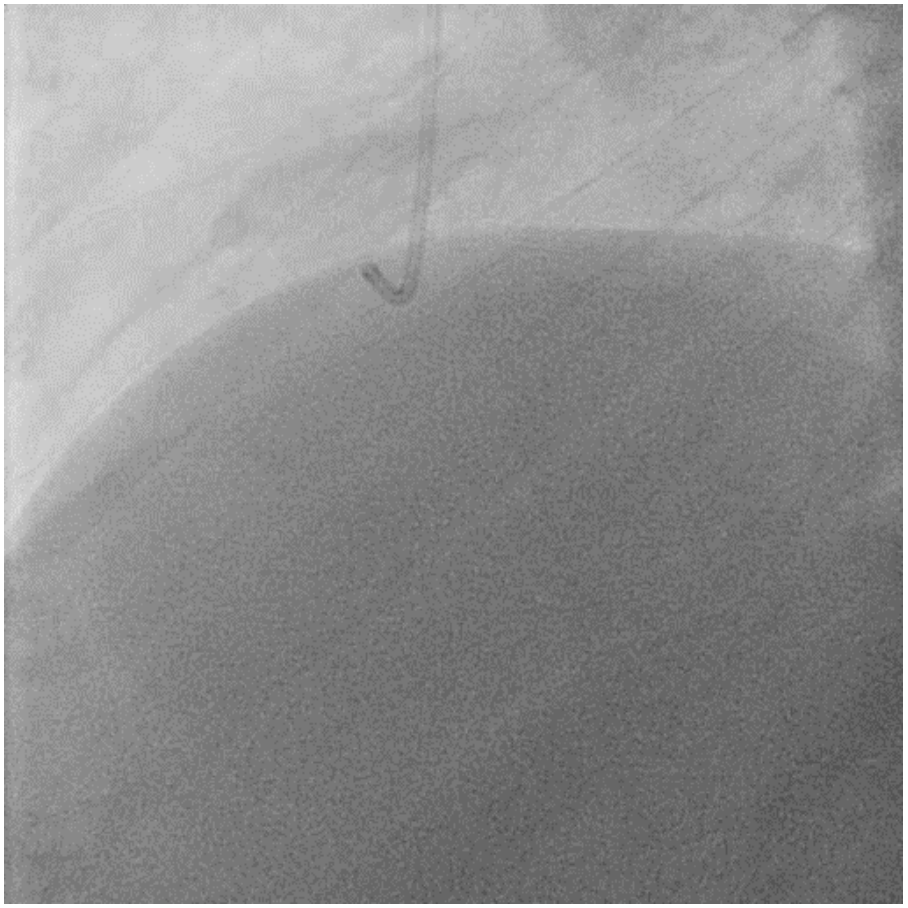
- A 49-year-old overweight female with arterial hypertension
- History of two transient ischaemic attacks
- Unsuccessful recanalisation of chronic left subclavian artery occlusion 6 months before
- Admitted for Braunwald class IIIB unstable angina pectoris in November 2015



Coronary angiography

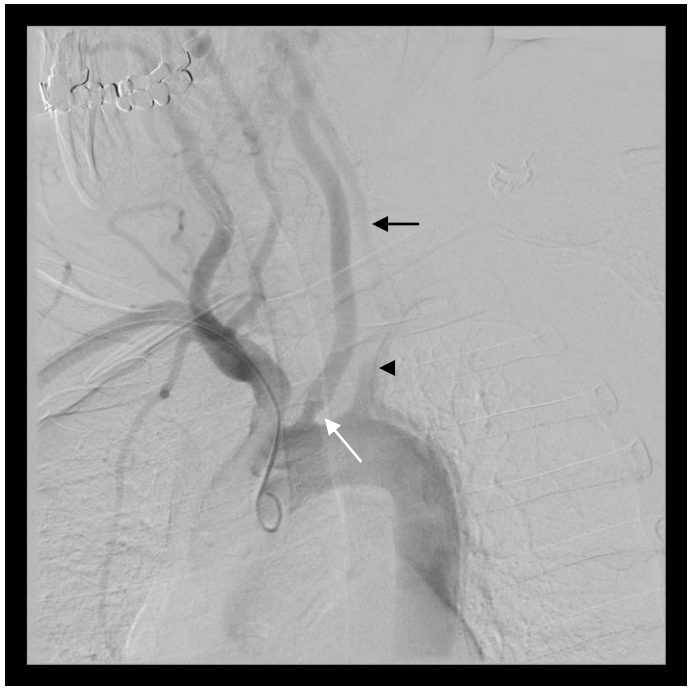


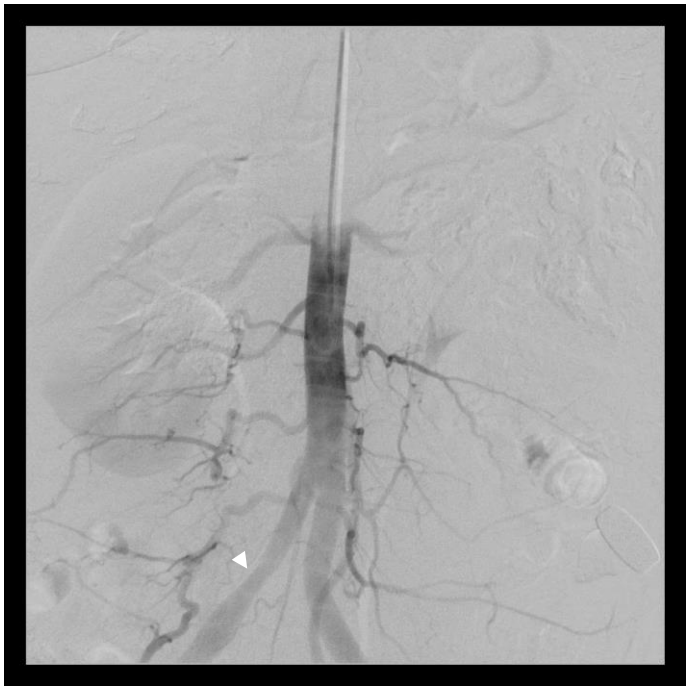
LCA



RCA

Takayasu arteritis





- Occlusion of the left subclavian artery (black arrowhead) with subclavian steal syndrome: reverse flow in the left vertebral artery (black arrow)
- Mild ostial stenosis of the left common carotid artery (white arrow)
- Mild stenosis of the right common iliac artery (white arrowhead)

Laboratory findings:

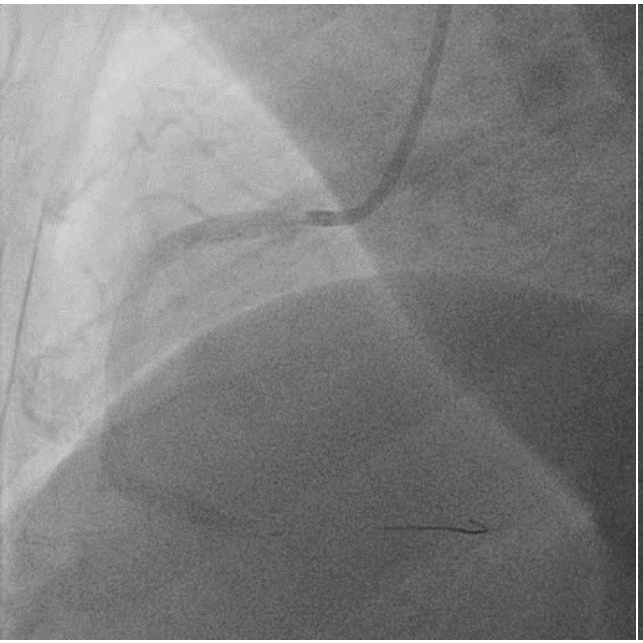
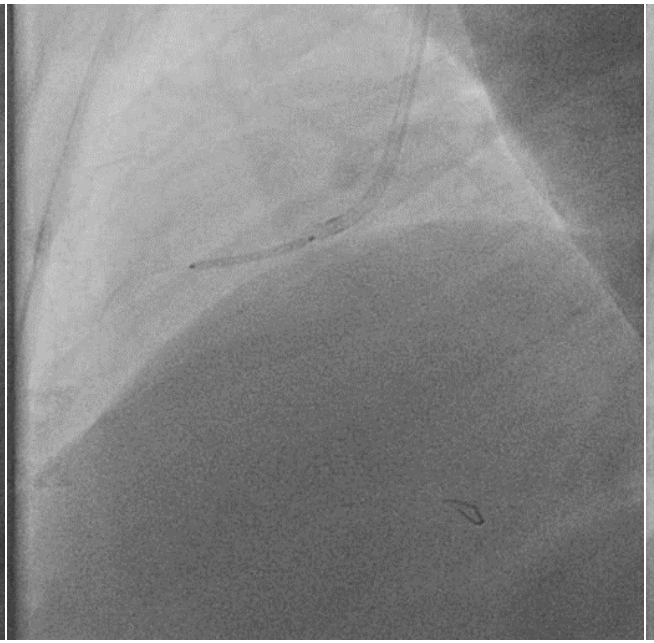
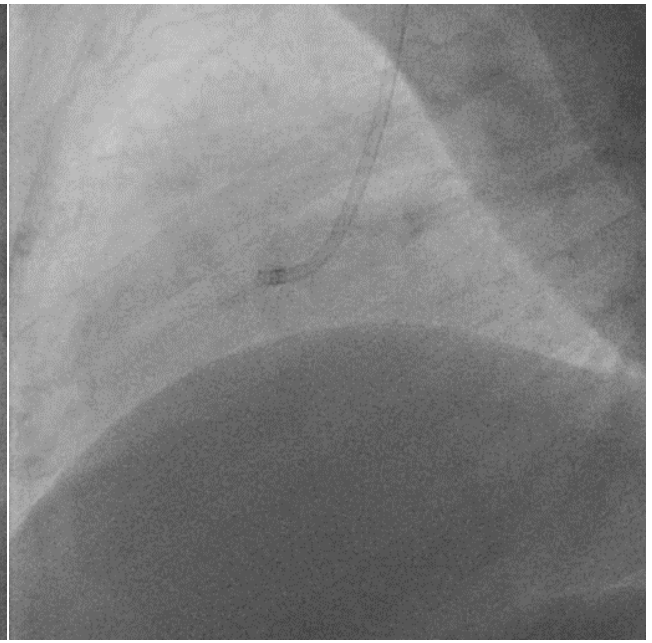
- Erythrocyte sedimentation rate 50 mm/hour
- High level of C-reactive protein (qualitative determination)
- Mild anaemia (haemoglobin 11.5 mg/dl) and leukocytosis (11920 /mm^3)
- Normal troponin, serum lipids, glycaemia, liver and kidney function

Two major and 3 minor criteria of Sharma are present.

Corticosteroid therapy and staged PCI

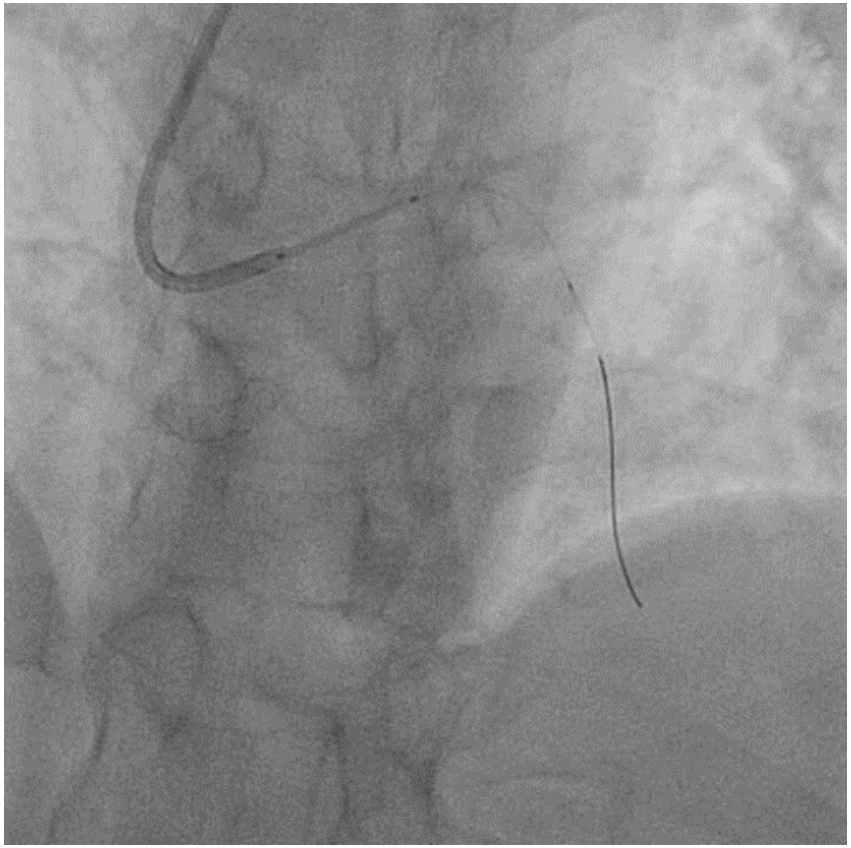
PCI of the right coronary artery ostium:

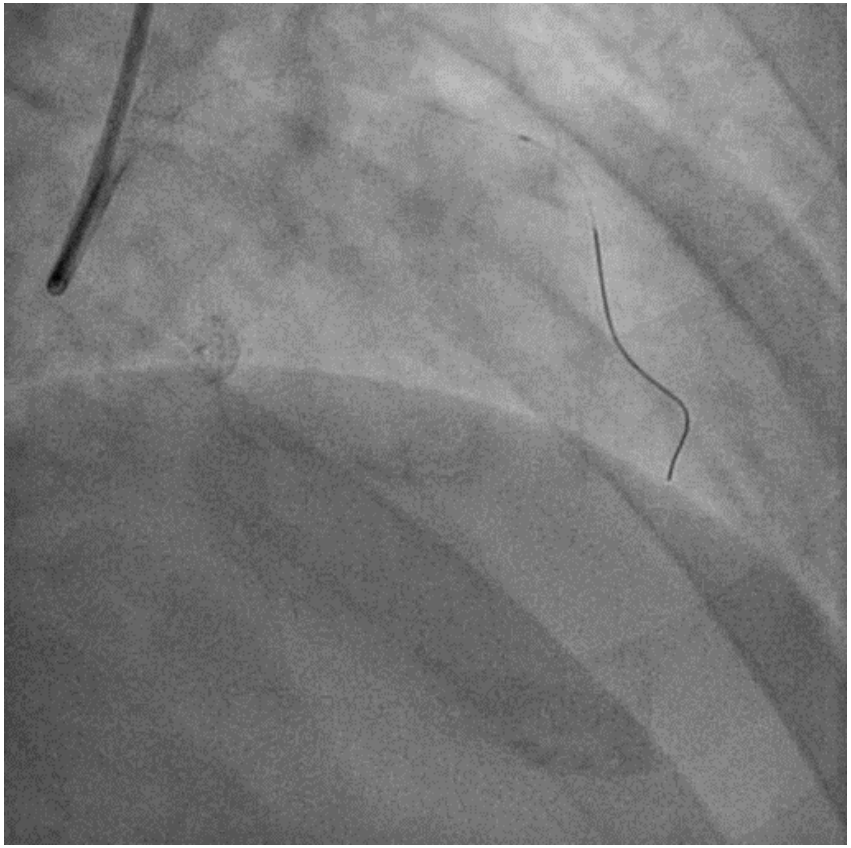
- After 5 days of oral prednisone 0.5mg/kg
- Right radial approach, 6 F Judkins right 3.5 guiding catheter
- Direct implantation of a 4.0/16 mm DES (16 atmospheres)
- Postdilatation and ostial flaring with a 4.5/8 mm NC balloon (16 atmospheres)

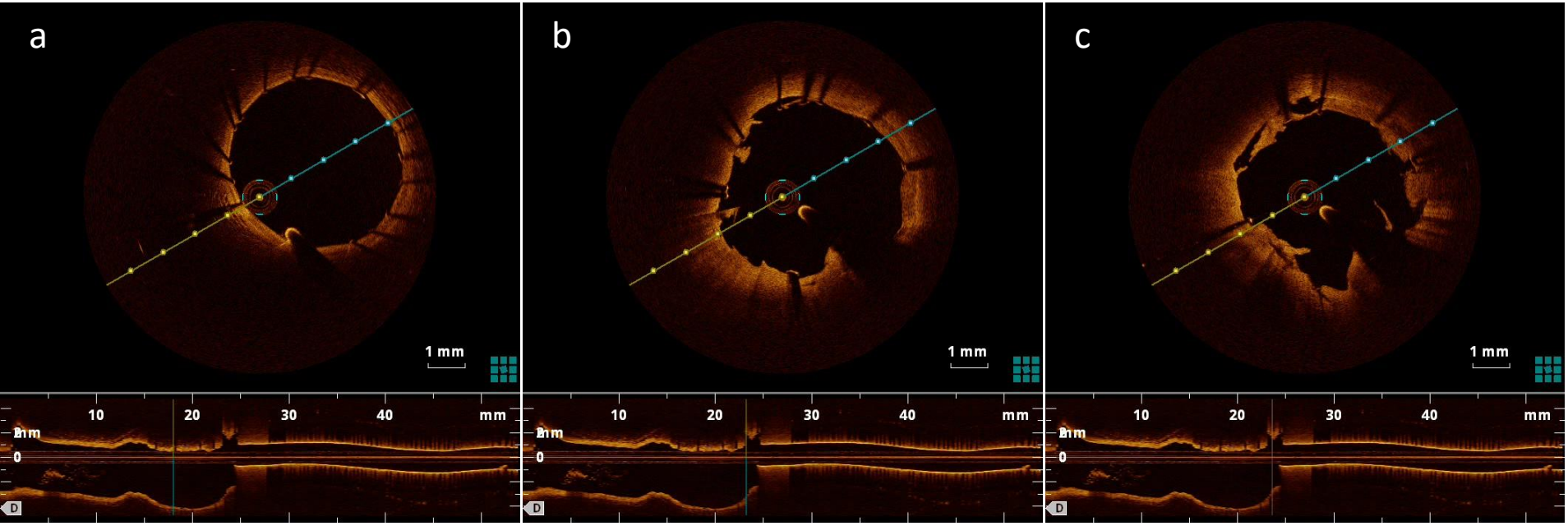
Left main PCI

- Another 5 days of oral prednisone therapy 0.5mg/kg (control erythrocyte sedimentation rate: 15 mm/hr)
- Direct implantation of a 4.0/18 mm DES (16 atmospheres);
- Postdilatation and ostial flaring with a 4.5/8 mm and 4.5/15 mm noncompliant balloons at 18 atmospheres



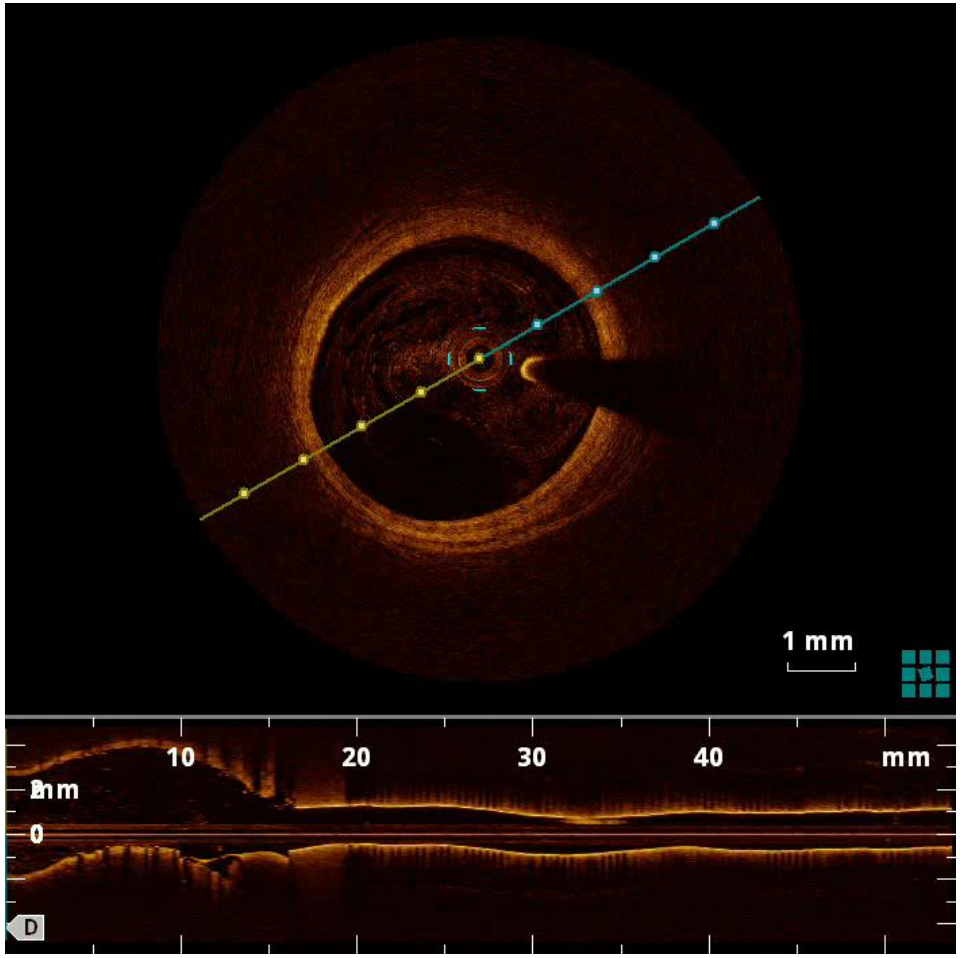


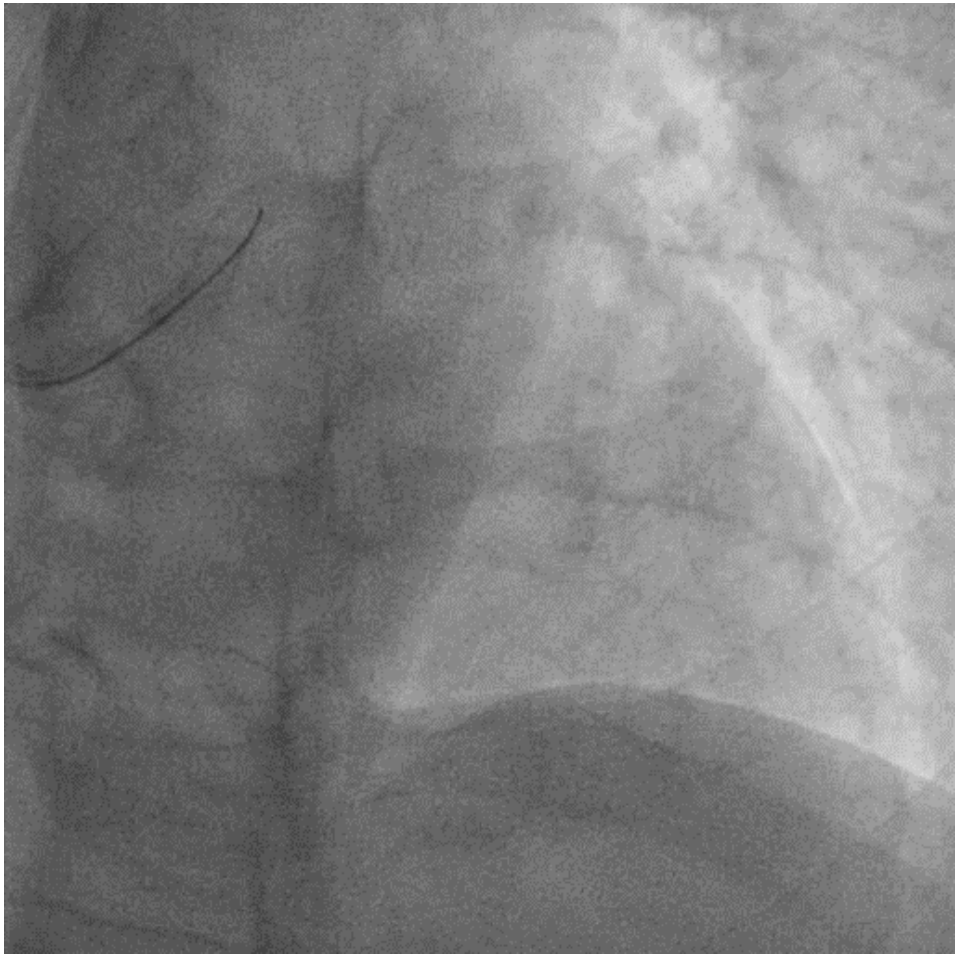
Left main PCI



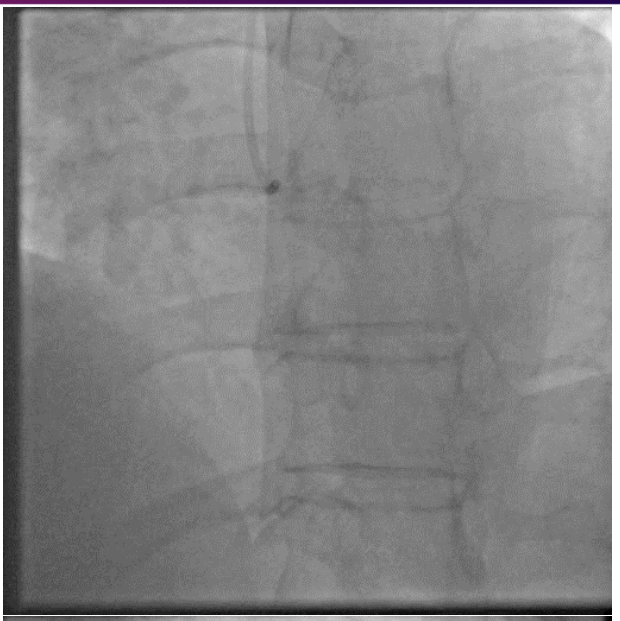
OCT evaluation of the left main coronary artery (difficult because of the ostial localisation): good distal (a) and incomplete proximal stent expansion, with protruding material throughout the stent struts (b,c)

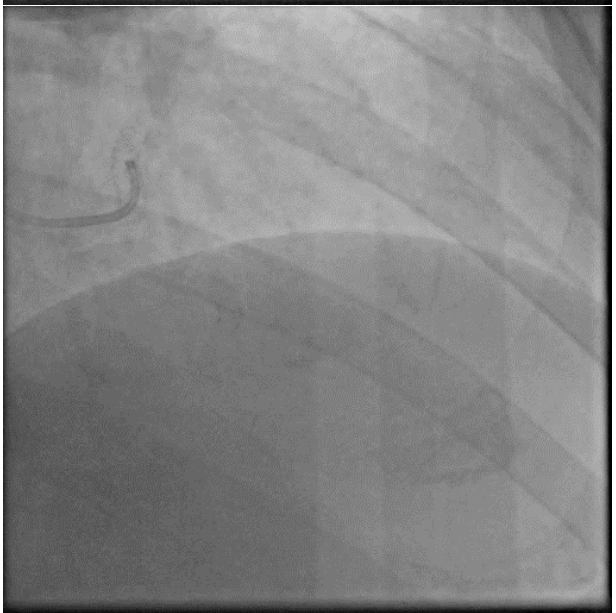
Left main PCI – final result





Evolution, conclusion





Evolution

- Good in-hospital and long-term evolution: patent stents 3 years later
- DAPT (aspirin 75 mg/day and clopidogrel 75 mg/day) maintained 3 months, after that only clopidogrel 75 mg/day
- Chronic prednisone treatment with tapering to 15 mg/day (this was the lowest effective dose)
- The patient is still doing well, 5 years after the procedure

Conclusion

- Corticosteroid therapy is mandatory for a good clinical result
- OCT evaluation could be difficult, as Takayasu disease frequently affects the coronary ostia