

# Identification of True lumen by Physiologic Wave Form using Pressure Wire in CTO intervention

Se Yong Jang

Kyungpook National University Hospital



# Brief history

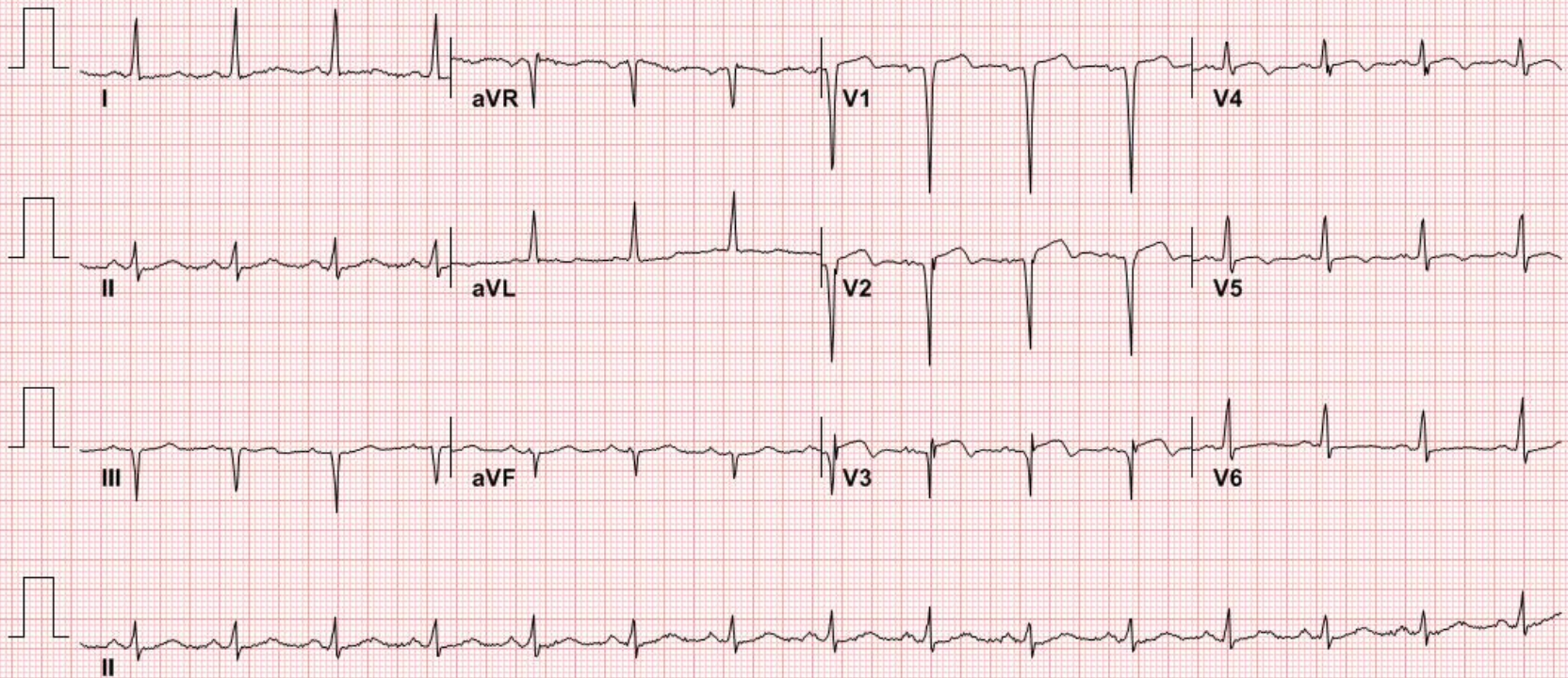
- 45/M
- Transferred from local medical center for ECG abnormality and mild cardiac enzyme elevation
- Risk factor
  - DM
  - Hypertension
  - Smoking
- Echocardiography
  - LVEF 33%
  - Wall motion abnormality in LAD territory

KYUNGPOOK NATIONAL UNIVERSITY HOSPITAL



# Initial ECG

UNCONFIRMED



0.16 - 150 Hz, AC 60 Hz

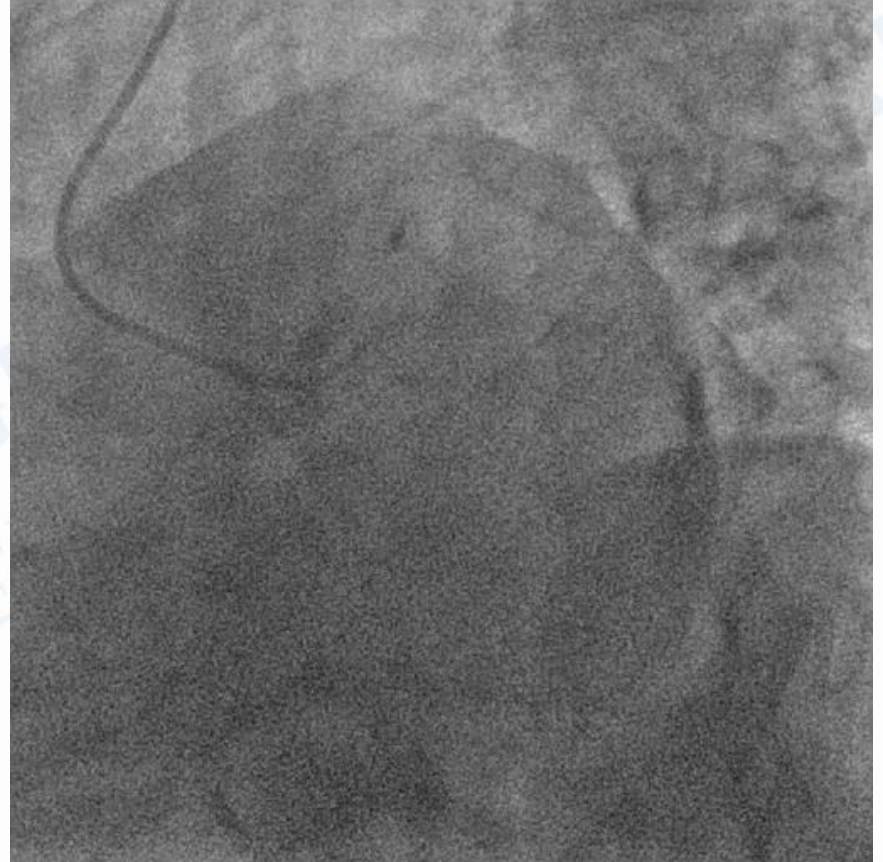
25 mm/sec

10 mm/mV

12SL(2.5s)



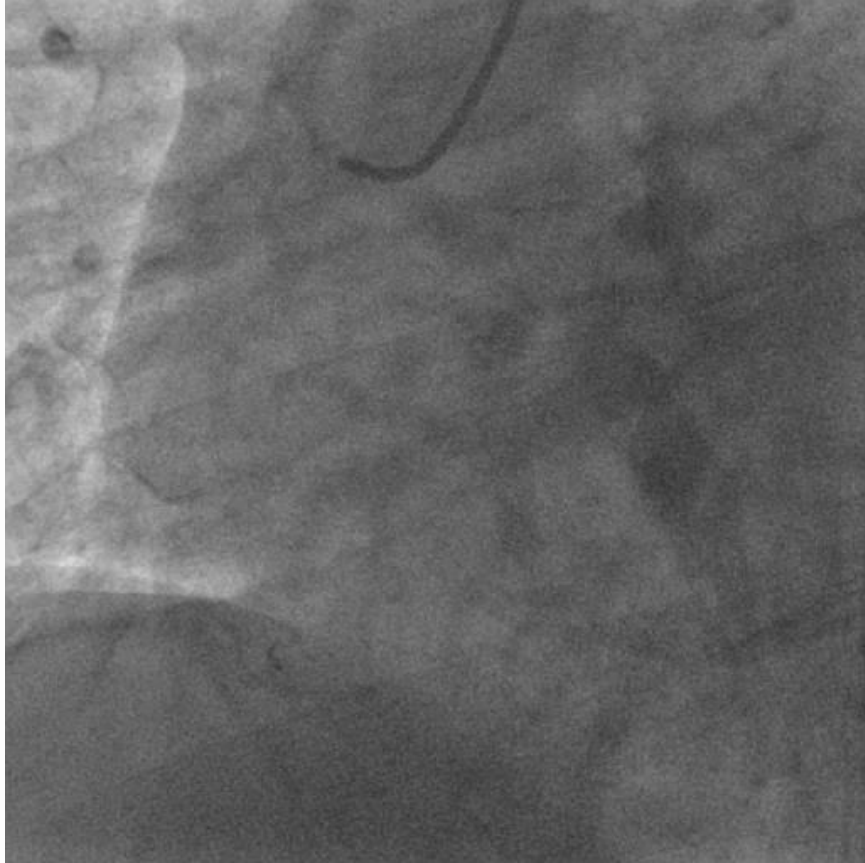
# CAG



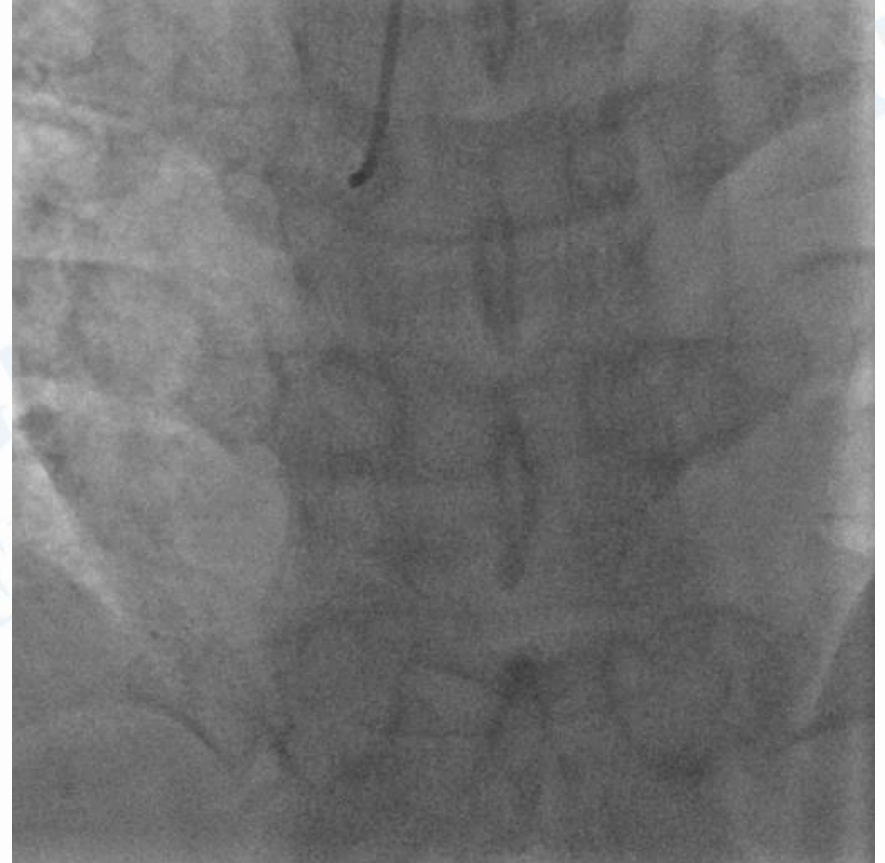
Stumpless CTO in LAD



# CAG



dRCA CTO

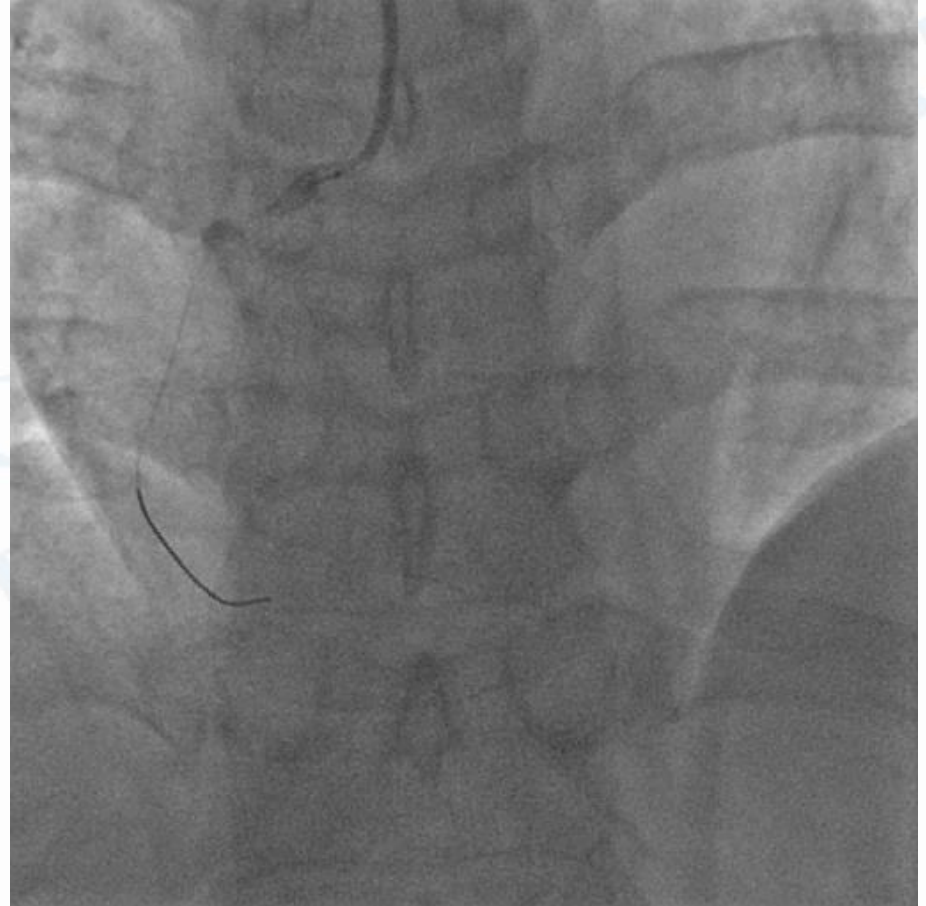


# PCI

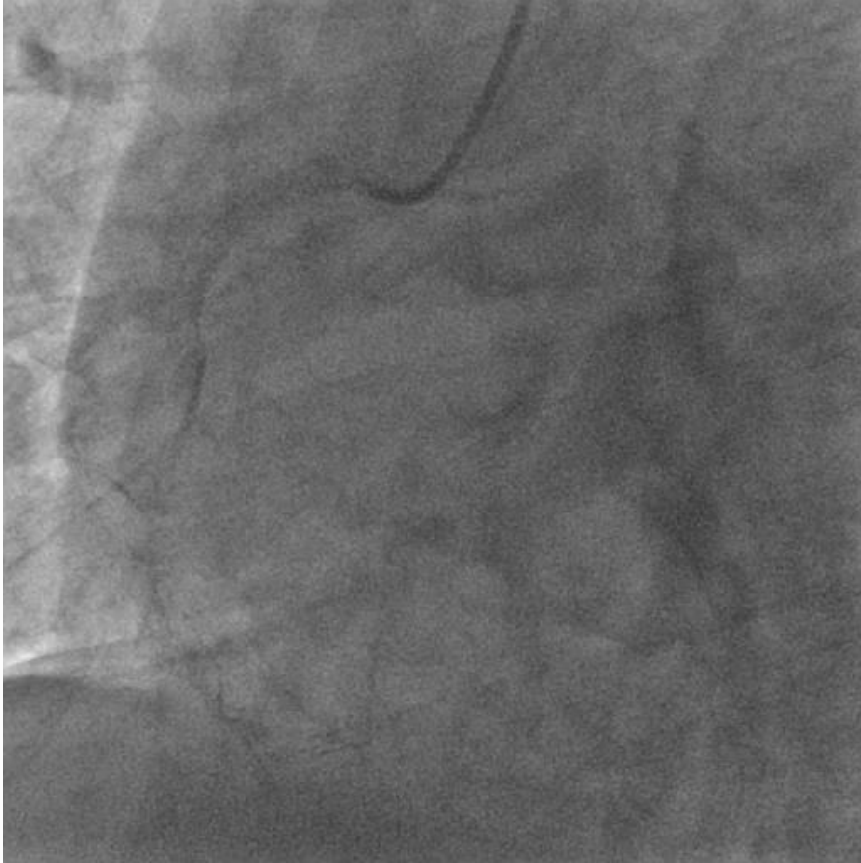
RCA PCI try  
Guiding cath: AL1

pRCA **dissection** with flow limitation

Patient complained of **chest pain**



# Recover



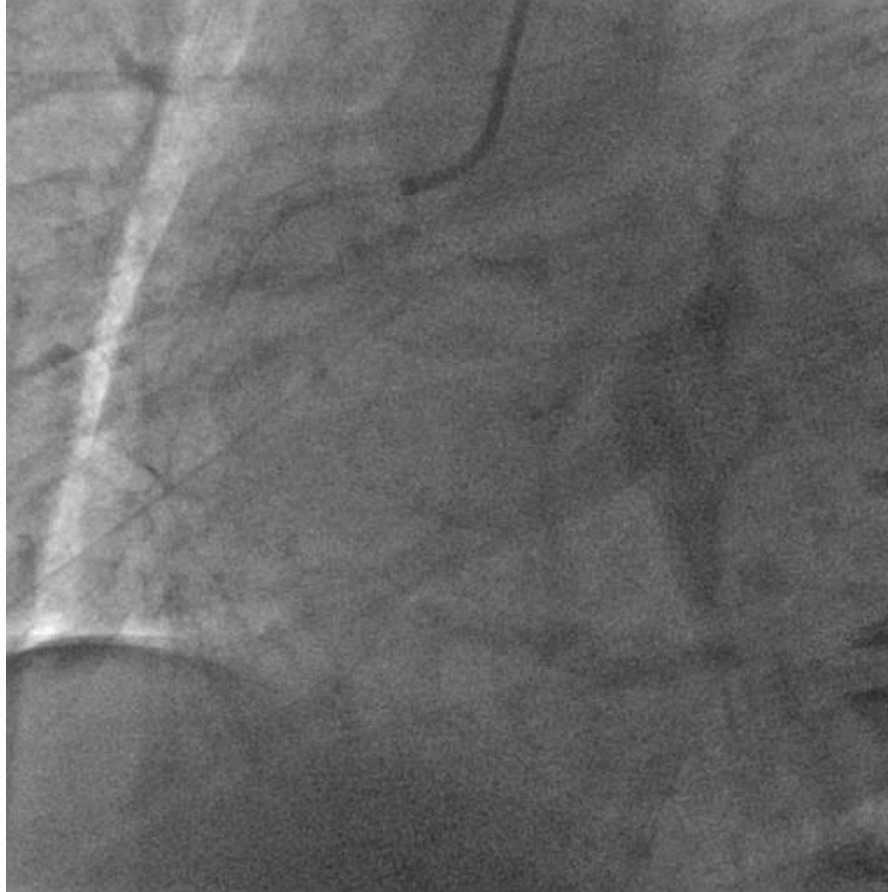
Stent insertion in pRCA  
->seal the proximal tear site

Dissection was stationary for a while

Finished the procedure

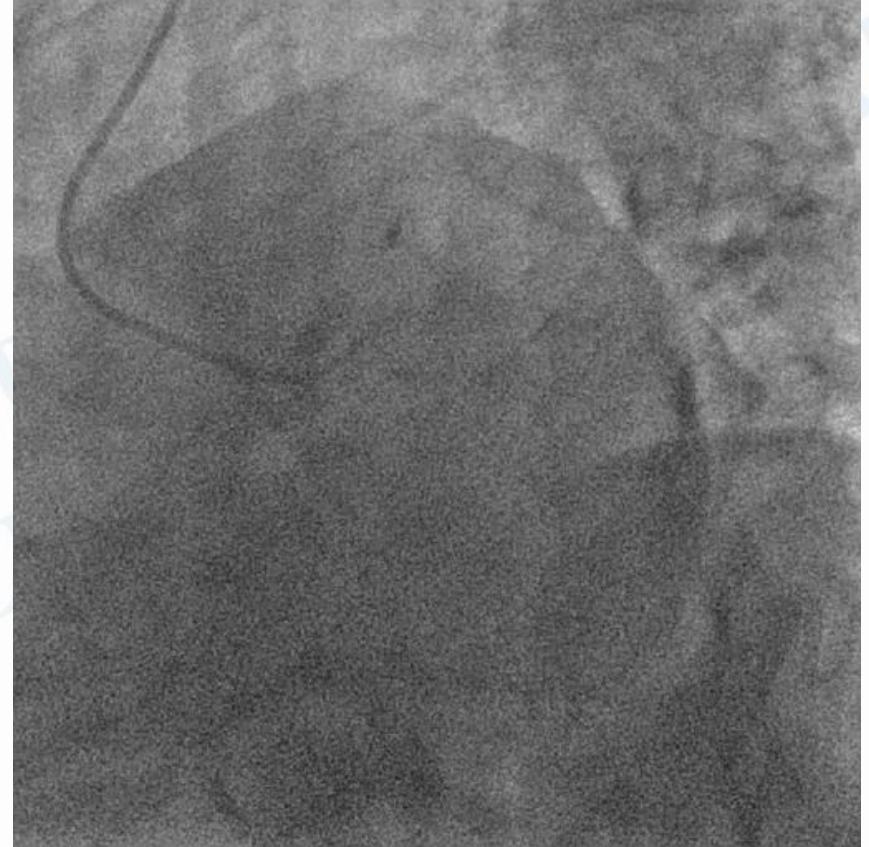


# Staged PCI - RCA

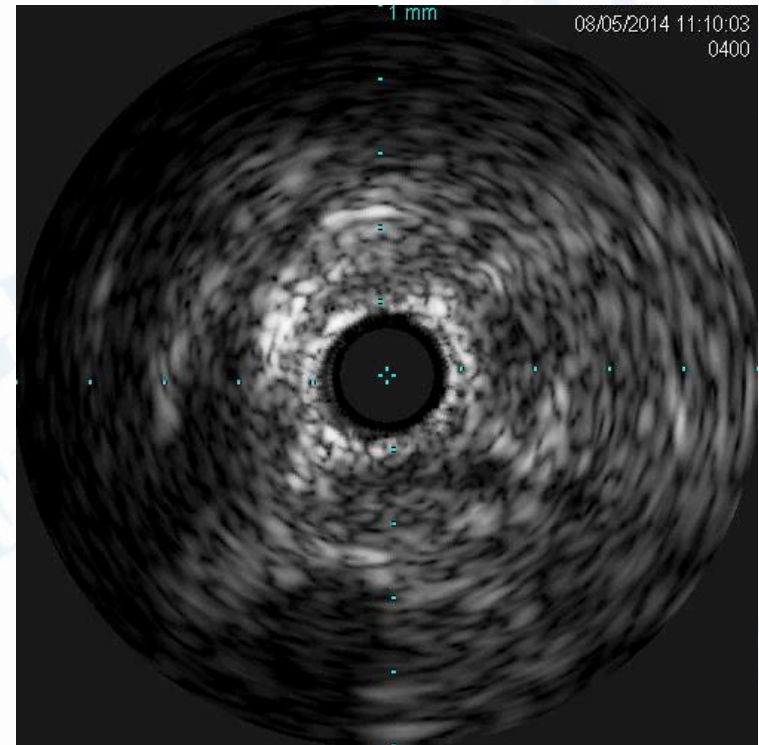
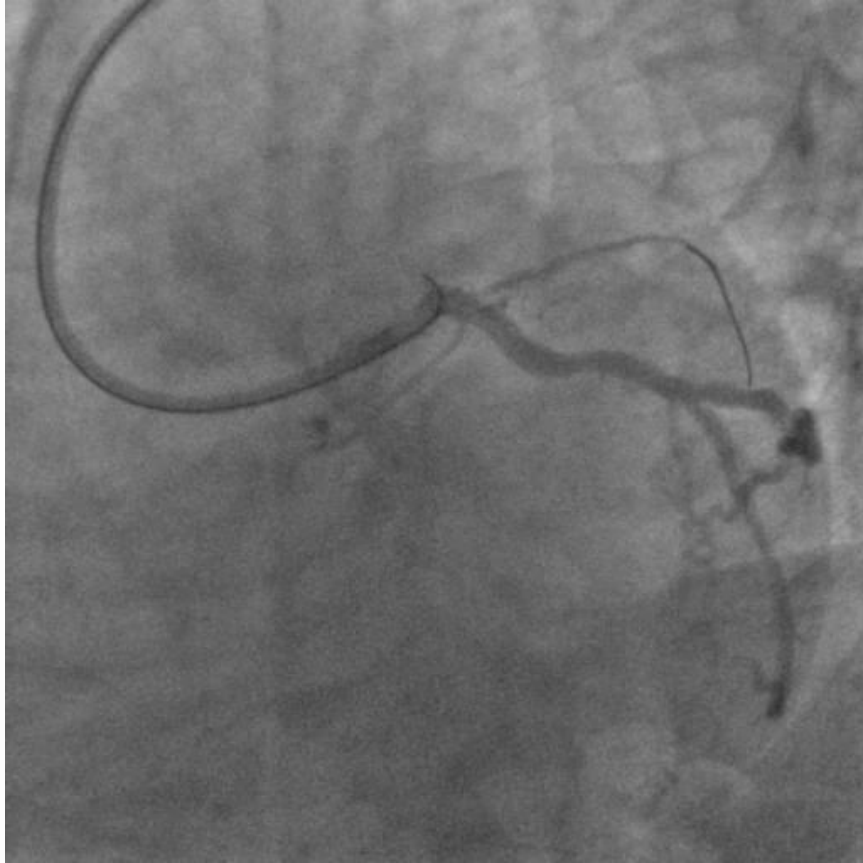




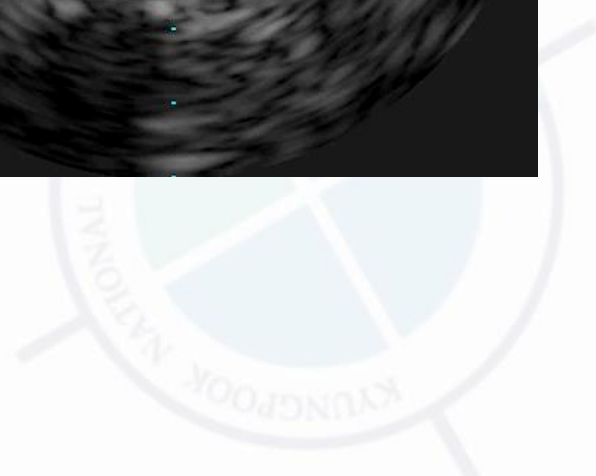
# Staged PCI



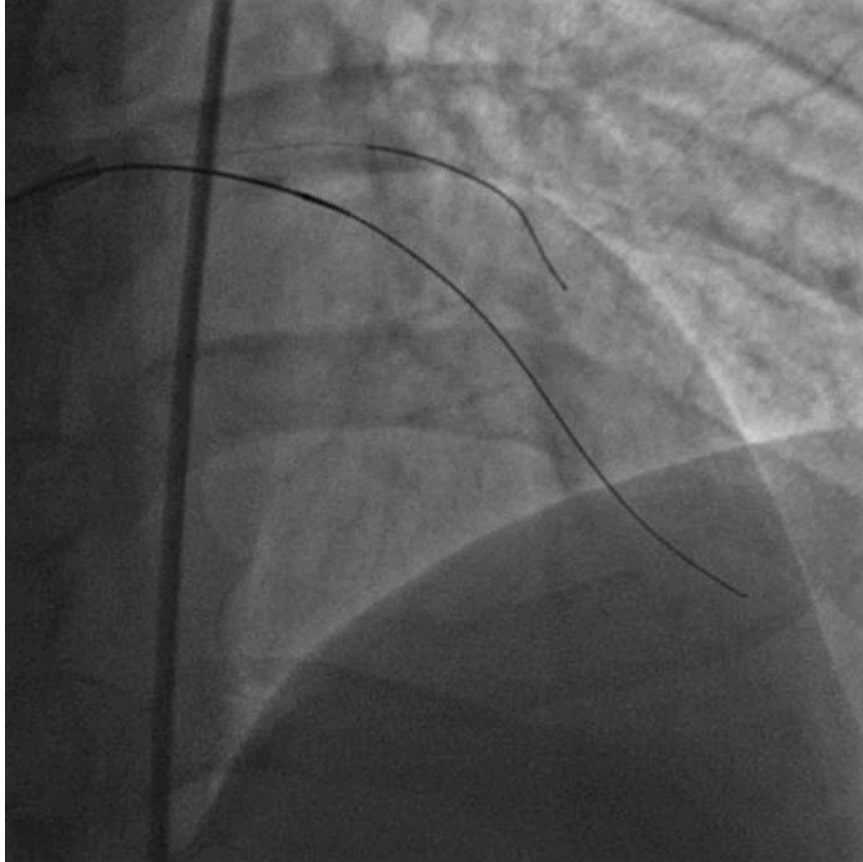
# IVUS guided entry



Guiding JL4  
IVUS guided ostium check



# Lesion pass



Ipsilateral collaterals diminished

Not typical LAD course in cranial view  
-> Maybe diagonal branch???

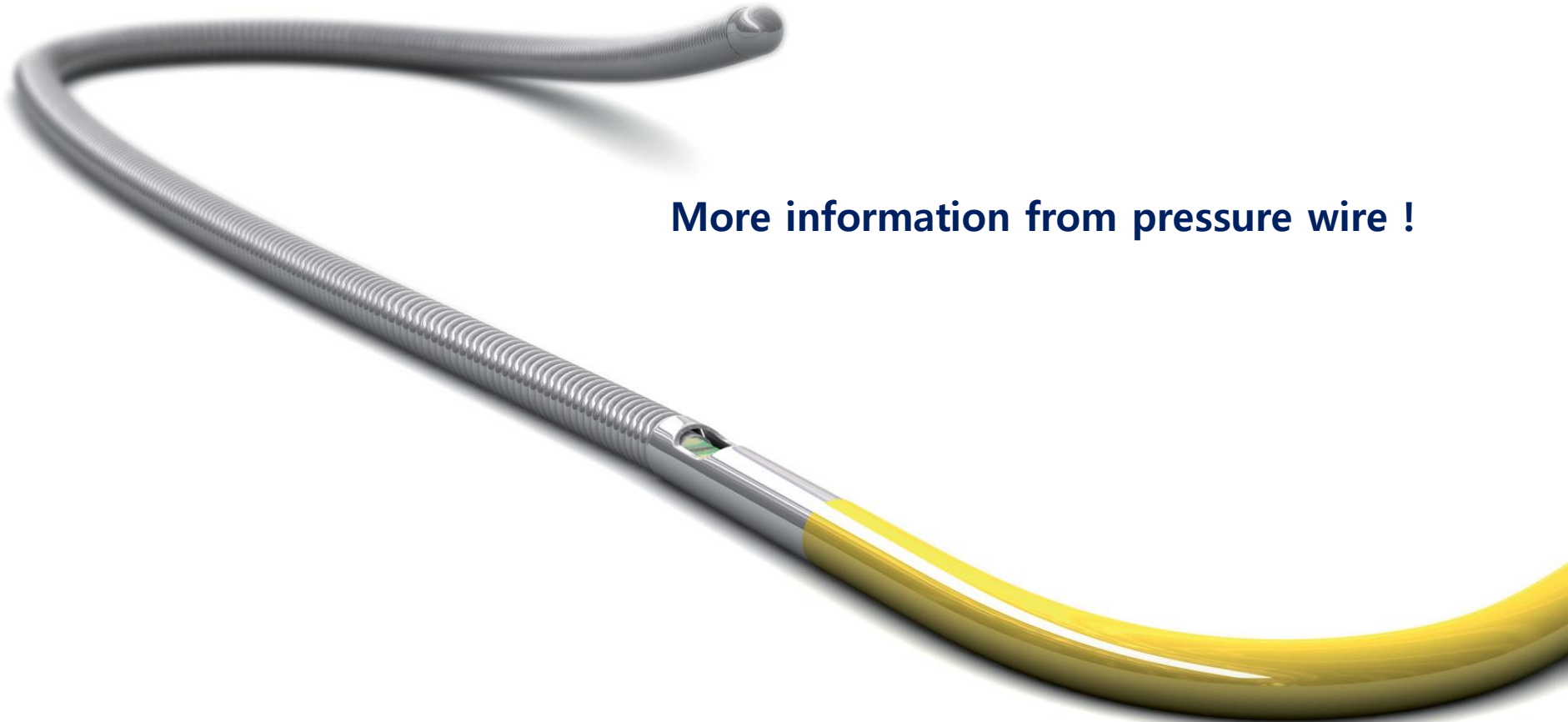
## **How to confirm distal true lumen??**

Contralateral injection with another puncture??

-> RCA was CTO

Tip injection??

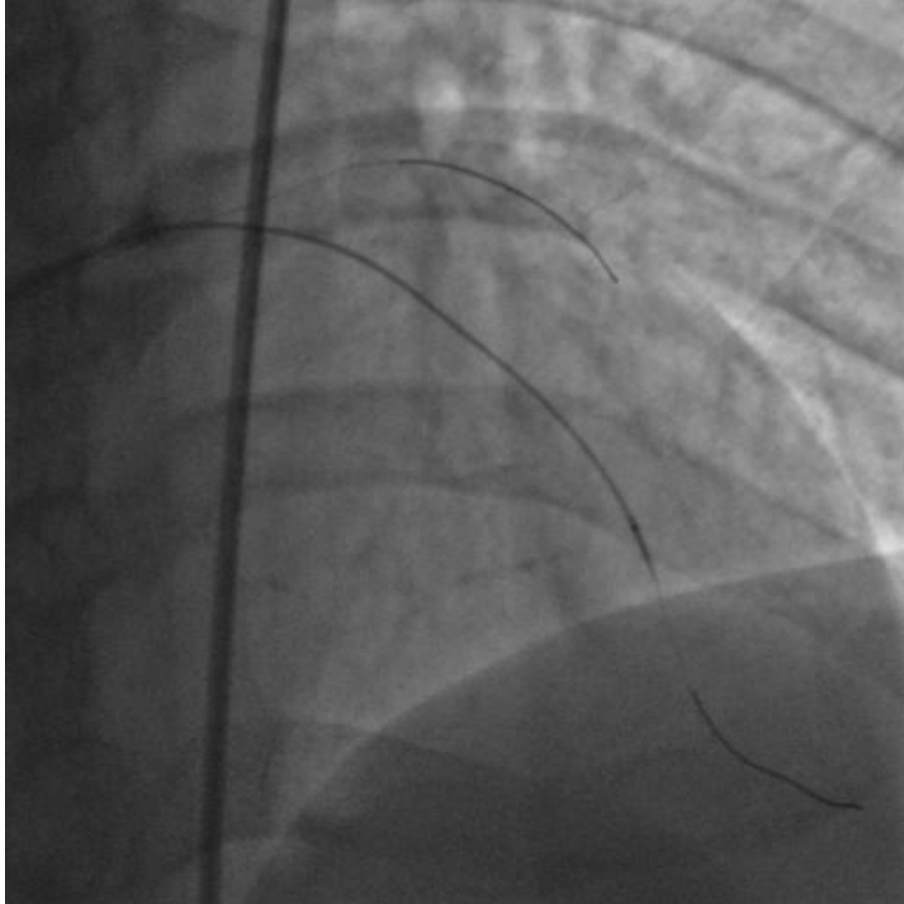
-> One option, however the wire did not seem to be in a typical LAD course



**More information from pressure wire !**

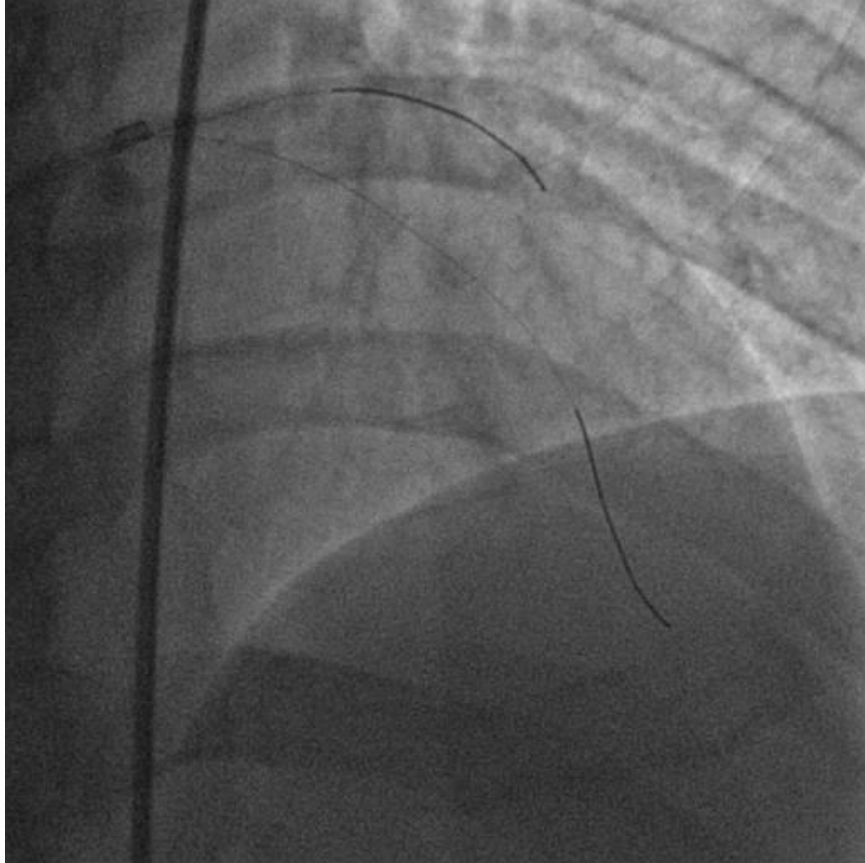


# Pressure wire



- Pressure wire was showing normal physiologic wave form in distal portion
  - Can help to identify distal true lumen

# Balloon dilation

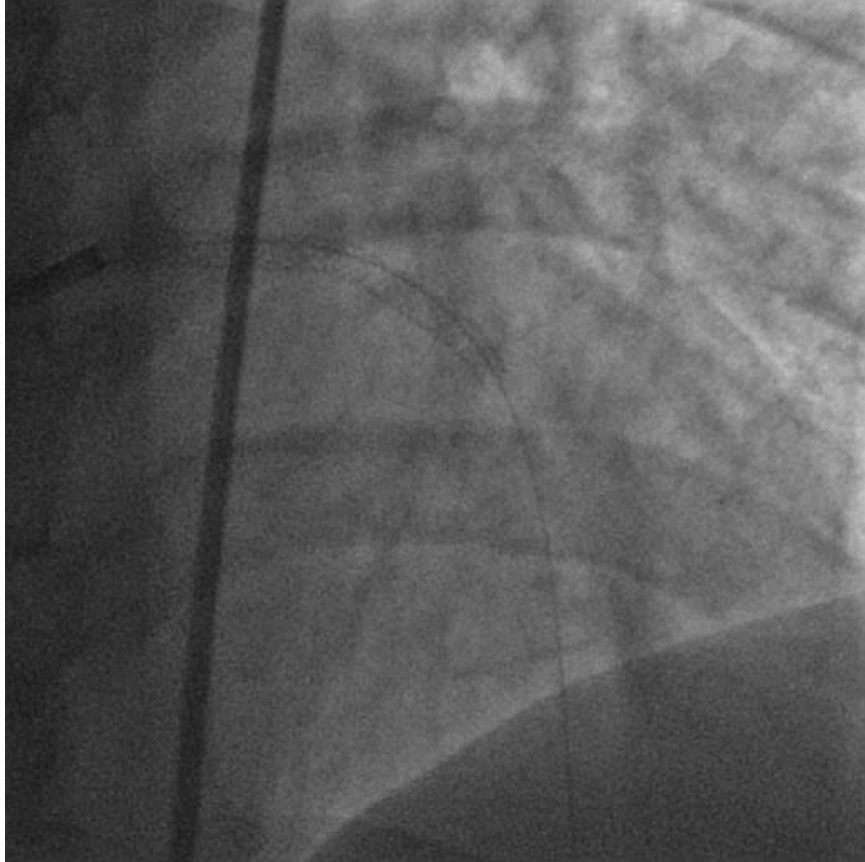


After dilating the CTO segment, the wire was in the diagonal branch, as expected





# Final





# Discussion

- Normal physiologic pressure wave form by pressure wire provide us a clue in identifying the distal true lumen of the CTO in this case
- True lumen identification using pressure wire by confirming normal physiologic wave form.
  - Useful enough to be applied to the daily practice?
  - Cost effectiveness?

KYUNGPPOOK NATIONAL UNIVERSITY HOSPITAL

