Egypt meets Germany
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Lessons learned from complex percutaneous coronary interventions

PCI of a heavily calcified coronary lesion: A case that went badly

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Case presentation

- 83 years old man with hypertension and type 2 diabetes mellitus
- Known peripheral arterial disease with S/P stenting of both superficial femoral arteries
- S/P minor thalamic infarct
- In December 2017: inferior STEMI with PCI (one DES) of the RCA ostium (Hamburg)

- Clinical problem (February 2017):
  - Angina and dyspnea on mild exertion
  - Echo: moderate aortic stenosis (mean gradient 23 mmHg, AVA 1.2 cm^2), good LV function
  - NT-proBNP 192 pg/ml

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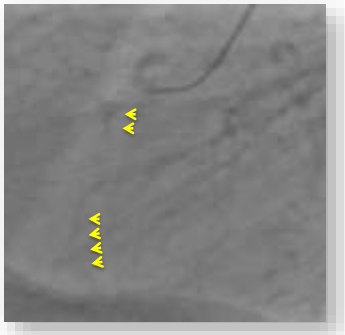
Coronary angiography

- Left system without significant lesions (muscle bridge in mid LAD)
- RCA with open stent at ostium but multiple significant lesions in mid and distal segments with heavy calcification



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Decision for PCI of RCA

- Anticipated challenges:
  - Unstable guiding catheter (stent at RCA ostium)
  - Difficult advancement of balloons and stents (heavily calcified tortuous vessel)
  - Most critical lesion in distal segment
  - Atherectomy may be problematic because of ostial stent

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What are the possibilities now?

1. Abort the procedure (vessel is open)
2. Send to surgery
3. Try to snare the broken wire
4. Stent the ostial dissection and stop
5. Bailout atherectomy

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Lessons learned

- Calcified coronary lesions are one of the most complex and probably underappreciated causes of failure in patients undergoing PCI.
- Procedural planning is key and variable strategies may be necessary.
- Ostially-placed coronary stents require careful guiding selection to optimize both support and coaxial alignment.
- Wire manipulation in long tortuous and calcified vessels should be minimized.
- Rotational atherectomy through freshly implanted stents can be facilitated/protected with guide-catheter extensions.

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