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TCT AP

A Case of POP CTO

- Transfer technique from complex coronary intervention to peripheral -

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Case

Case: 71-year-old man

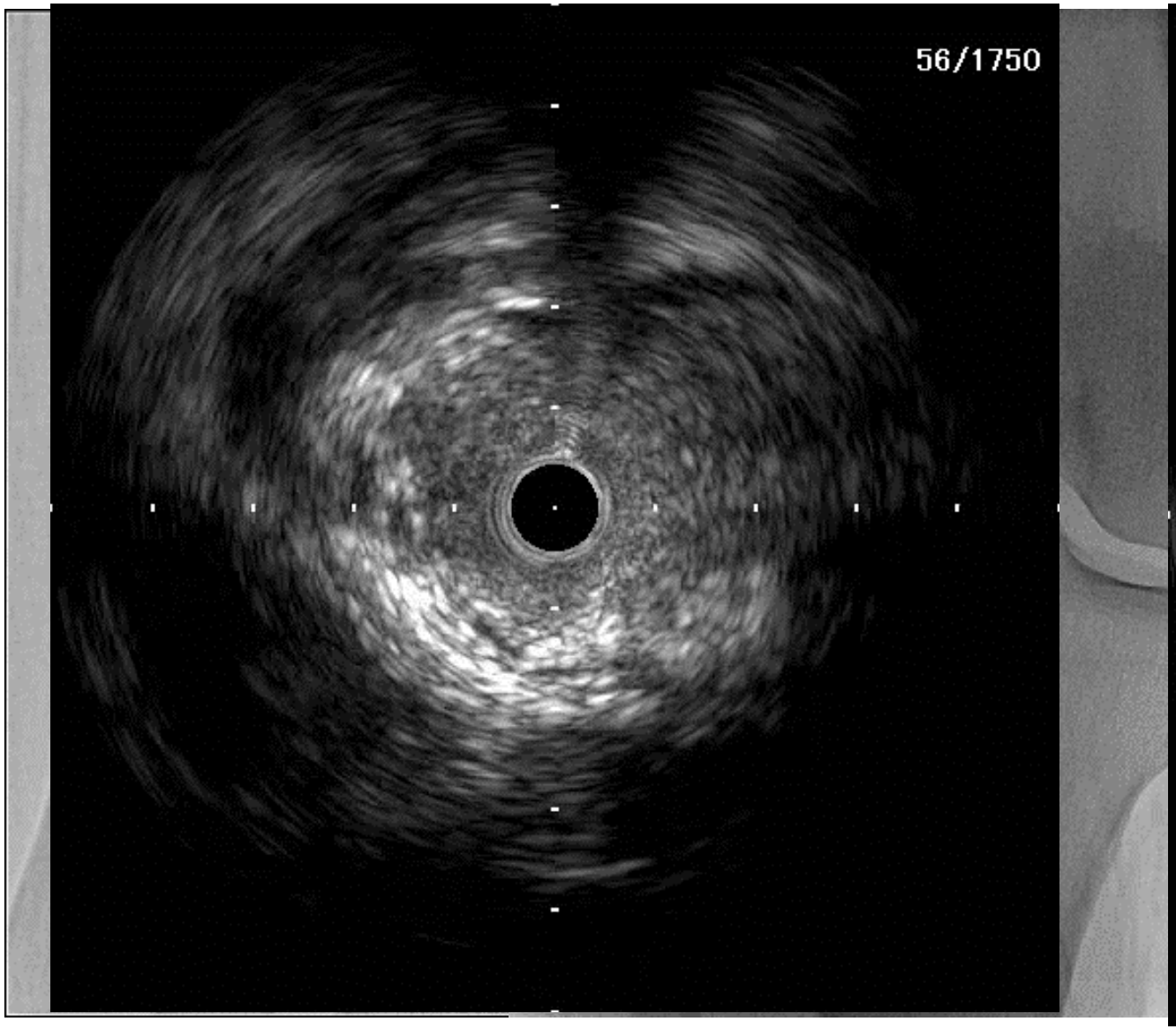
Risk Factors: Hypertension, Diabetes, Historical smoking

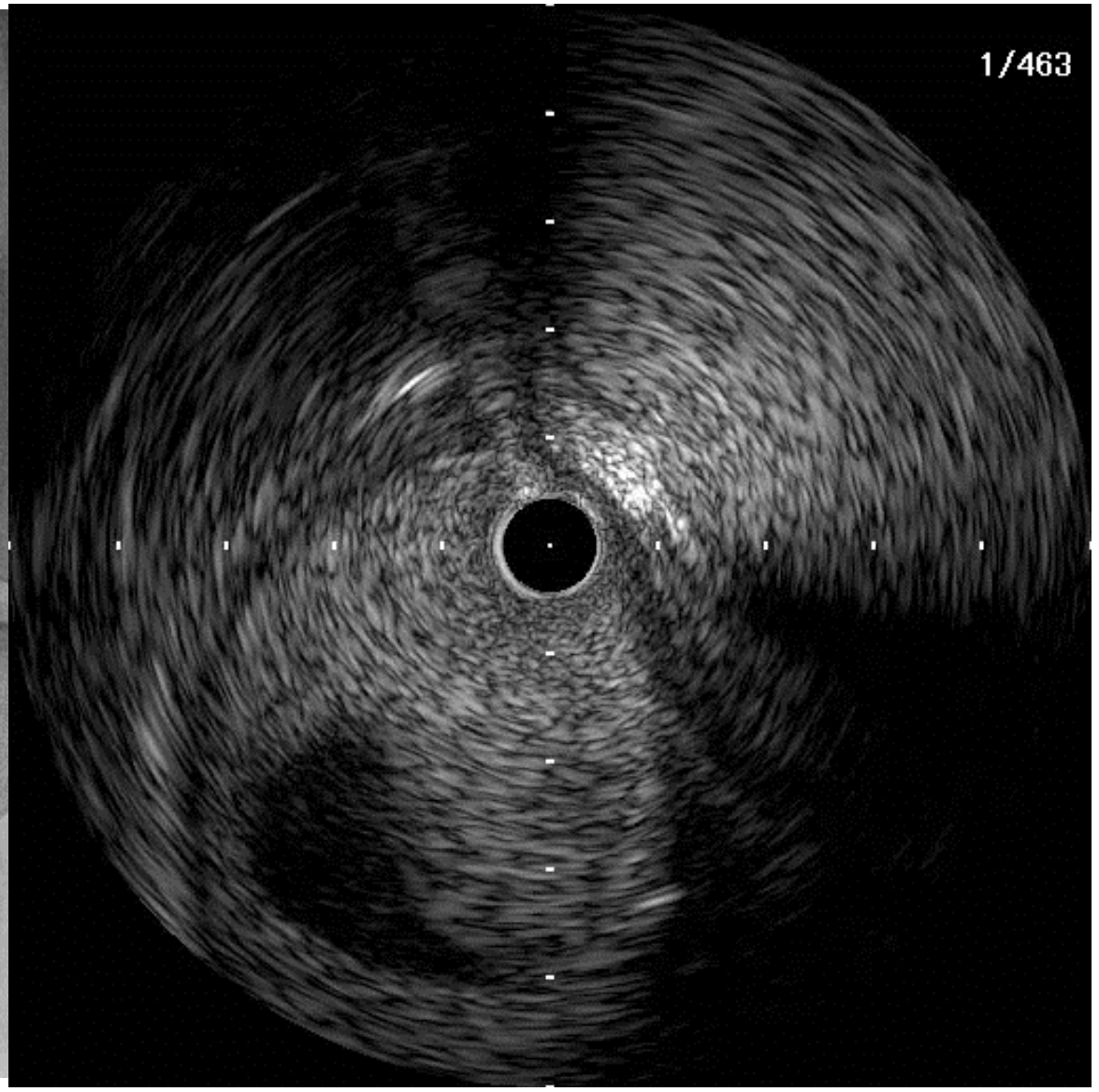
no CAD, CVD, HD and CKD

Patient represented intermittent claudication from 3 years ago, and gradually became severe (R3). CTA and DUS revealed occlusion of right popliteal artery. Patient received EVT for POP in June 2018. Unfortunately, his symptom had been re-started one month after 1st EVT.

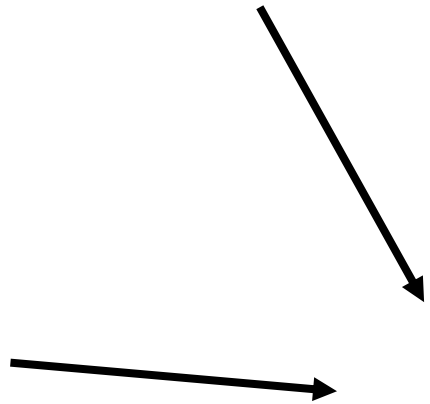
ABI: 0.44 / 1.03
HbA1c: 6.7 %
eGFR: 57.7

2018 June EVT was performed: fial device → DCB





- ✓ Less calcification
- ✓ Adequate lumen gain after POBA
- ✓ Subintimal tracking



DCB

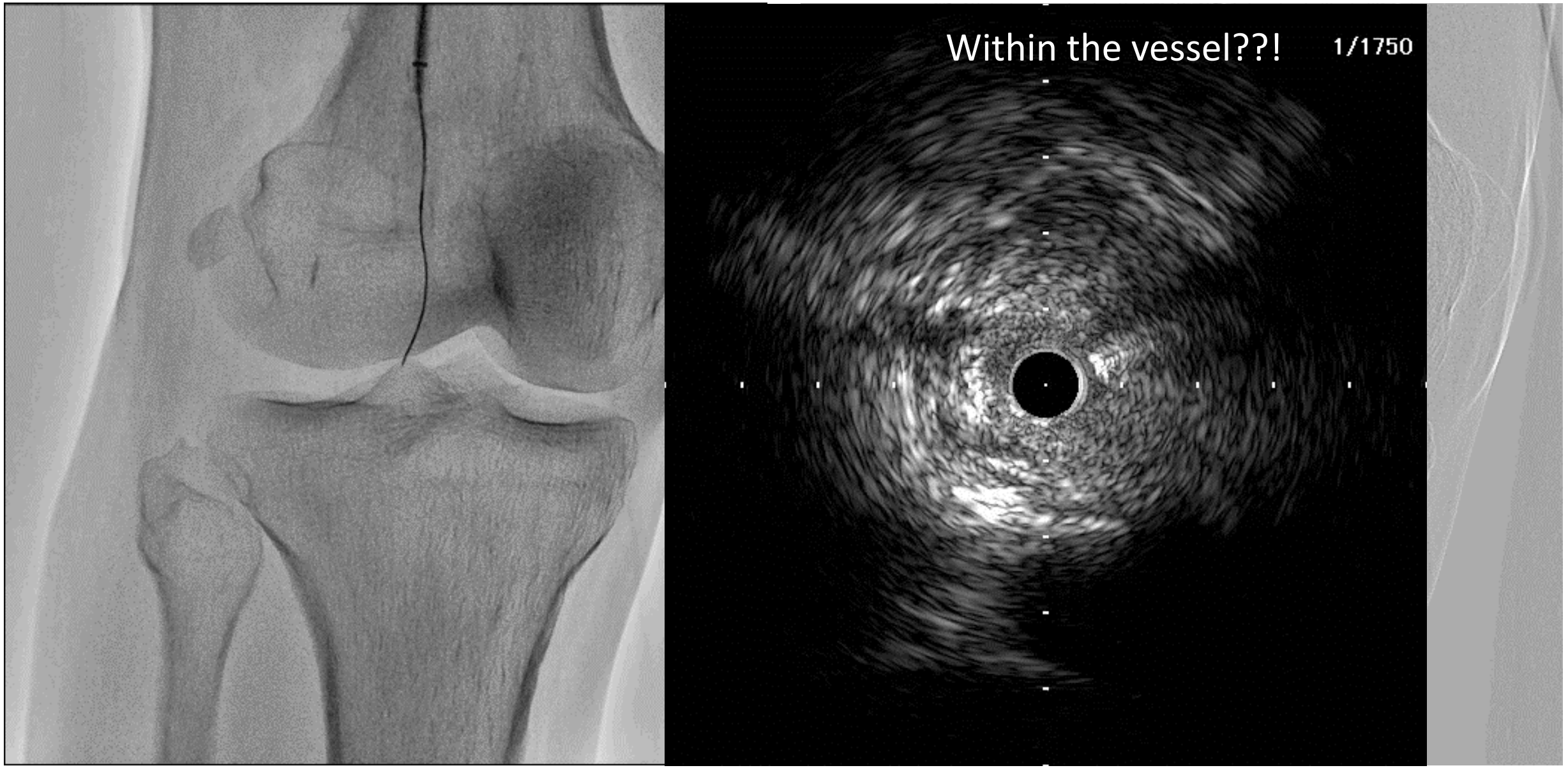
… Re-occlusion

2018 Nov.

Endovascular treatment for popliteal CTO

Initial angiography

Antegrade wiring (Jupiter FC3 →X: 3 g → 10 g)



Re-occlusive lesion, isn’t it?

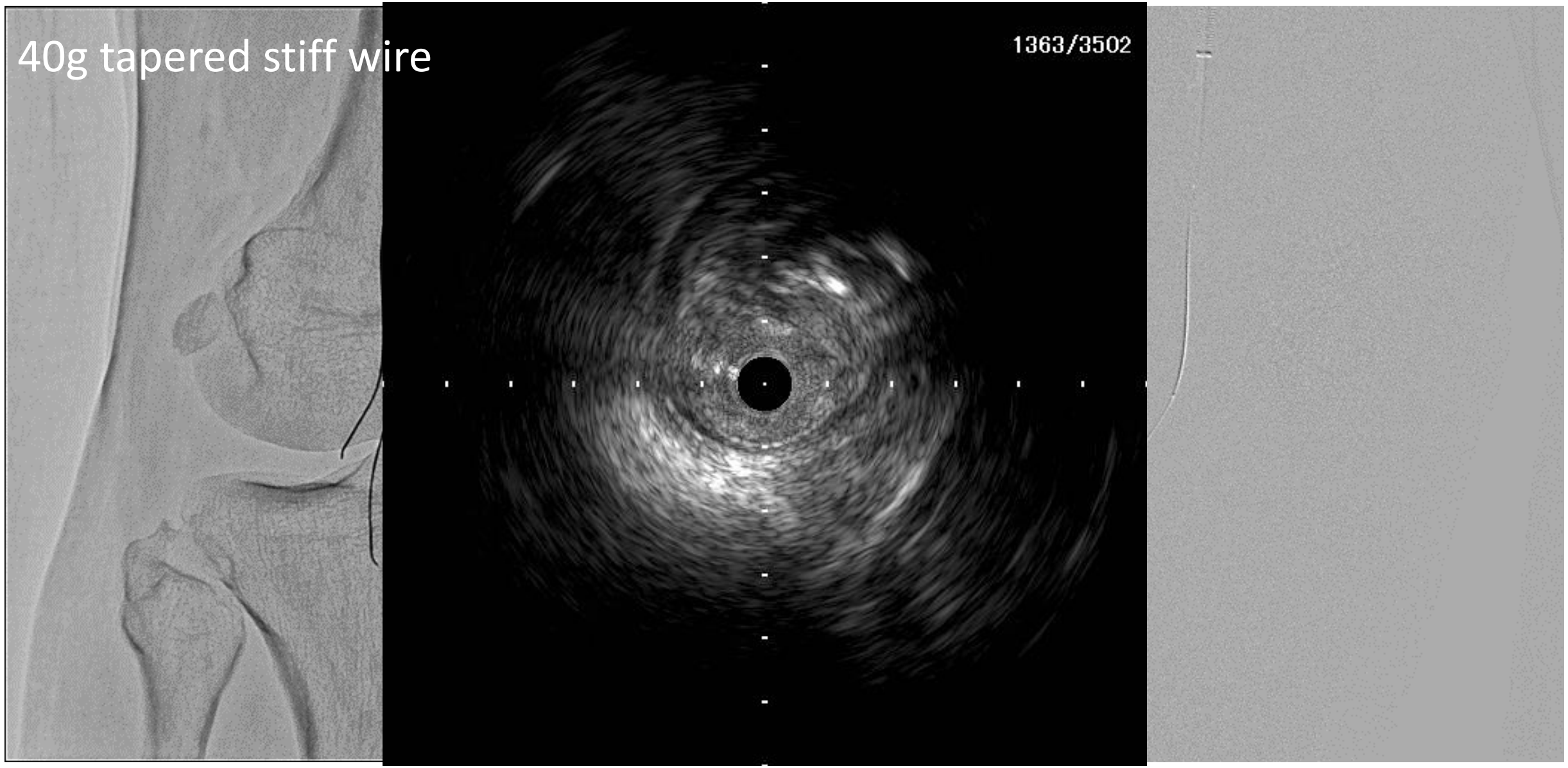
However, plaque is so tough…

GW must be outside of the vessel…

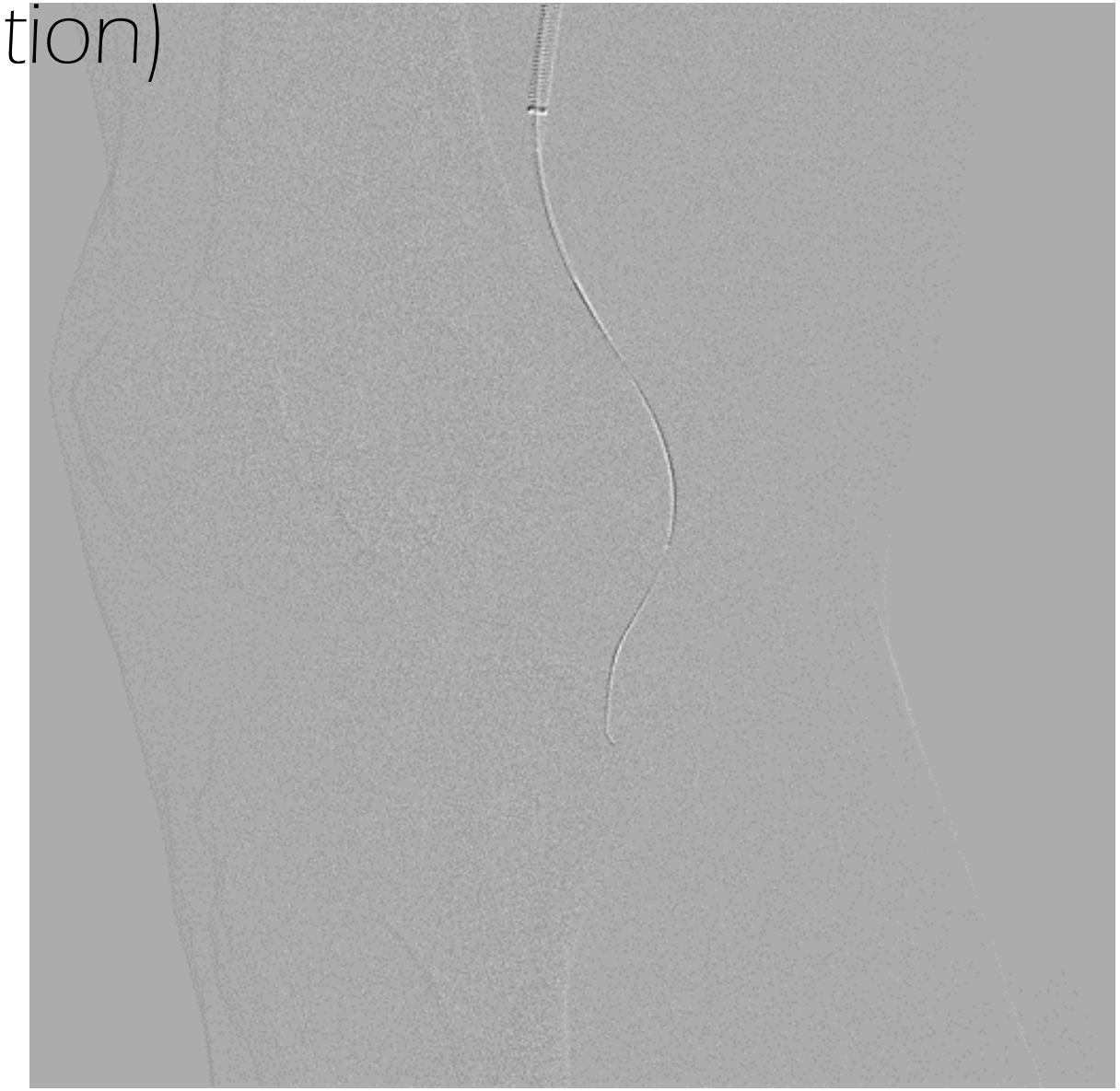
……

IVUS! No choice.

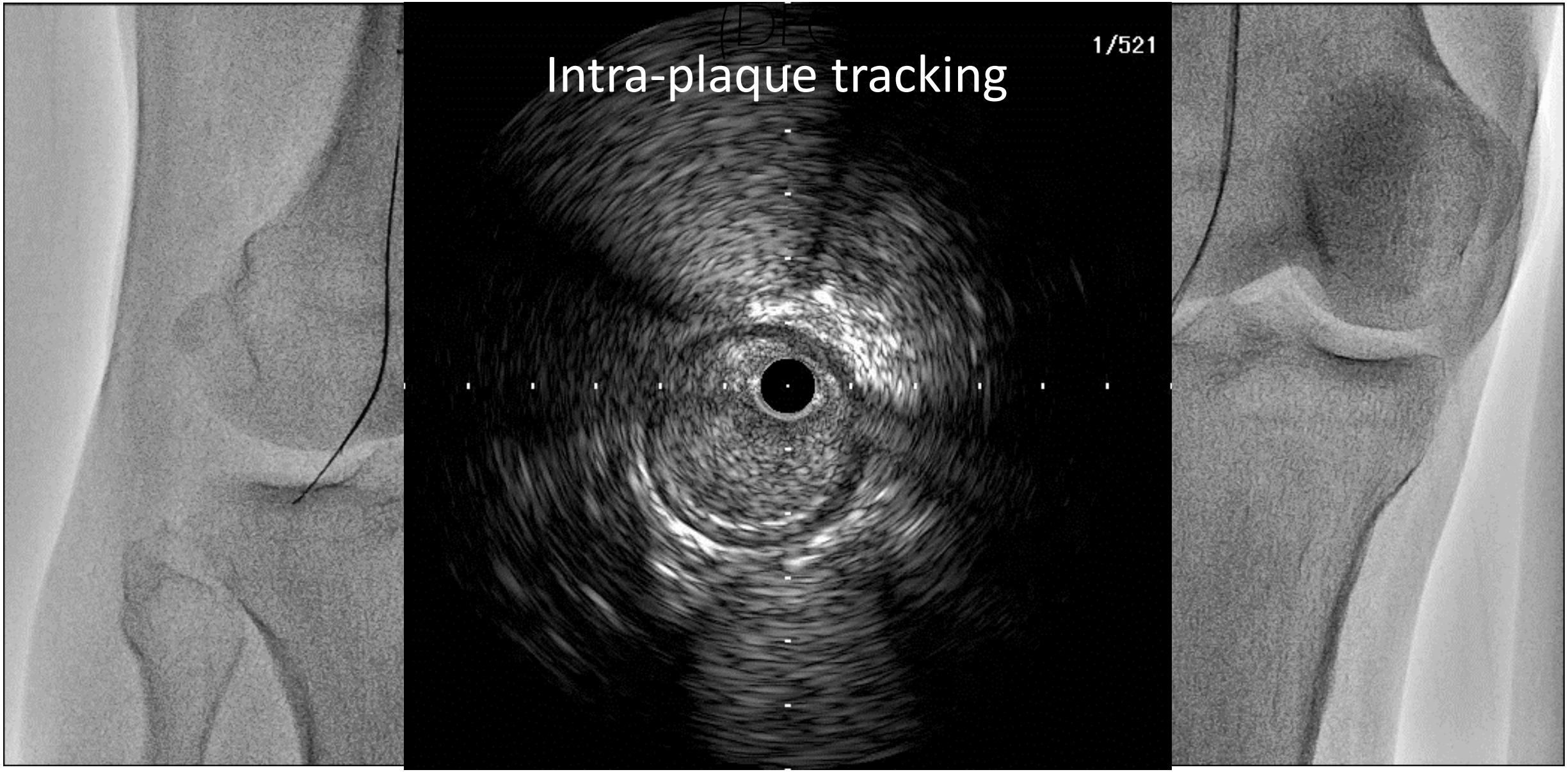
Checking IVUS and start IVUS guidance



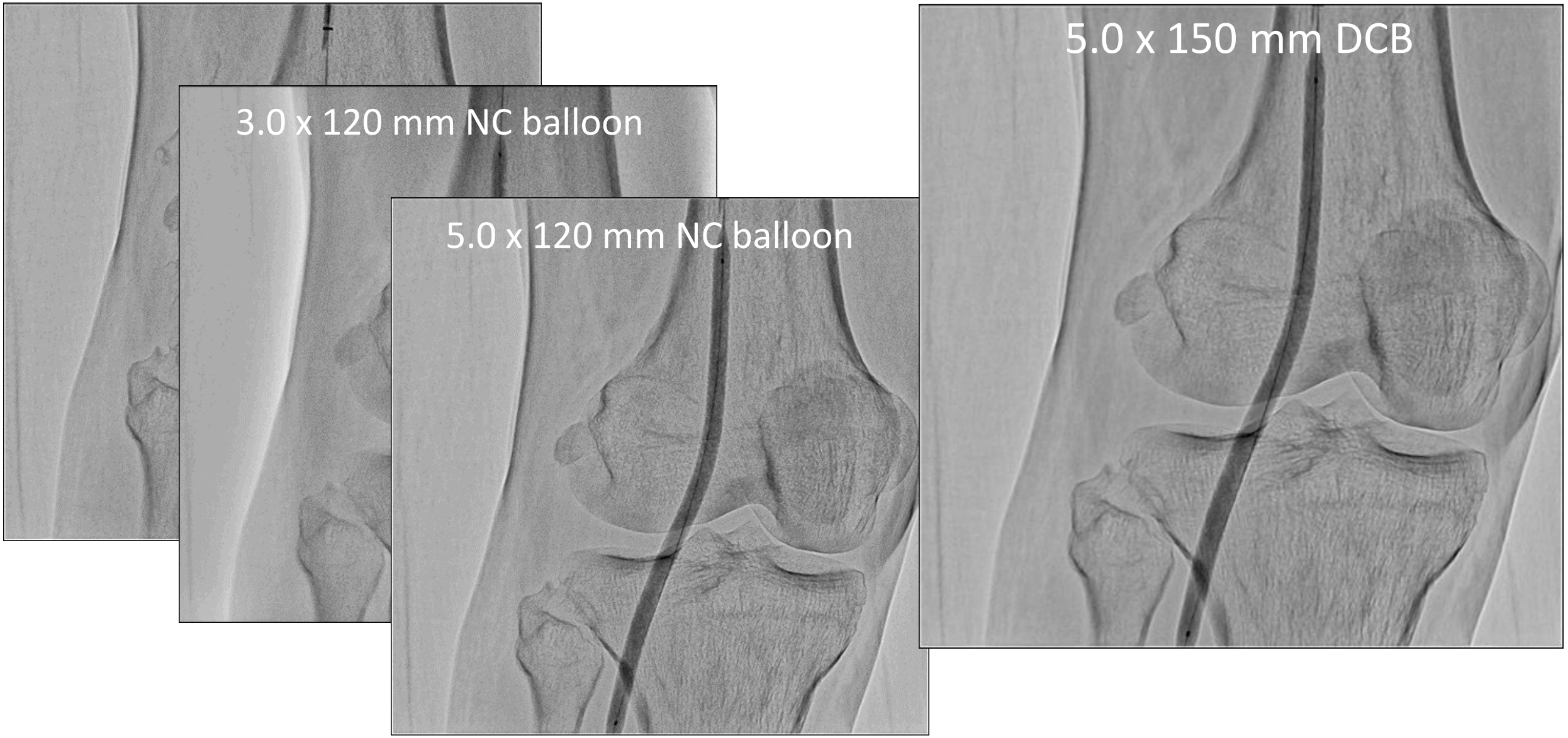
Checking IVUS and start IVUS guidance (another projection)



Parallel wire technique using dual lumen microcatheter

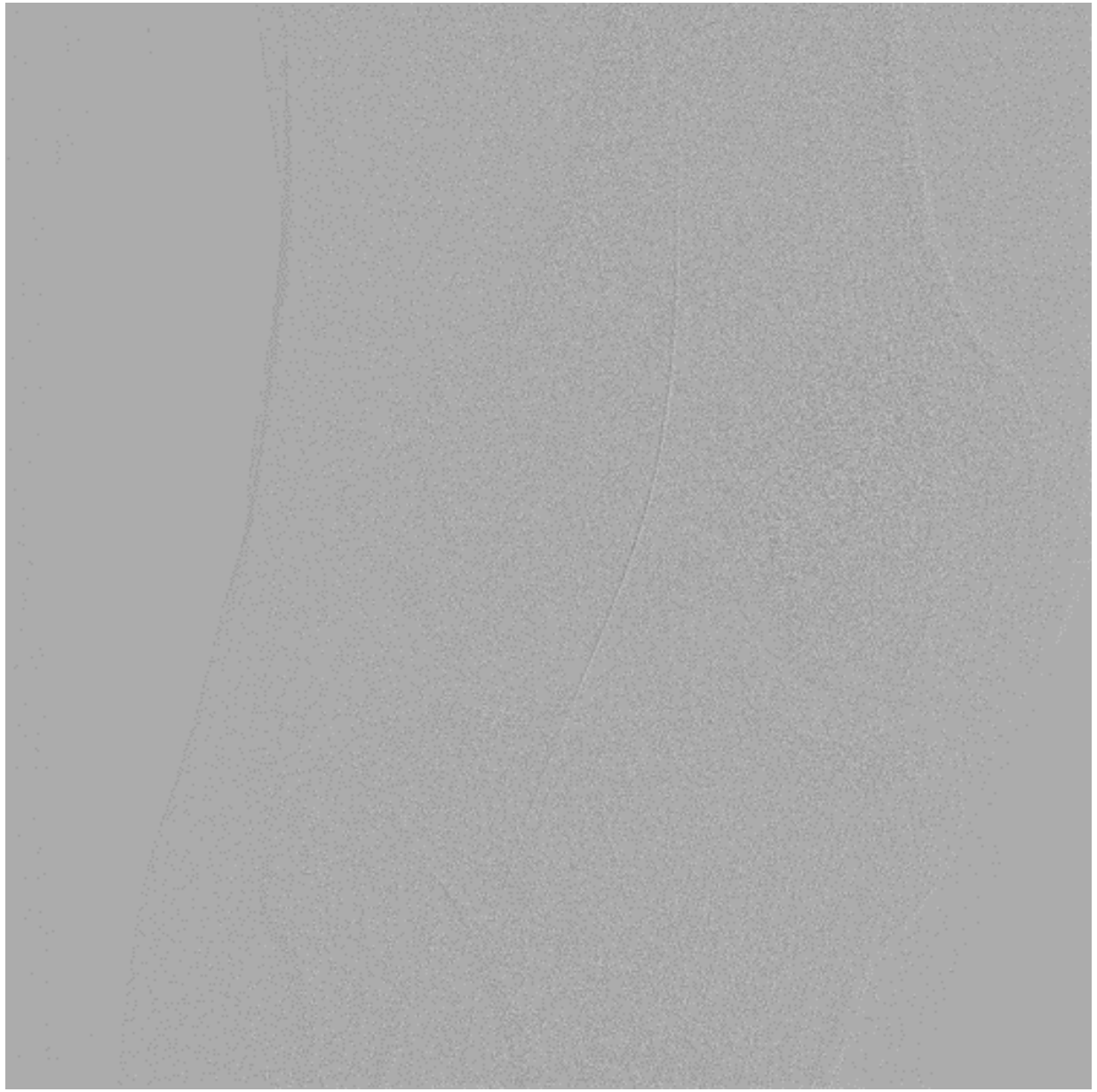


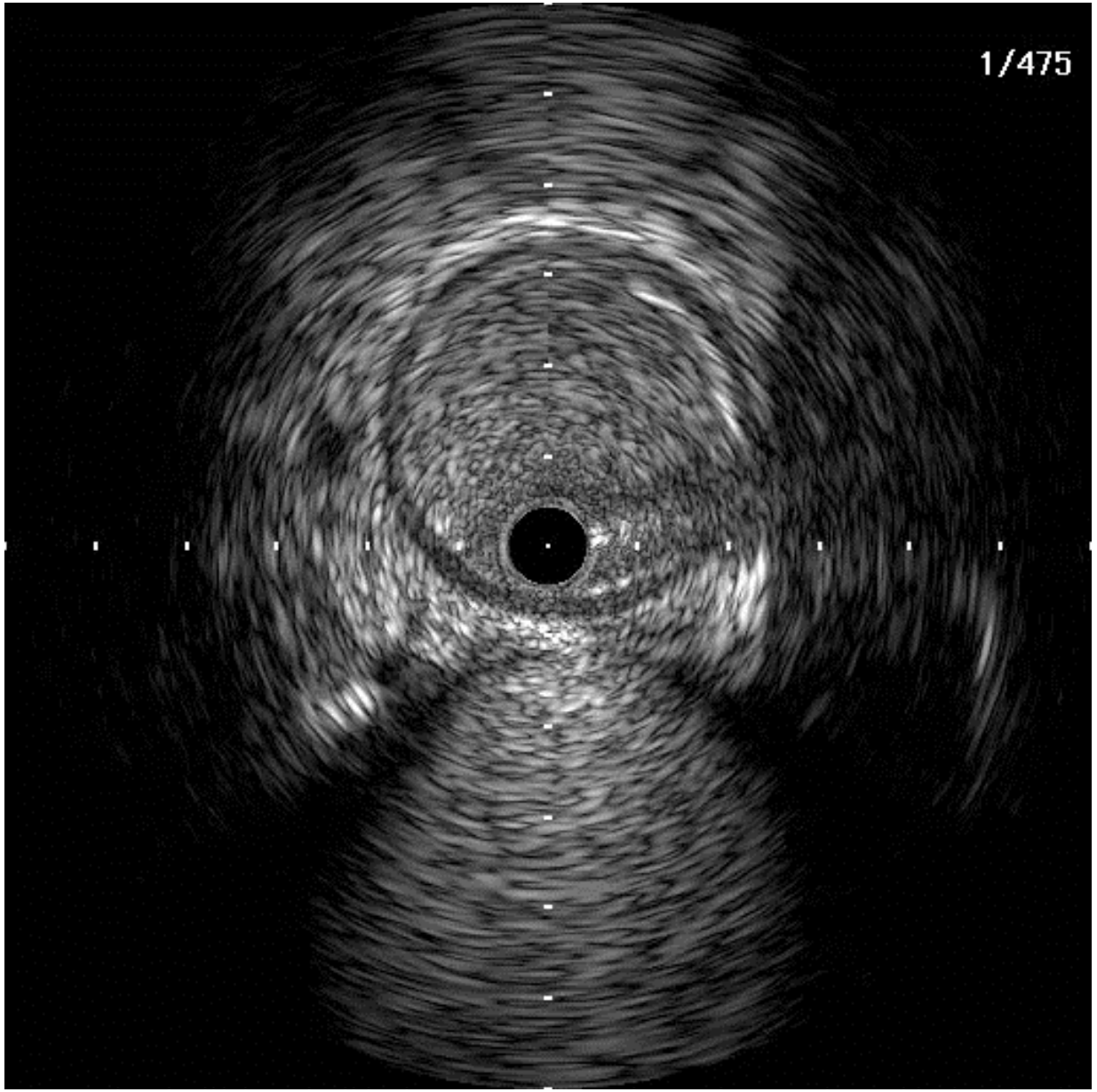
POBA (stepwise manner) & DCB



Final angiography

Final angiography (DSA) & IVUS





ABI was improved form

0.44 / 1.03 → 0.83 / 0.90

After 5 months from 2nd EVT

→ 1.04 / 0.96

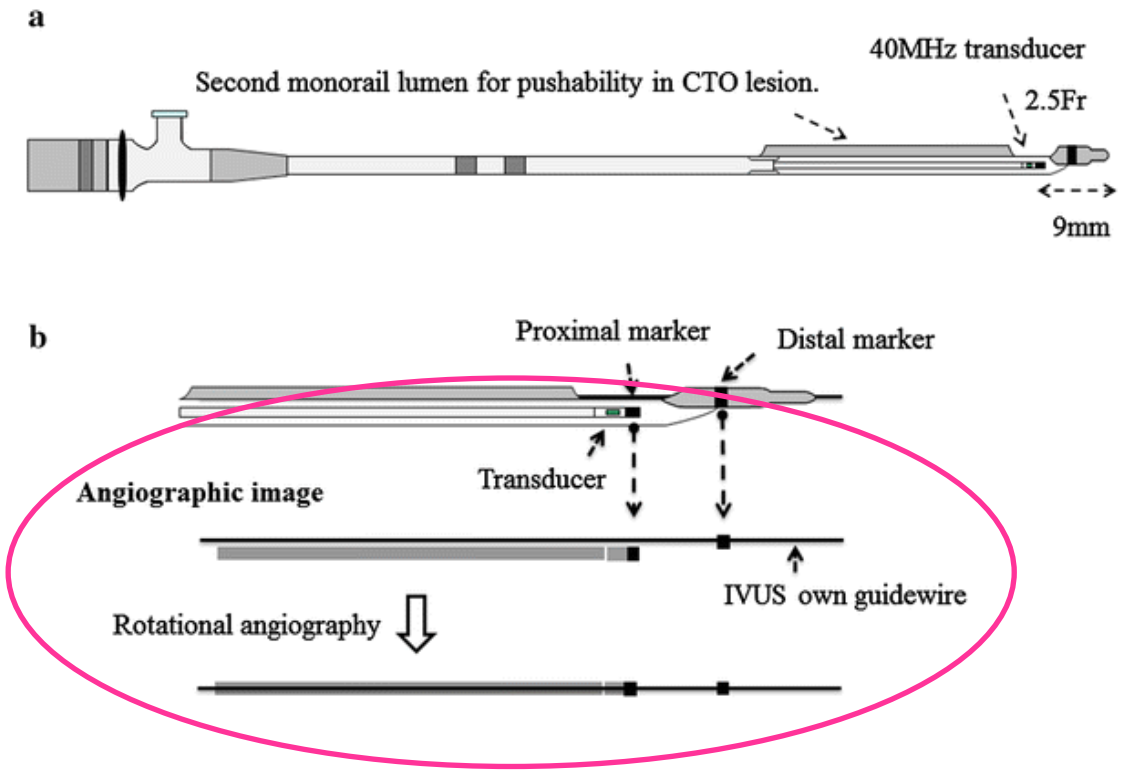
Patient has no symptom for 5 month.

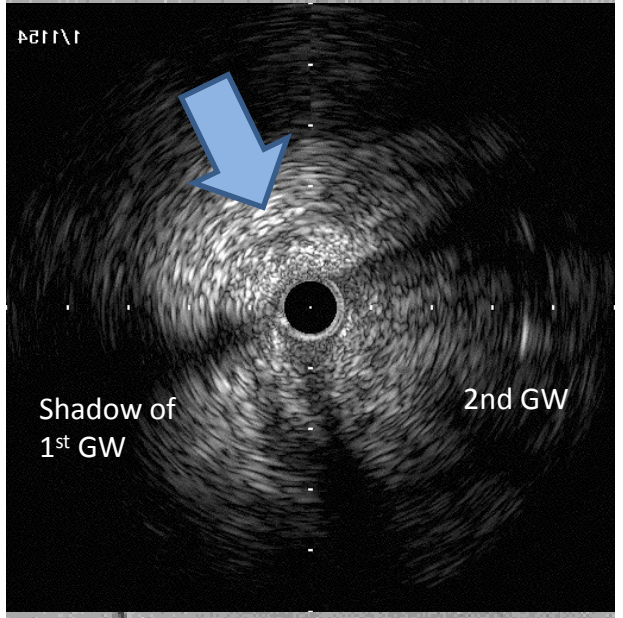
Technique of CTO wiring

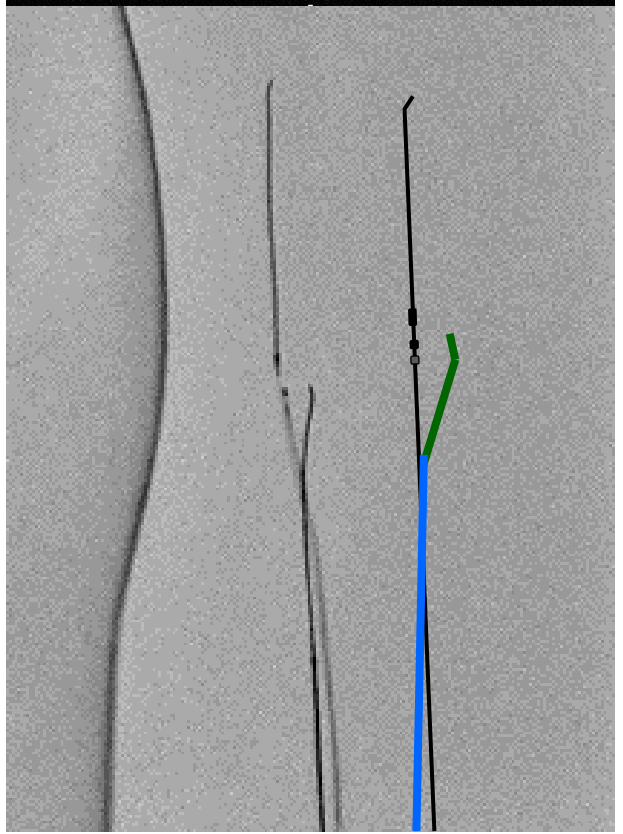
GW manipulation with IVUS guidance

IVUS guided wiring in Endovascular Therapy

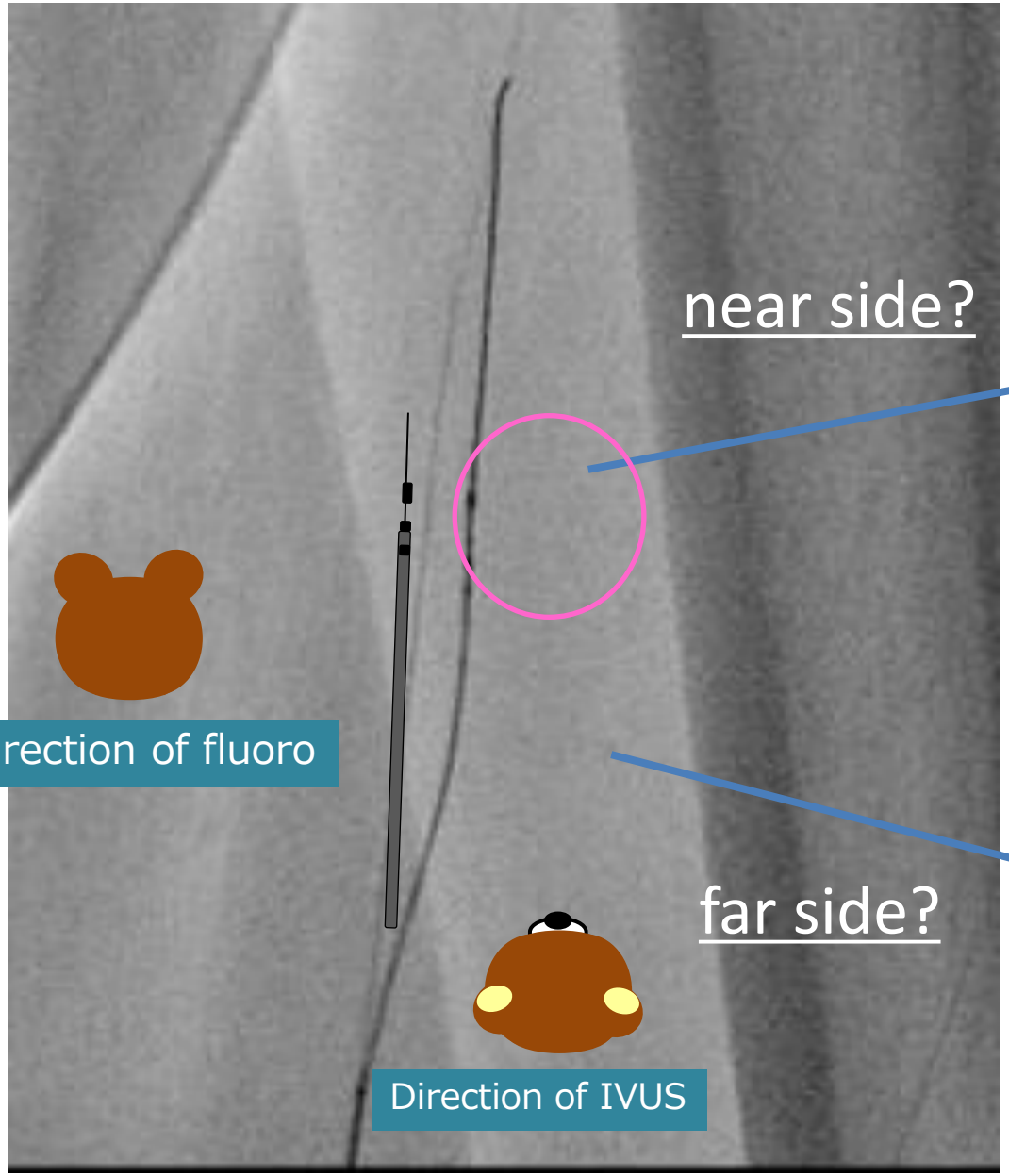
Understanding the position of guidewire and transducer

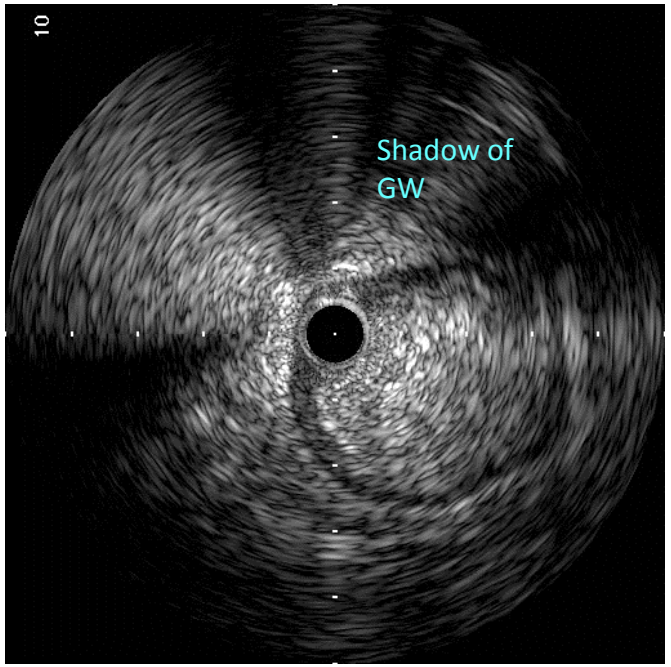


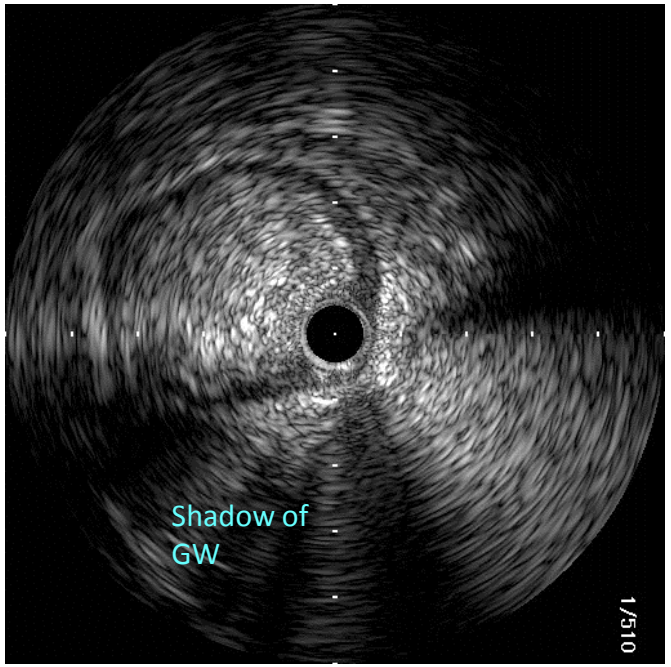


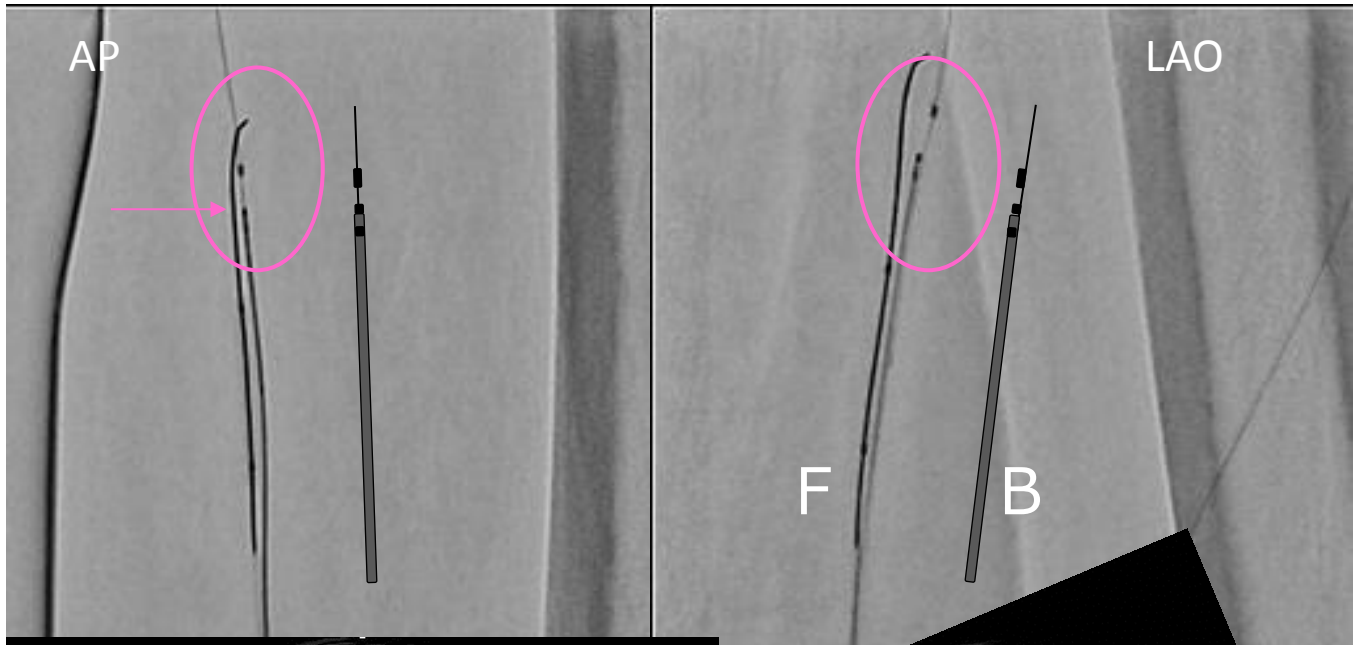


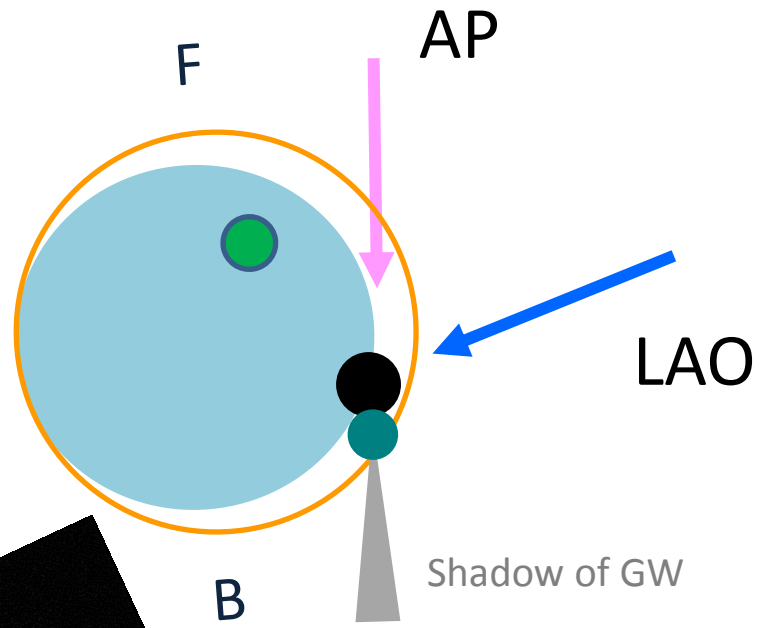
1st step: understanding the orientation of IVUS, GW and vessel lumen

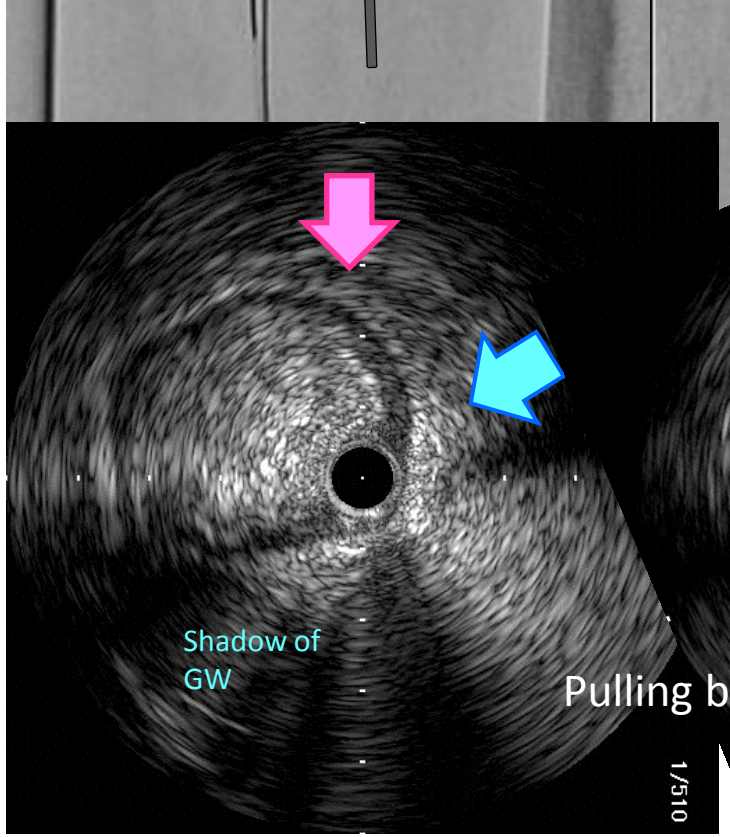






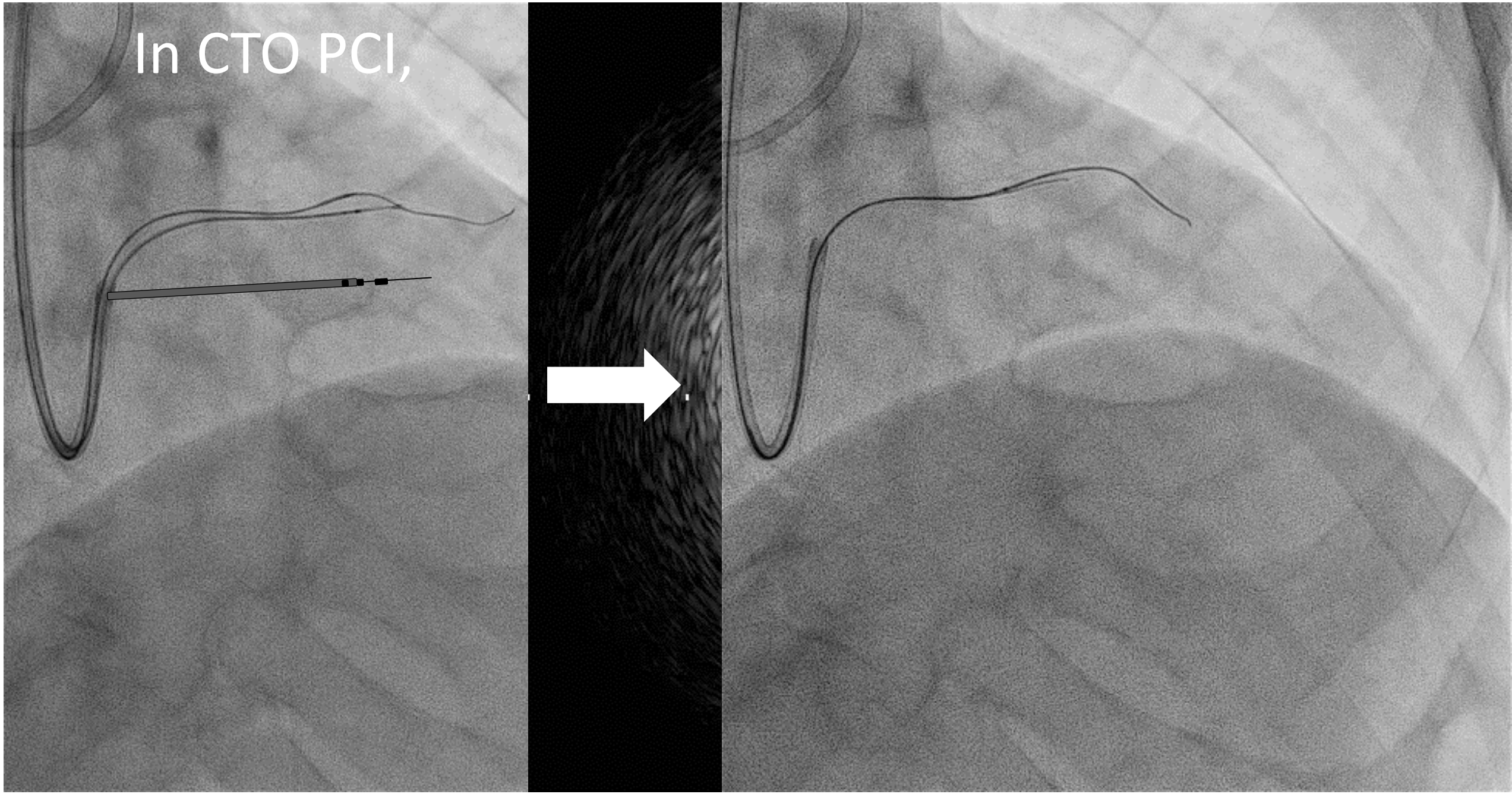

AP
LAO
F
B

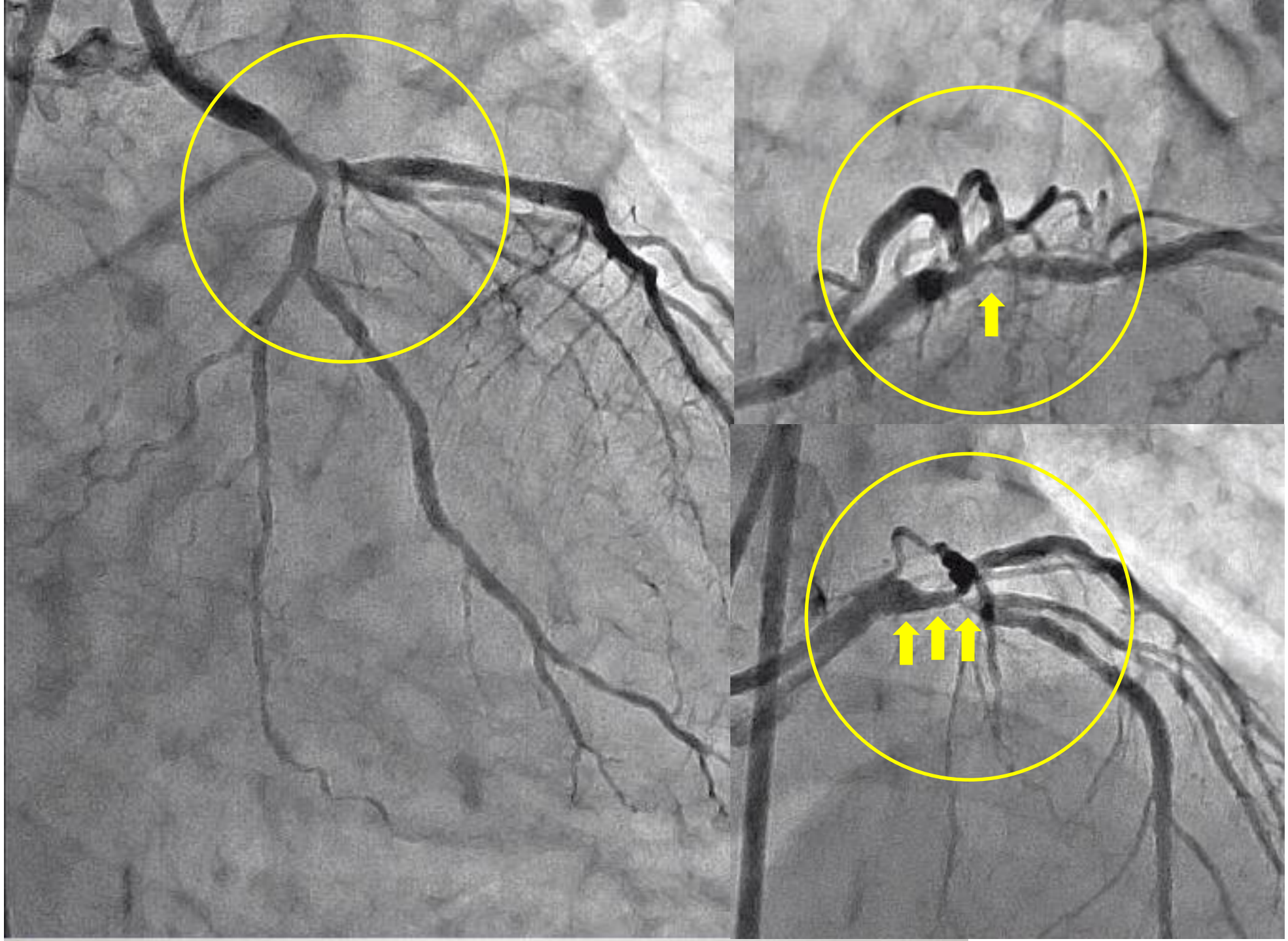

F
AP
LAO
B
Shadow of GW

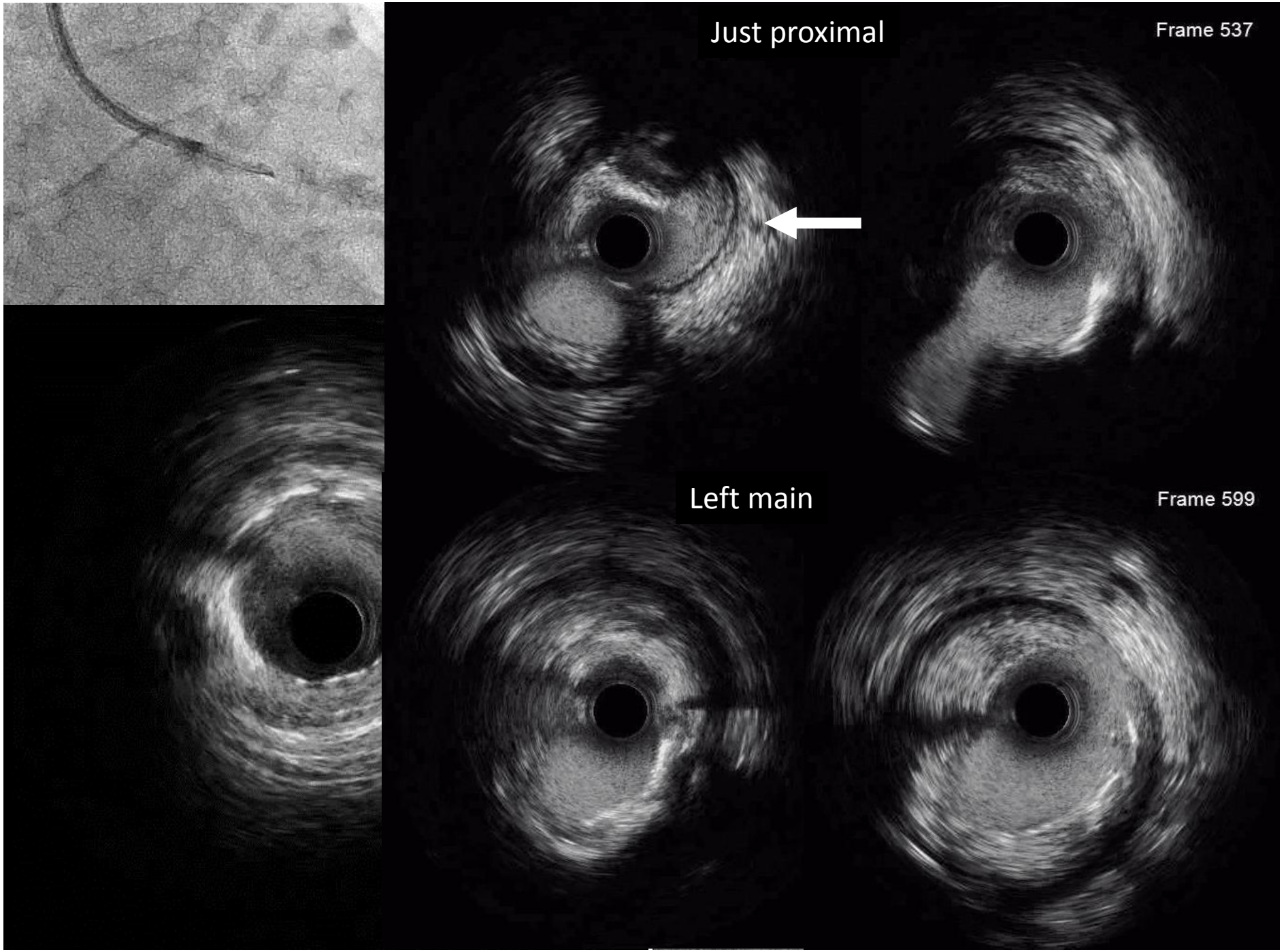

Shadow of
GW
1/510

Pulling back to IVUS within plaque

GW
Towards to GW direction
1/1154


In CTO PCI,

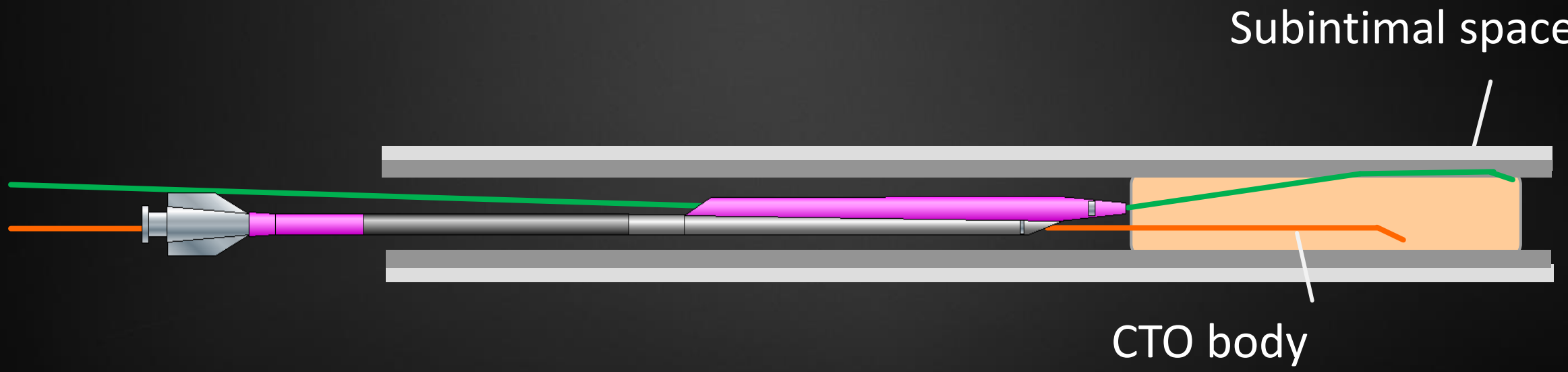



Just proximal
Frame 537
Left main
Frame 599

Parallel wire technique using DLC

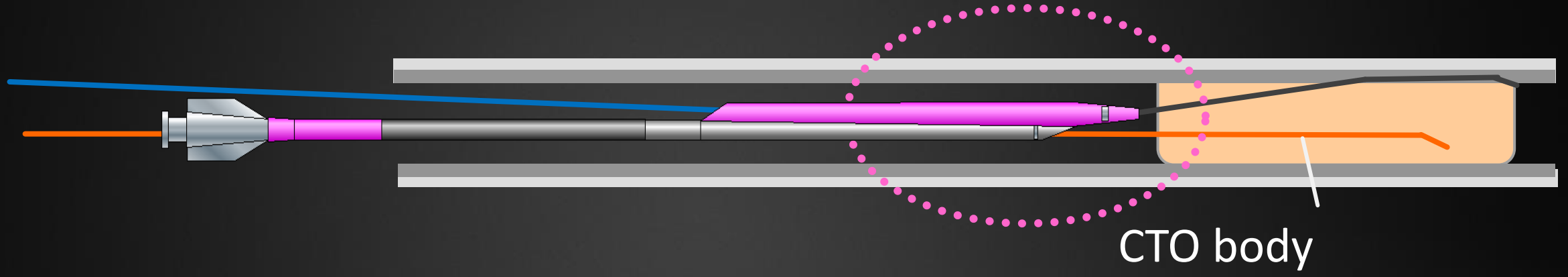
Schema of Parallel wire technique using DLC

Stabilization by Rx lumen guidewire advancing subintimal space, and it's profile (relatively large) could provide pushing force of OTW lumen guidewire more (2 ~ 3 fold). More, remount of the DLC on the GW towards good direction produce and keep more *co-axial alignment* toward the correct root ahead.

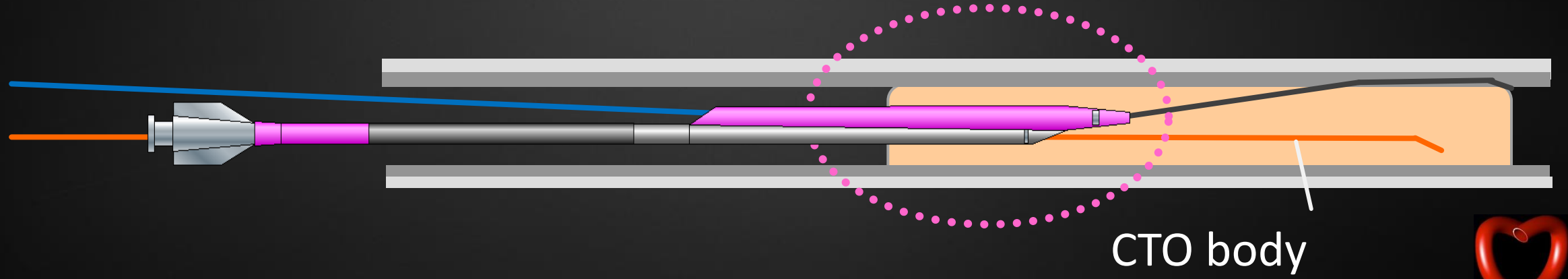


Schema of Parallel wire technique using DLC

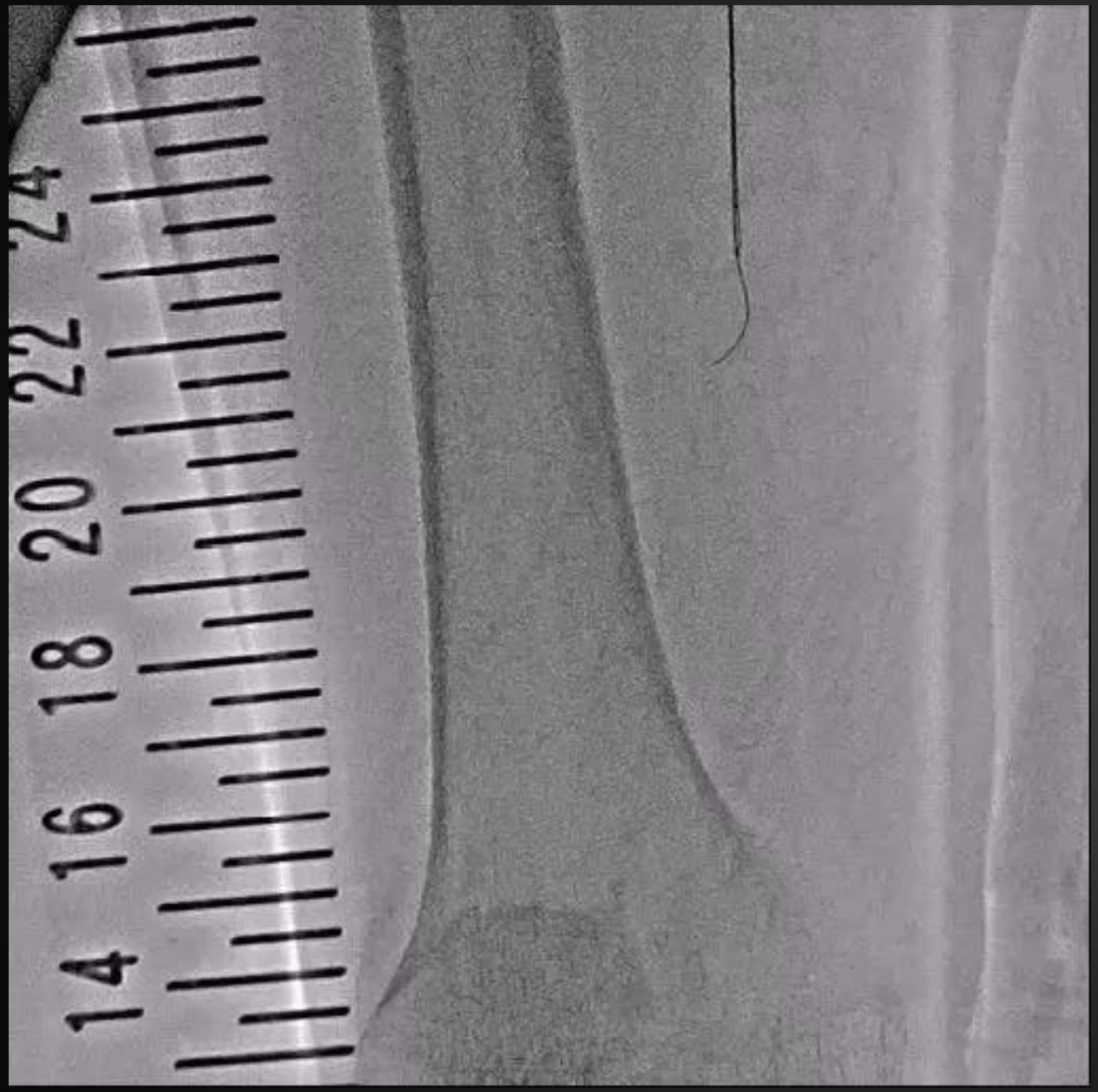
In front of CTO



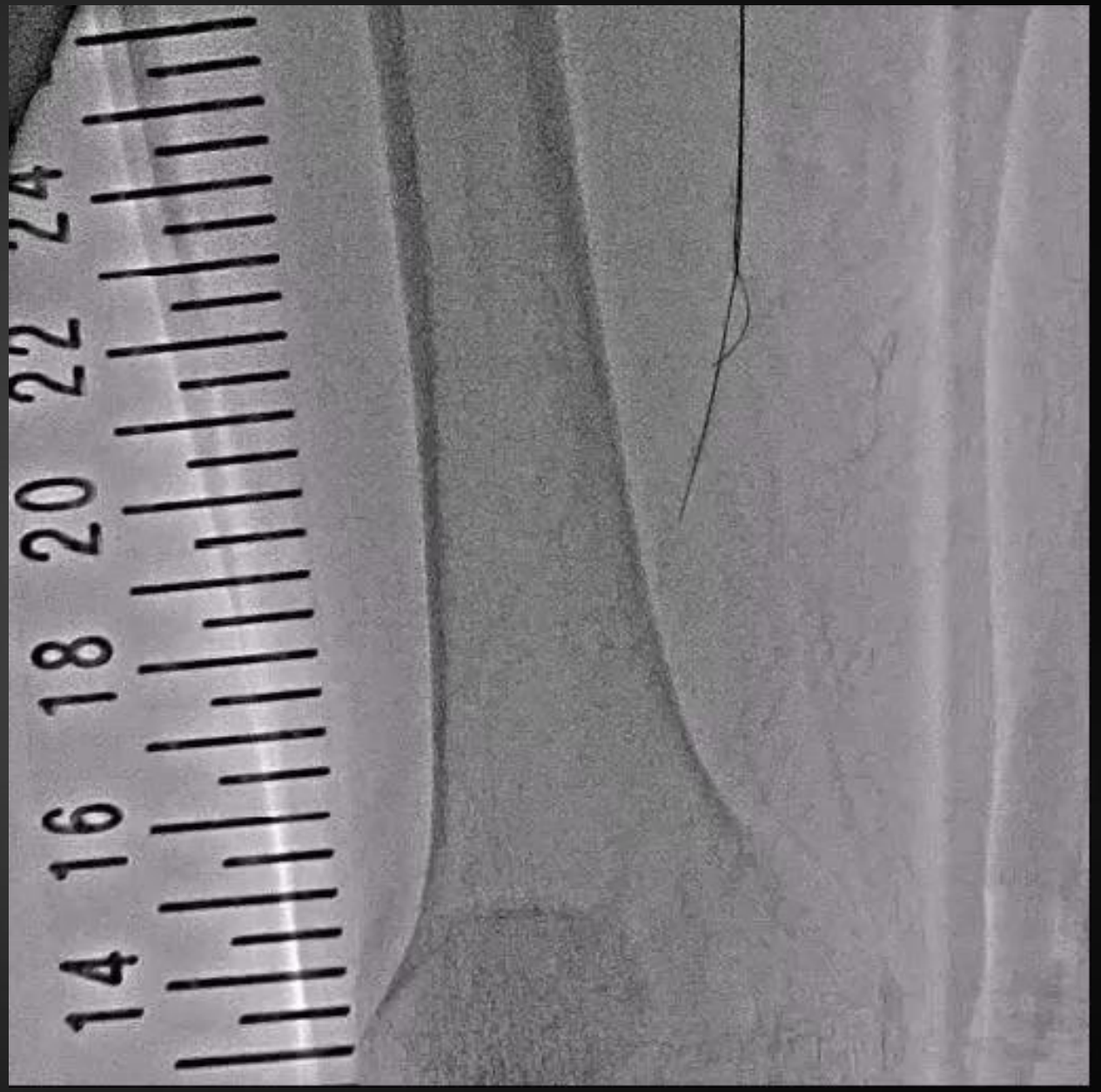
Within the CTO



Parallelwire using DLC



Antegrade wire crossing



Parallel wire technique using dual lumen microcatheter (DLC)

Message

- ✓ Transfer useful techniques from coronary intervention
- ✓ Sometimes help us to achieve GW crossing
- ✓ Prepare to the debulking (next coming device in Japan), intraplaque tracking must be required
- ✓ I want to have techniques for crossing of all CTOs!