Egypt meets Germany
Joint sessions of the Egyptian and German Working Groups of Interventional Cardiology
CardioEgypt 2018

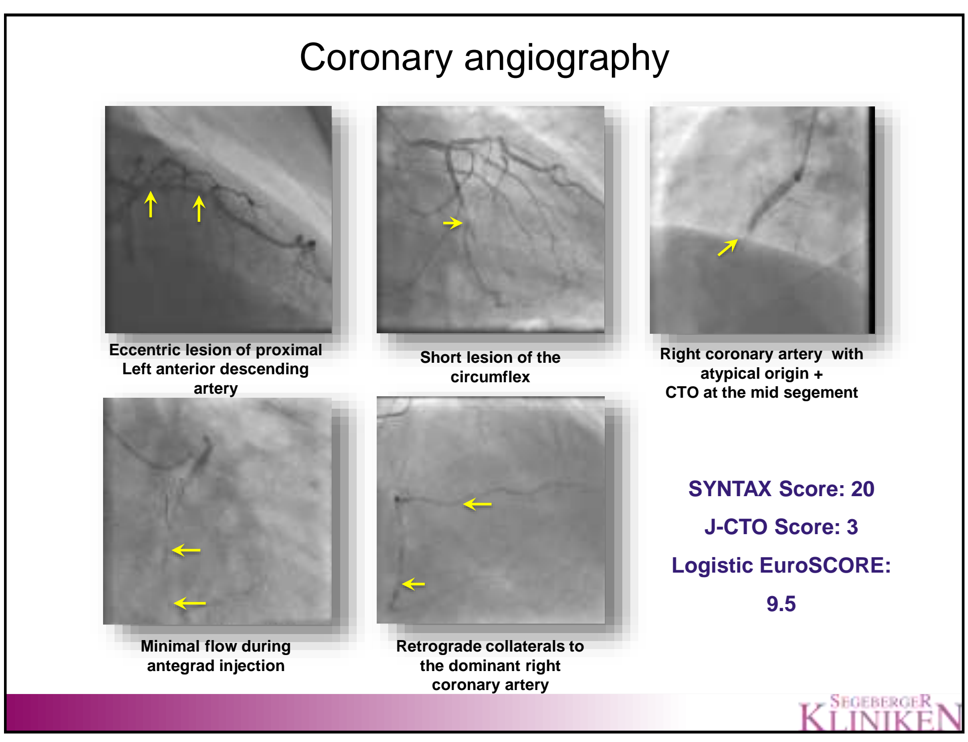
Lessons learned from complex percutaneous coronary interventions

PCI in a patient with a chronic total occlusion: A case that went well

Mohamed Abdel-Wahab
Heart Center Bad Segeberg
Germany

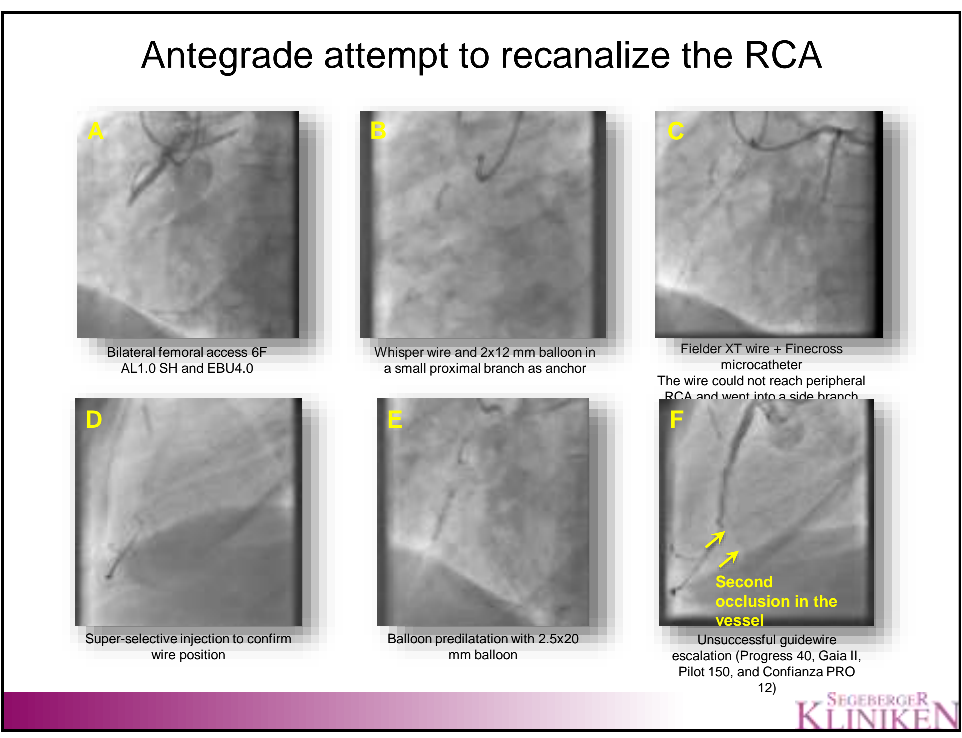
Case presentation

- 79 years old man with hypertension and dyslipidemia and a history of permanent atrial fibrillation on oral anticoagulation
- Clinical problem (December 2017):
  - Dyspnea NYHA II, Angina CCS II
  - Transthoracic echo: Impaired LV systolic function (LVEF 40%), inferior hypokinesia
  - Pathological stress test



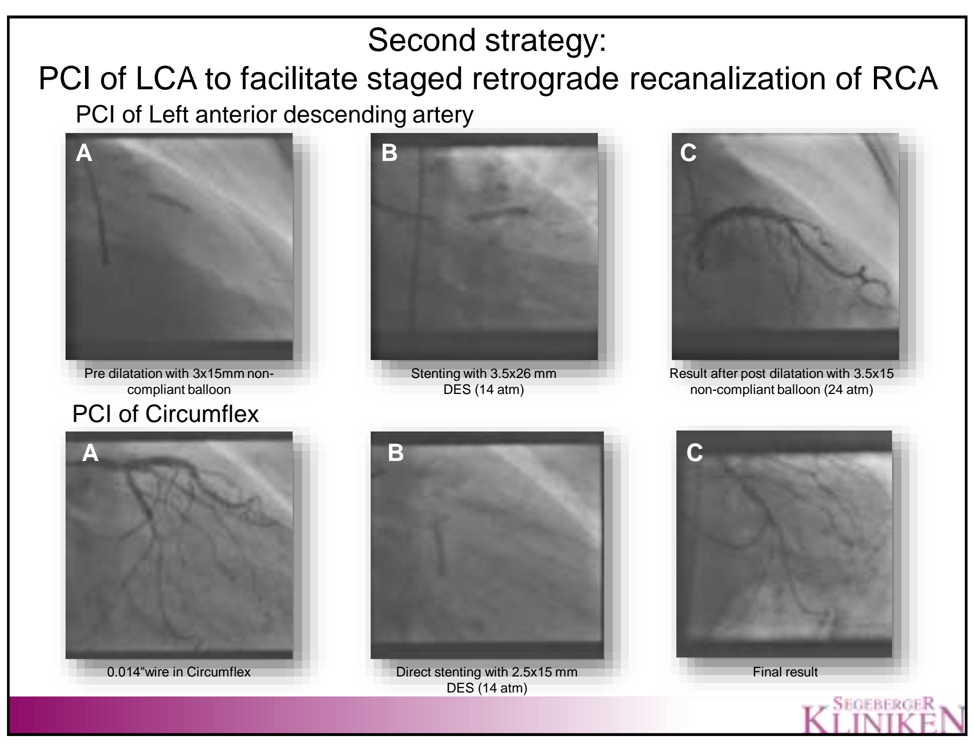
Patient referred for complete revascularization with PCI

- Anticipated challenges for the RCA-CTO:
  - Unstable guiding catheter (atypical take-off)
  - Long calcified CTO
  - Severe lesion in the proximal LAD at the origin of big septal branches that could serve as a retrograde track
- First strategy:
  - Antegrade attempt to revascularize the RCA



What would you decide at this stage?

1. Stop here and send patient to surgery
2. PCI of LAD and LCX and leave RCA for medical ttt
3. Ad hoc retrograde attempt to recanalize RCA
4. Staged retrograde attempt to recanalize RCA
5. None of the above


Second strategy:
PCI of LCA to facilitate staged retrograde recanalization of RCA
PCI of Left anterior descending artery
A
B
C
Pre dilatation with 3x15mm non-compliant balloon
Stenting with 3.5x26 mm DES (14 atm)
Result after post dilatation with 3.5x15 non-compliant balloon (24 atm)
PCI of Circumflex
A
B
C
0.014"wire in Circumflex
Direct stenting with 2.5x15 mm DES (14 atm)
Final result
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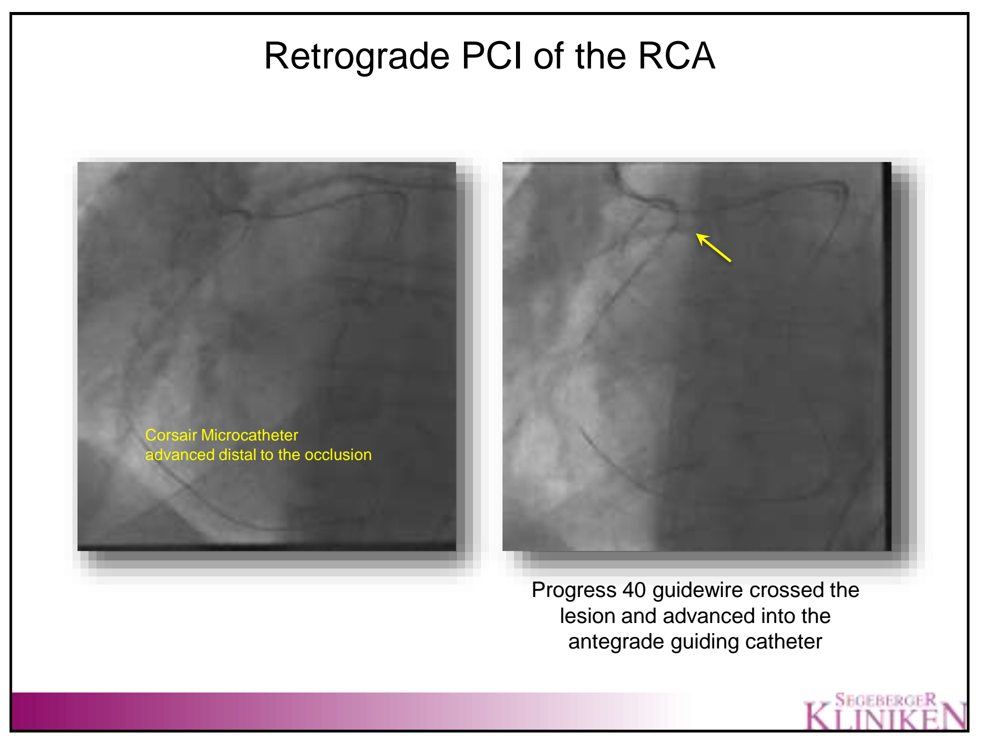
Retrograde PCI of the RCA
Corsair Microcatheter advanced distal to the occlusion
Progress 40 guidewire crossed the lesion and advanced into the antegrade guiding catheter
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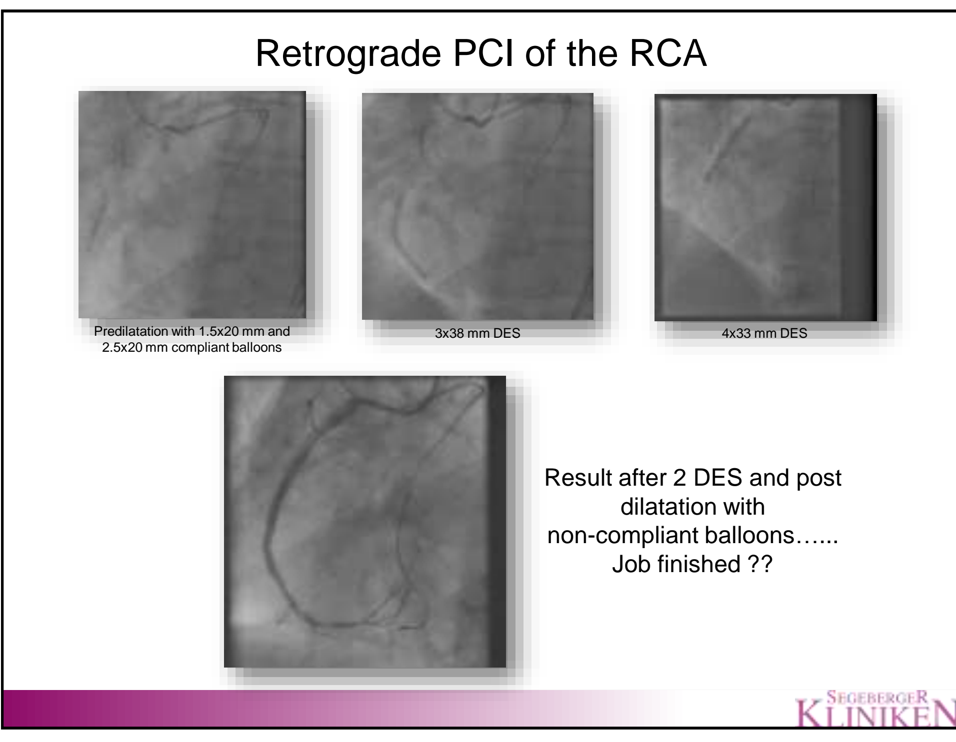

Lessons learned

- Modern PCI techniques allow treatment of complex patients and lesions previously thought to be classical surgical candidates.
- These techniques strongly rely on planning and strategic thinking.
- Advanced CTO interventions (including retrograde ones) further enhanced our strategic abilities but require training and tools!
- Carefully evaluate both ante- and retrograde angiograms when approaching a CTO.
- Do not remove your retrograde guide before a final angiogram!