4th IMAGING & PHYSIOLOGY SUMMIT 2010

IVUS & Tissue Characterization
# Real World Experience

Yun-Kyeong Cho, MD, PhD

Keimyung University Dongsan Hospital
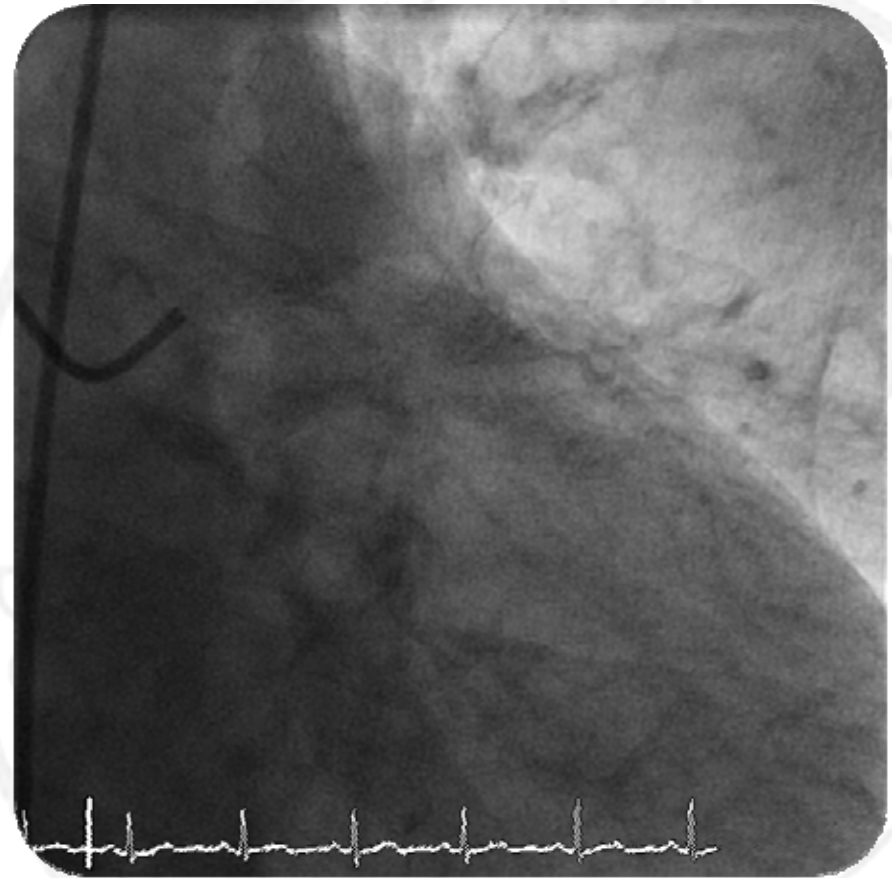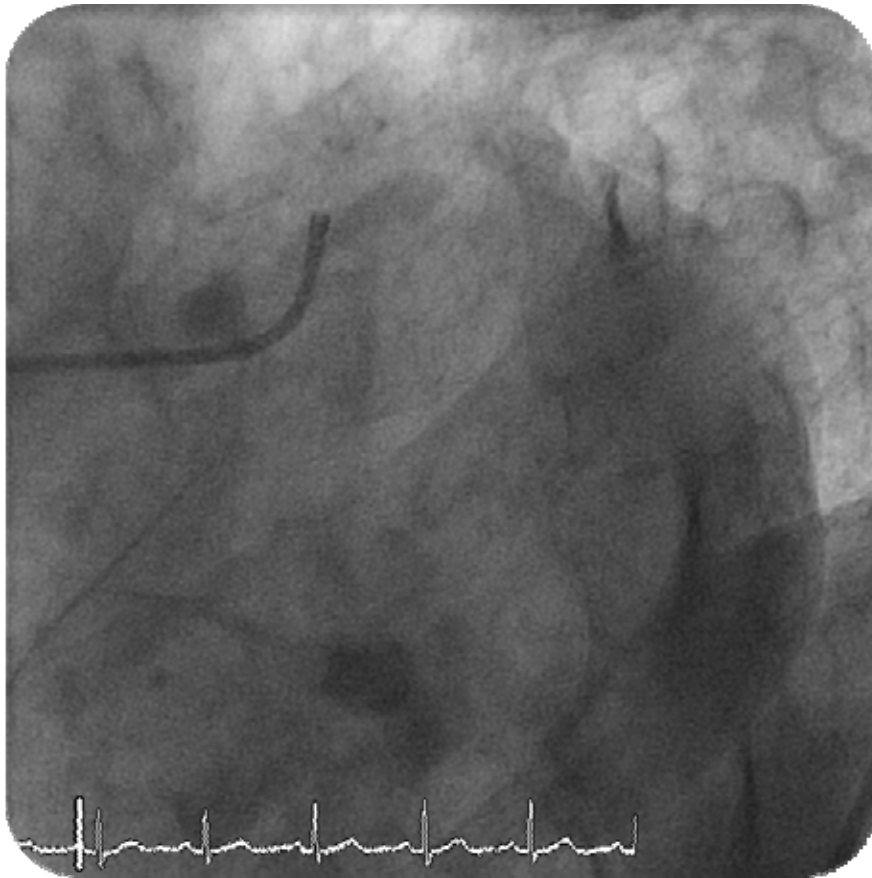Daegu, Republic of Korea

Case 1.

- 58Y.O. / Male
- C.C. : typical anterior chest pain for several months
    resting onset chest pain for 1 day
- CVDRF : current smoking (80PY)
- P/Ex : unremarkable
- Lab. : CK-MB 1.9, cTnI 0.20
    LDL 114, HDL 34, hs CRP 0.46 mg/dL
- ECG : NSR
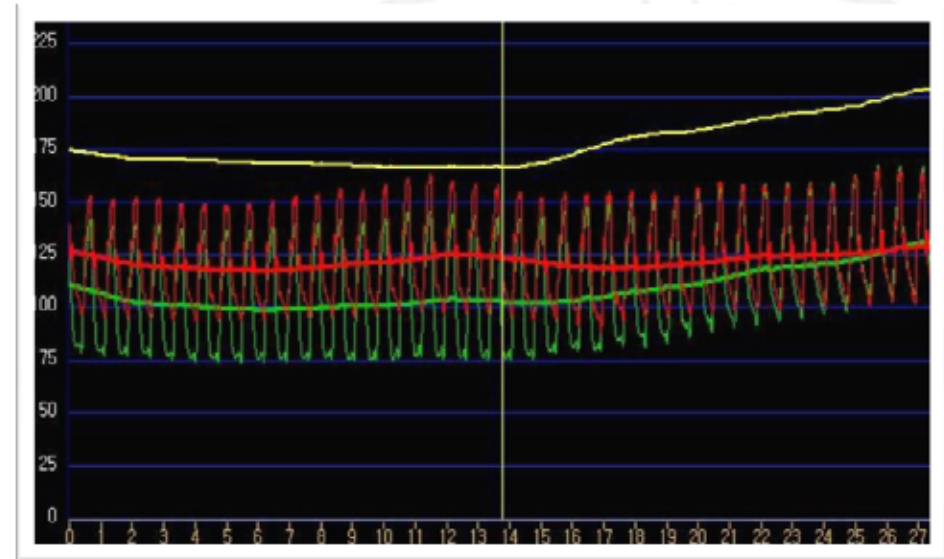- Echo. : EF 72%, RWMA (-)
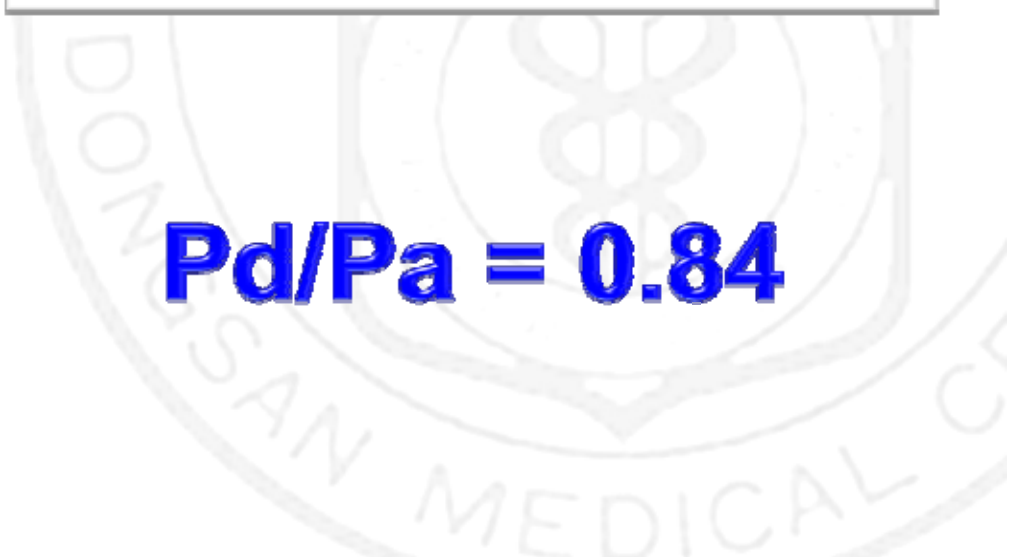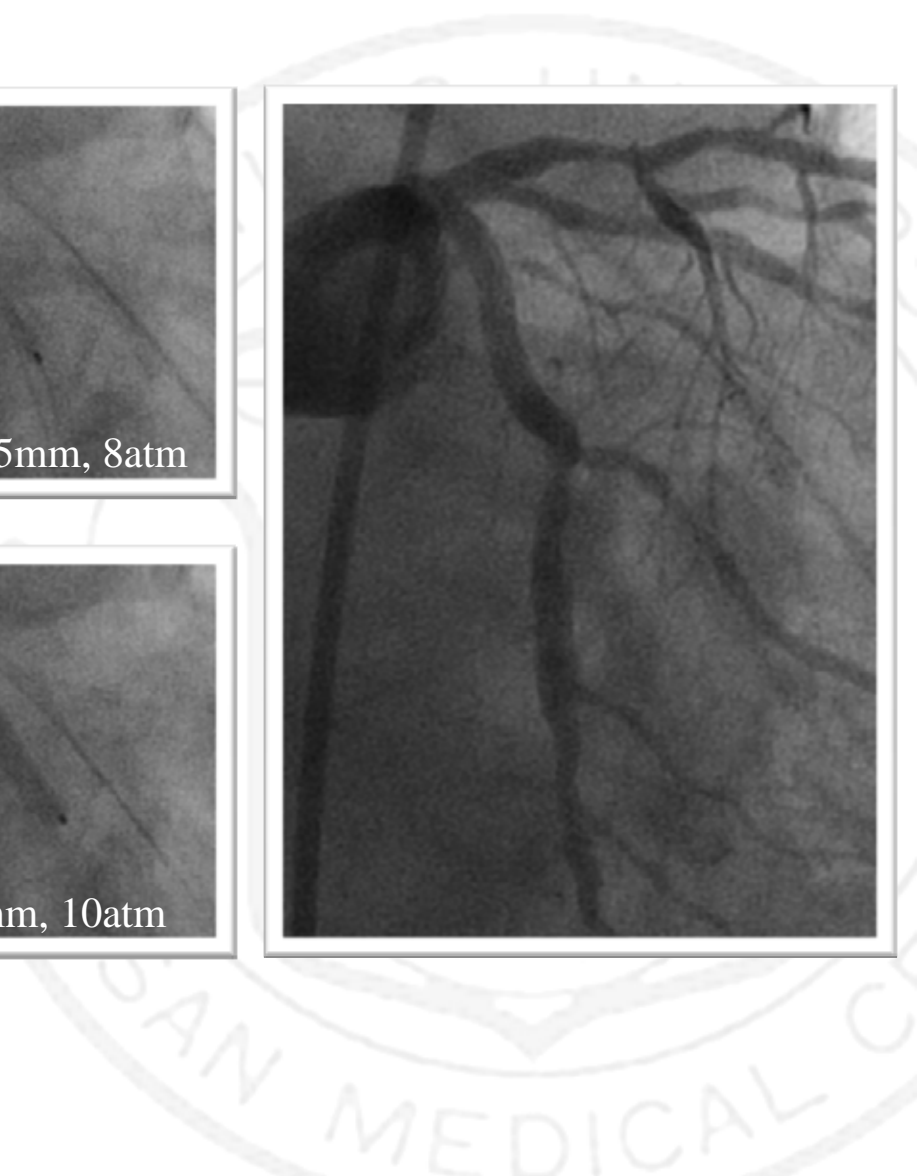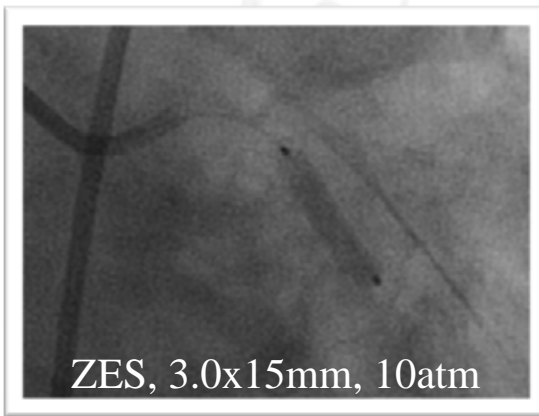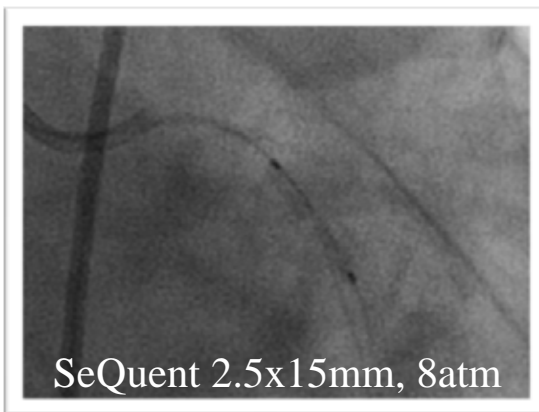- Clinical Dx : Unstable Angina

Baseline CAG
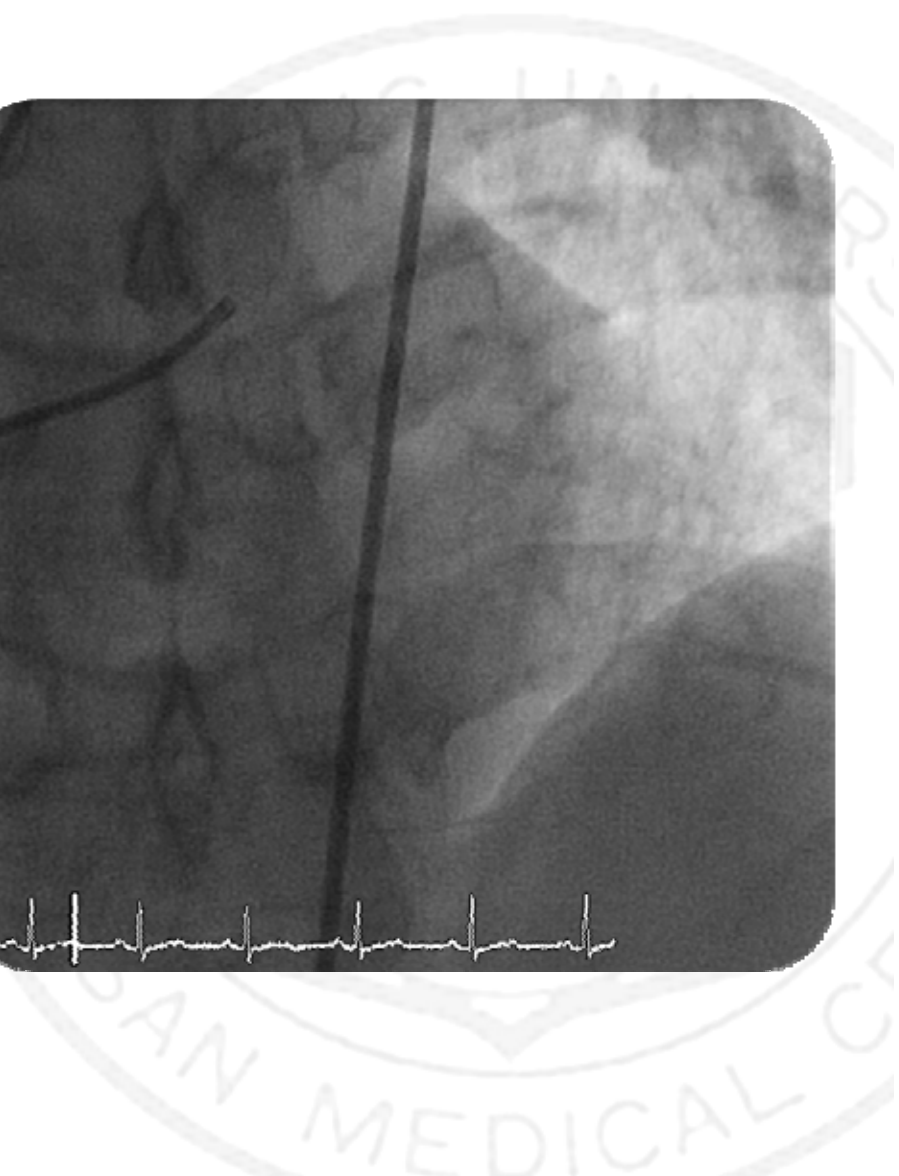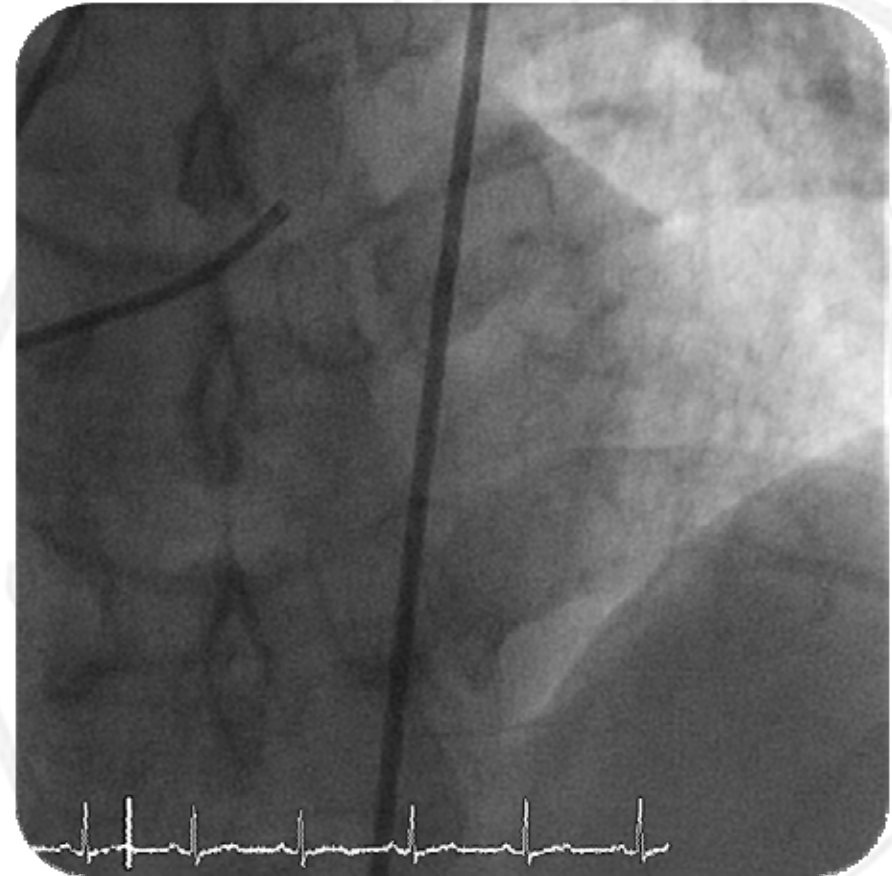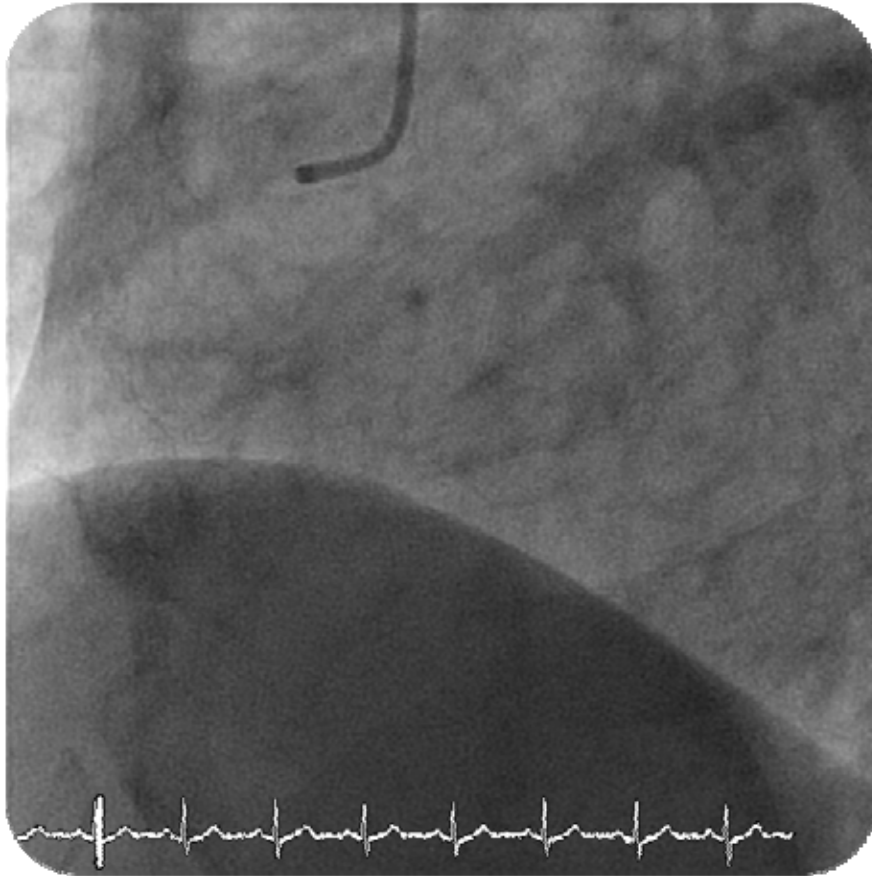
Baseline CAG

FFR on LAD

Pd/Pa = 0.84

PCI on LCXp

SeQuent 2.5x15mm, 8atm

ZES, 3.0x15mm, 10atm

RCA: Pre IVUS & OCT
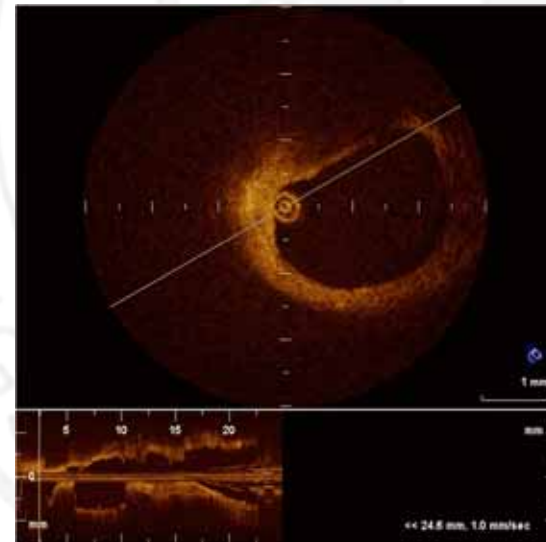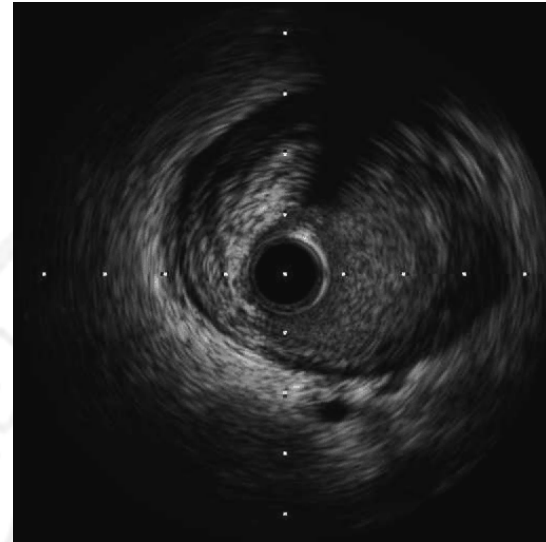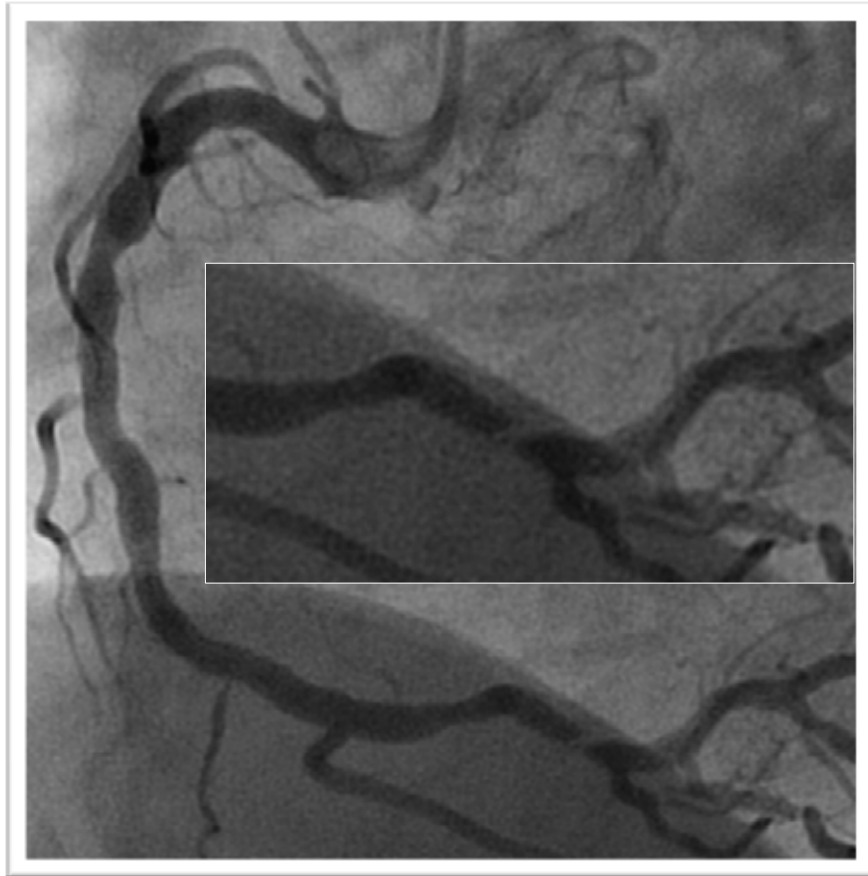
Baseline iMAP and OCT images
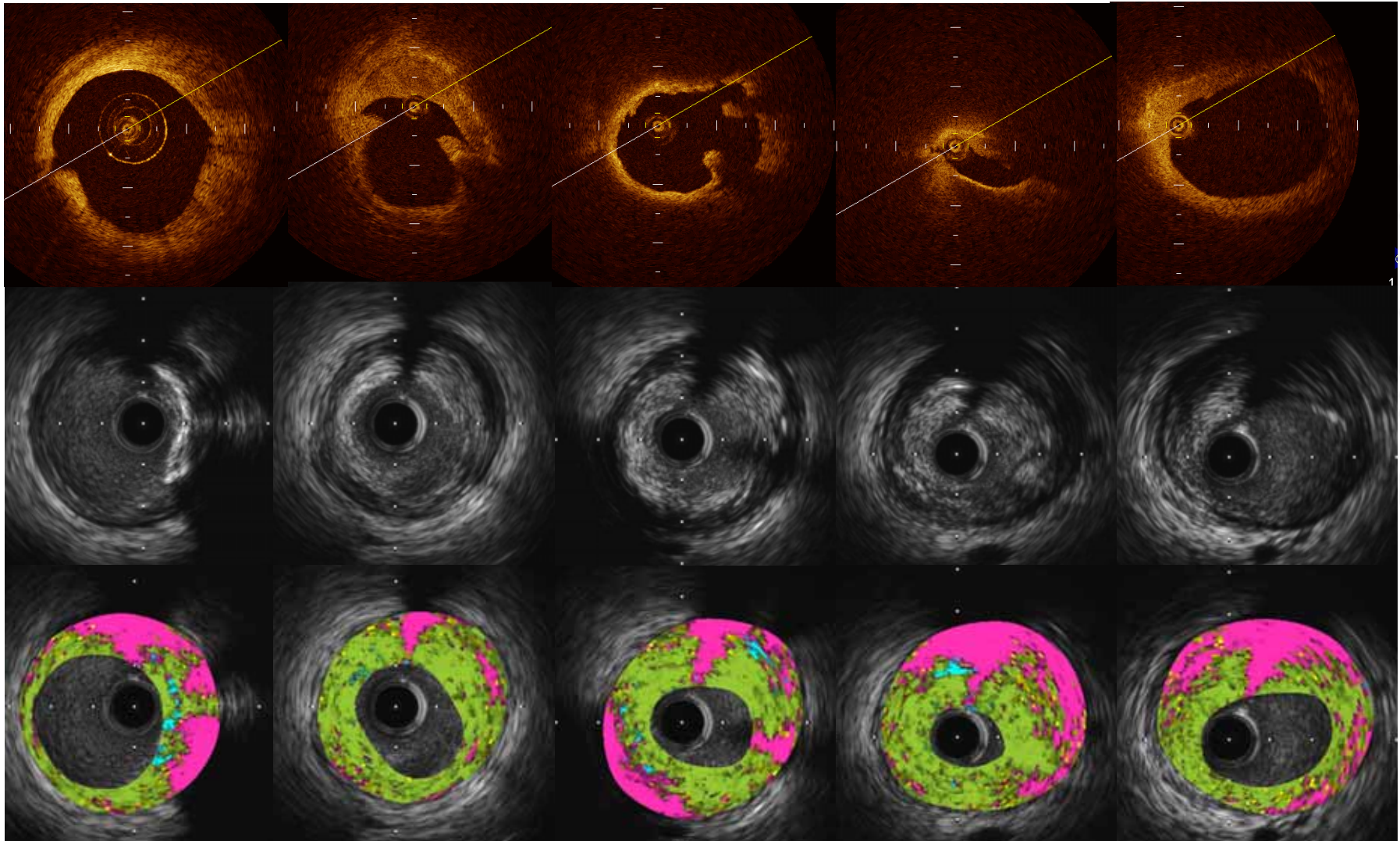
Fibrotic	47%	Fibrotic	79%	Fibrotic	58%	Fibrotic	54%	Fibrotic	51%
Lipidic	8%	Lipidic	6%	Lipidic	6%	Lipidic	8%	Lipidic	9%
Necrotic	43%	Necrotic	14%	Necrotic	34%	Necrotic	36%	Necrotic	40%
Calcified	3%	Calcified	1%	Calcified	2%	Calcified	1%	Calcified	0%

PCI on RCAd

SeQuent 2.5x15mm, 8atm

ZES, 3.5x24mm, 16atm
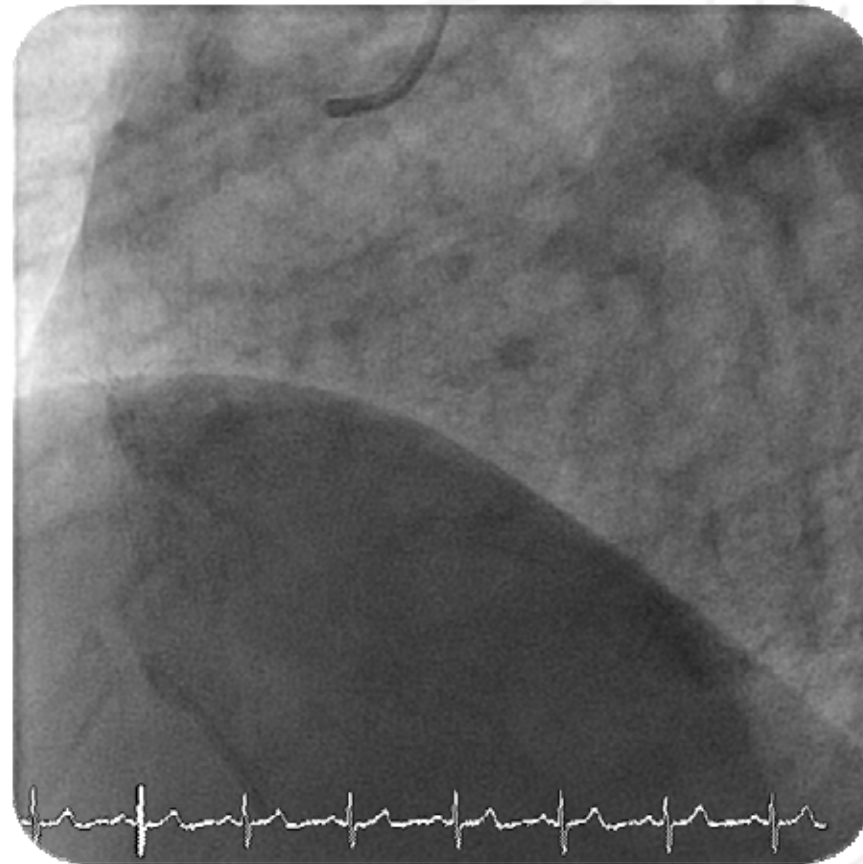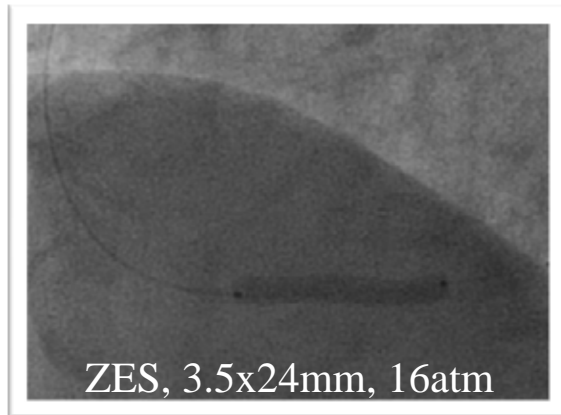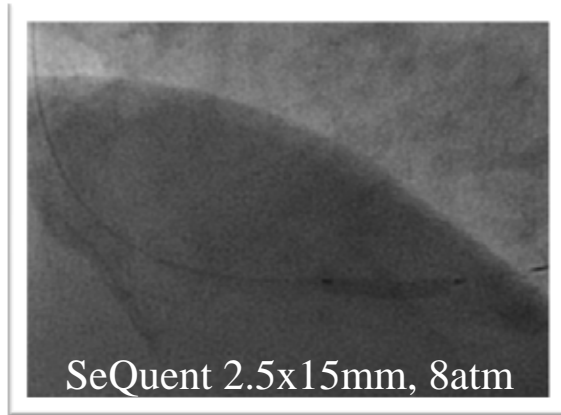
Case 2.

- 53Y.O. / Male
- C.C. : typical anterior chest pain for 2 years

    resting onset chest pain for 1 day
- CVDRF : HTN (5 yrs), current smoking (45PY)
- P/Ex : unremarkable
- Lab. : CK-MB 18.9, cTnI 0.49

    LDL 127, HDL 24, hs CRP 0.78 mg/dL
- ECG : ST depression in inf. leads
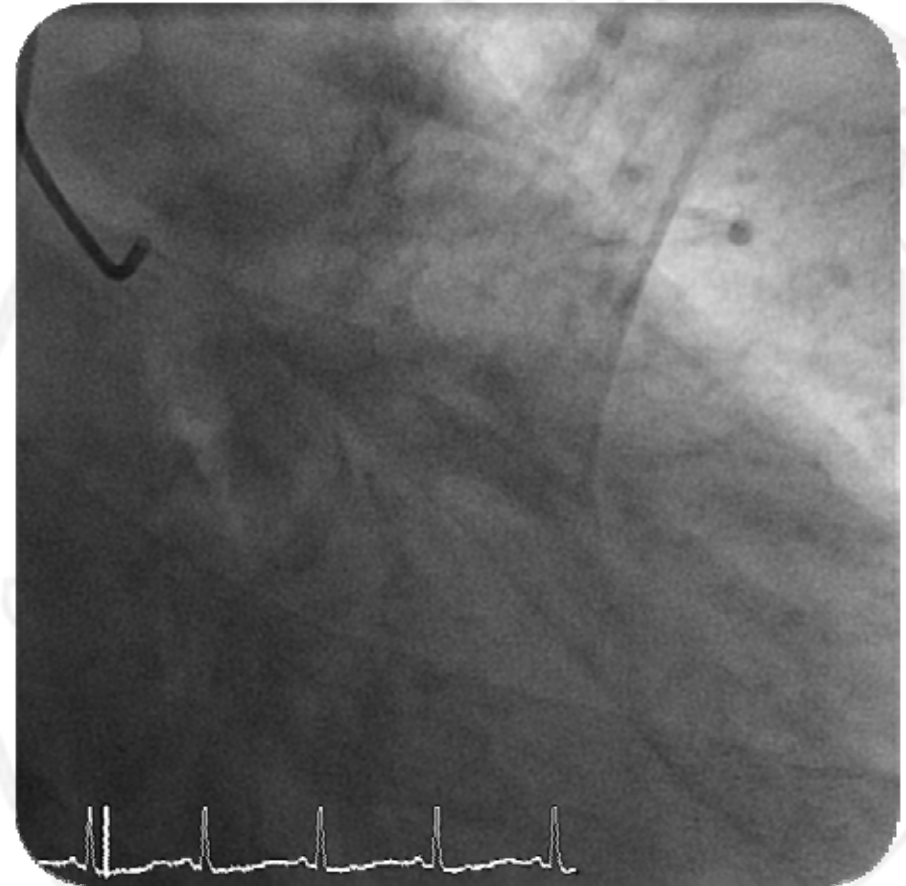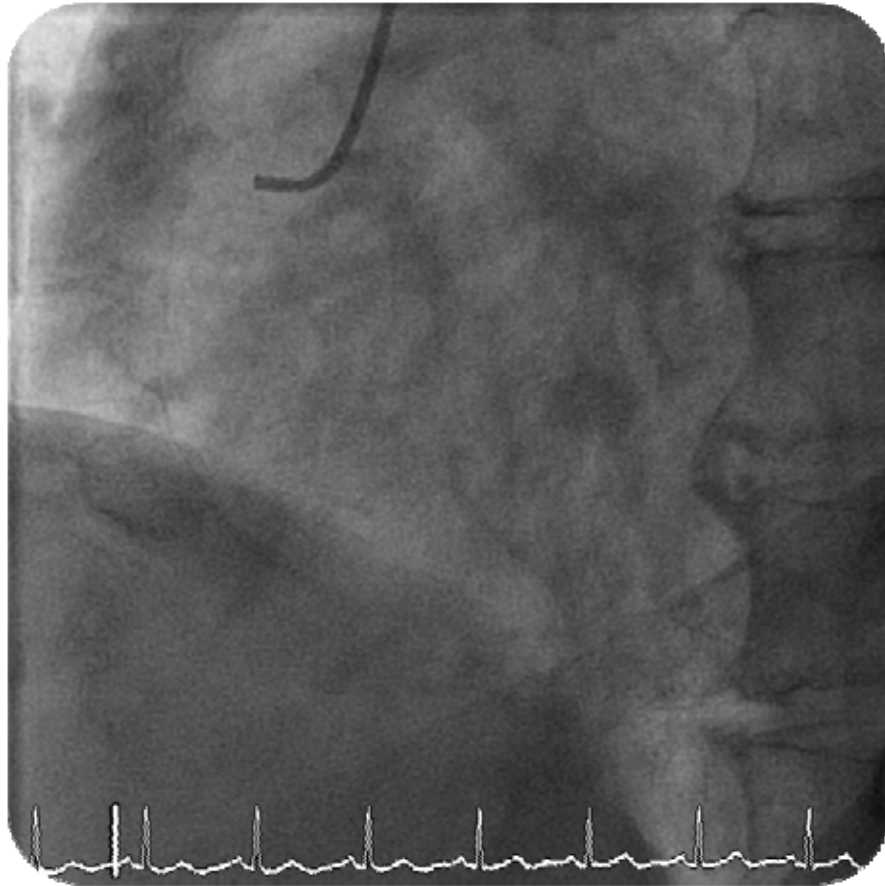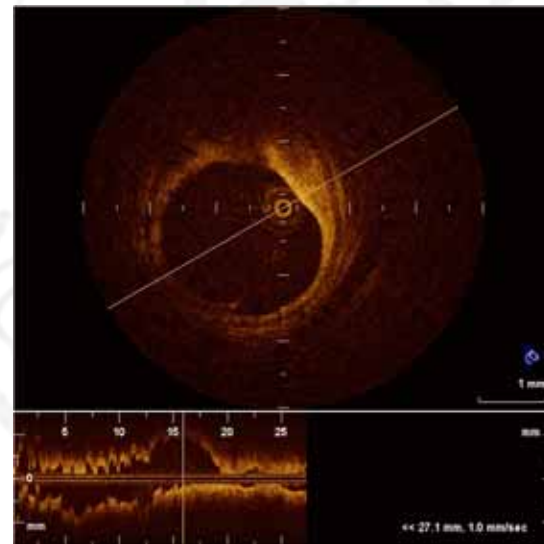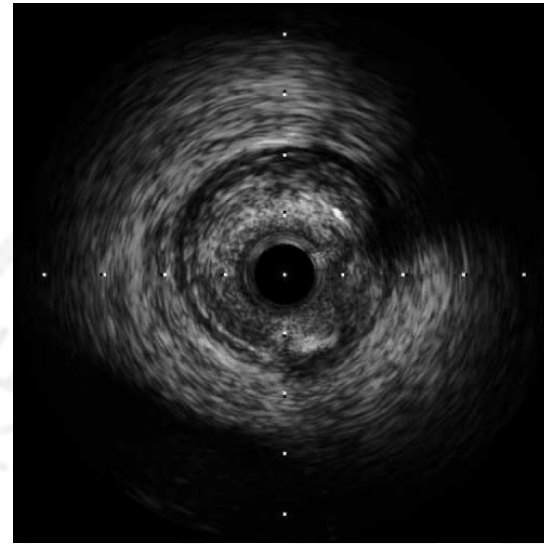- Echo. : EF 50%, hypokinesia on post. wall
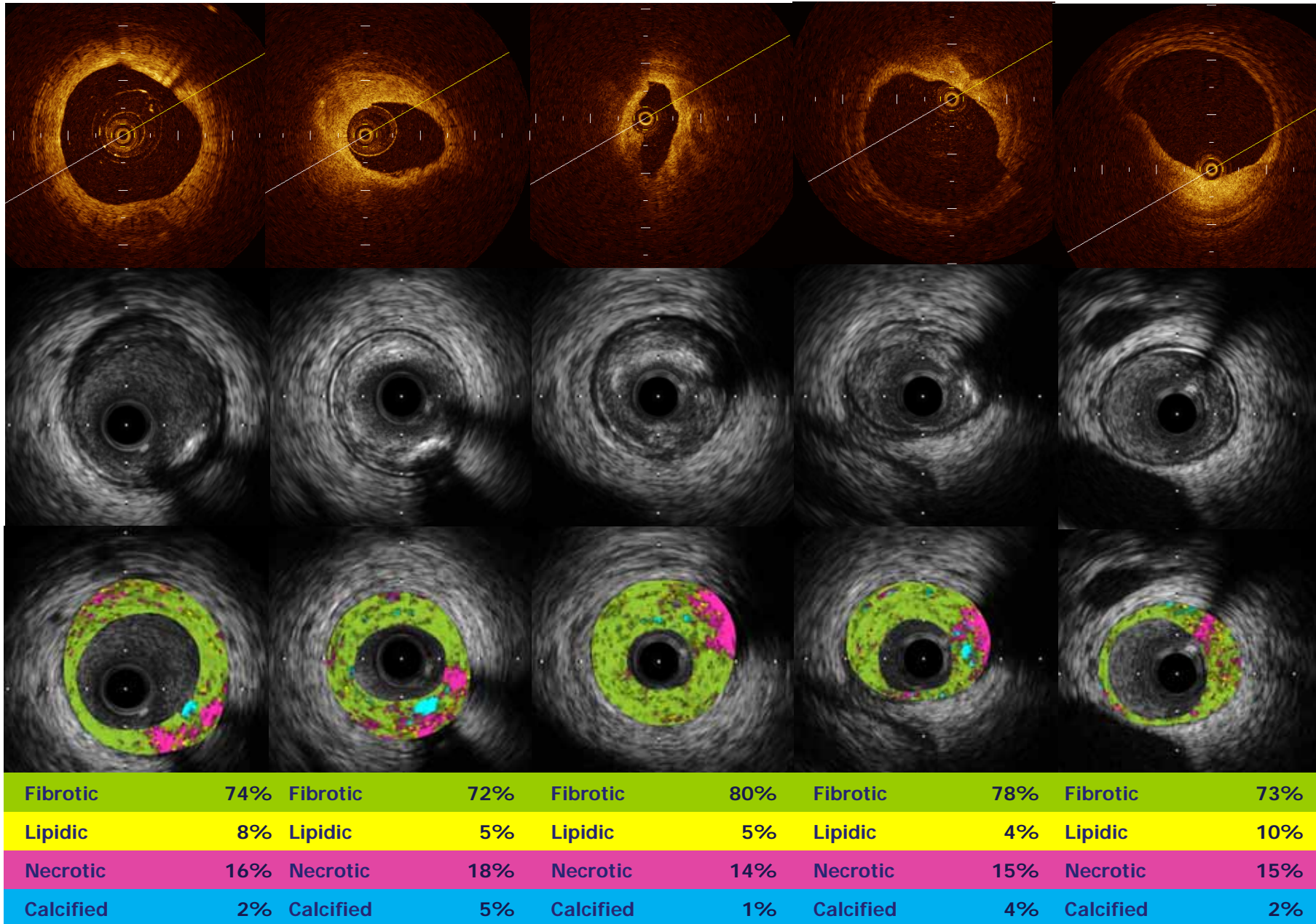- Clinical Dx : NSTEMI

Baseline CAG

Pre IVUS & OCT

Baseline iMAP and OCT images

Fibrotic	74%	Fibrotic	72%	Fibrotic	80%	Fibrotic	78%	Fibrotic	73%
Lipidic	8%	Lipidic	5%	Lipidic	5%	Lipidic	4%	Lipidic	10%
Necrotic	16%	Necrotic	18%	Necrotic	14%	Necrotic	15%	Necrotic	15%
Calcified	2%	Calcified	5%	Calcified	1%	Calcified	4%	Calcified	2%

PCI on OM

SeQuent 2.5x15mm, 8atm
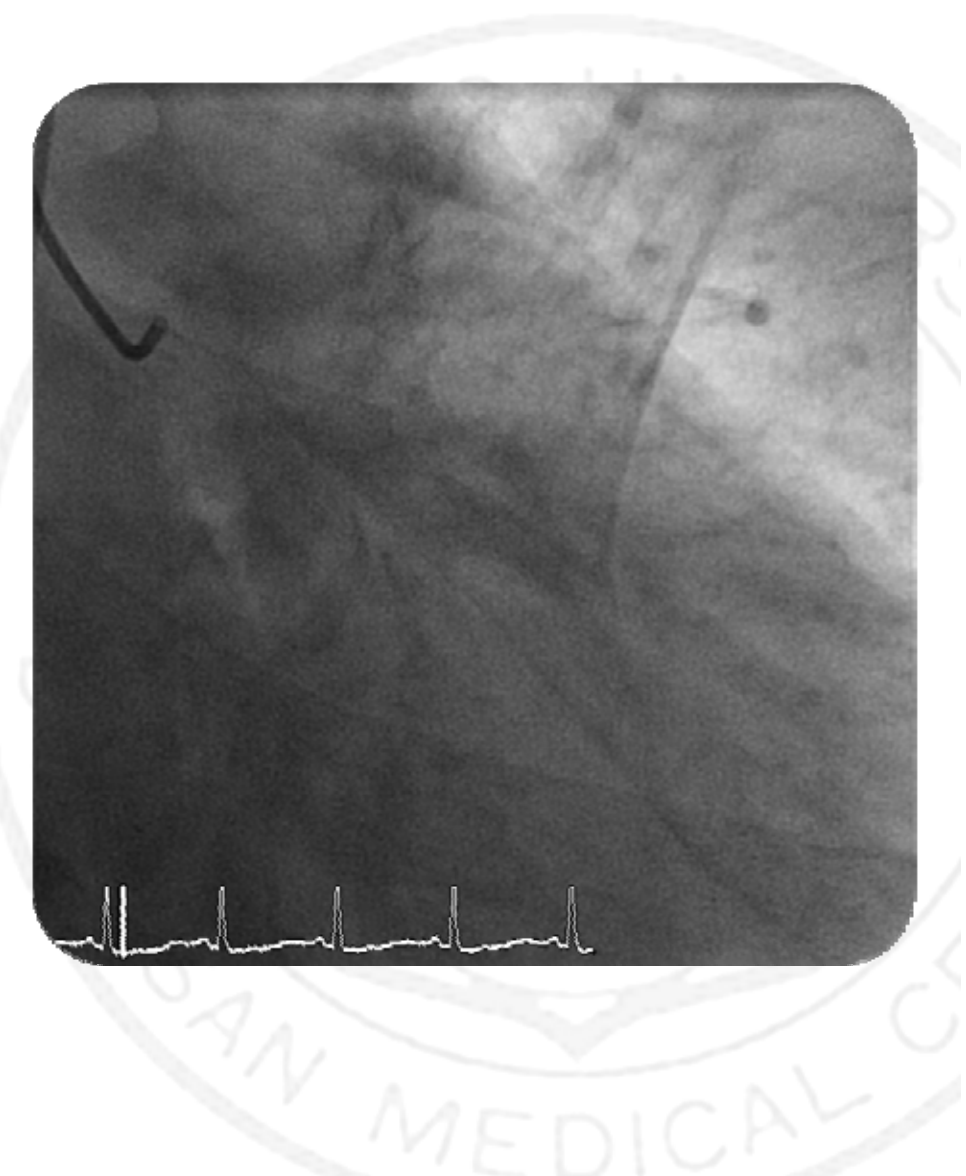
Genous, 3.0x23mm, 14atm
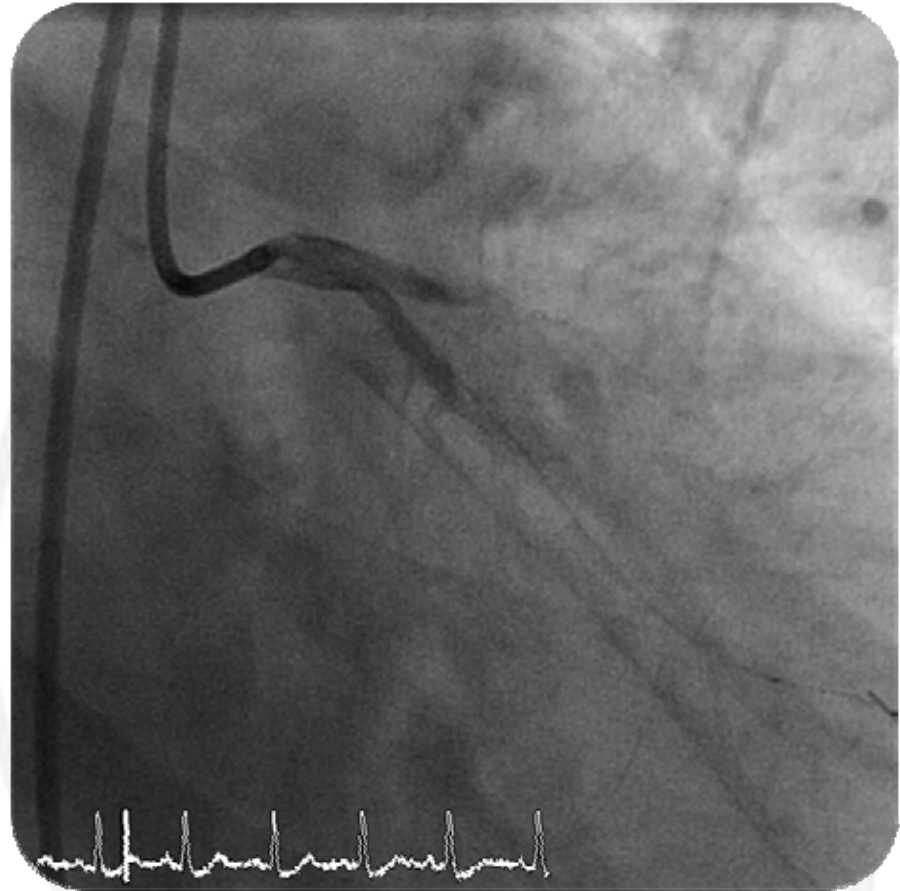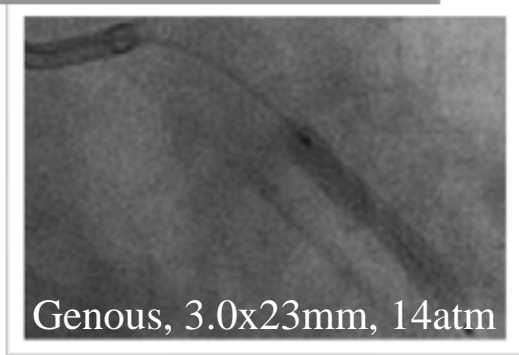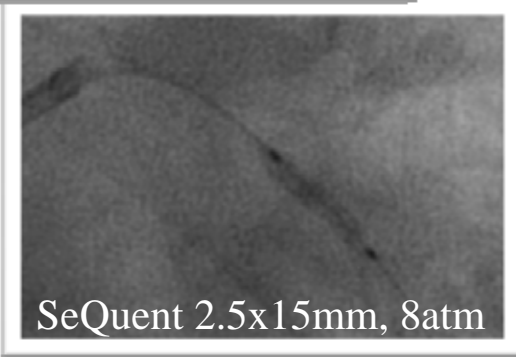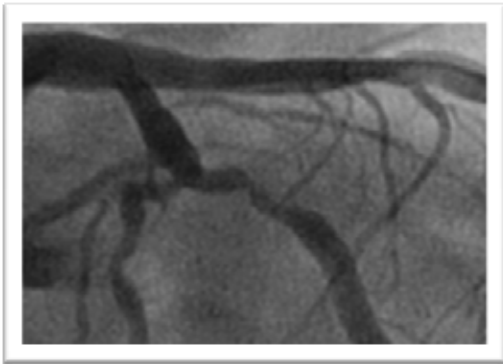
Summary

- iMAP can tell more objectively regarding tissue characteristics.

- It may be a limitation

  - the area with attenuated echogenecity such as guide-wire artifact or acoustic shadowing is shown as necrotic area.

  - thrombi are shown as fibrotic area.

- Further studies will be needed in confirming the correlation between iMAP and other imaging modalities.