OCT guided PCI a first choice for patients with high SYNTAX score.

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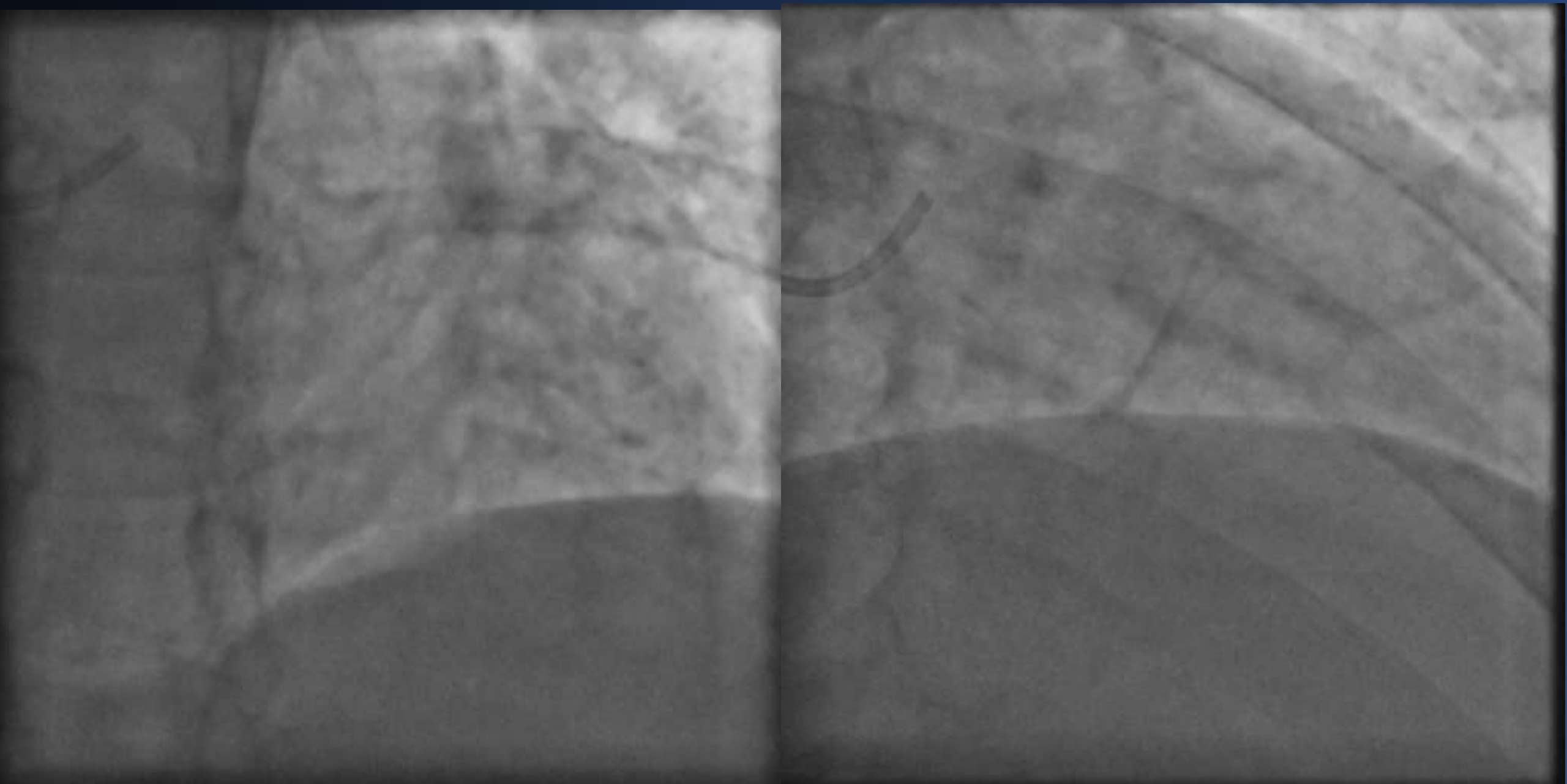
- Female, 63 y.o. CAD.
- Angina on minimal exertion and rest.
- STEMI 1 month ago (by CA acute occlusion RCA/one BMS, LM two stenosis 90% in ostiu m & 70% in terminal part, LAD chronic occlusion in the middle, LCX ostium stenosis 70%).
- Hypertension. Diabetes. Dyslipidemia type 2b, GFR 77.11 ml / min / 1.73 m2.

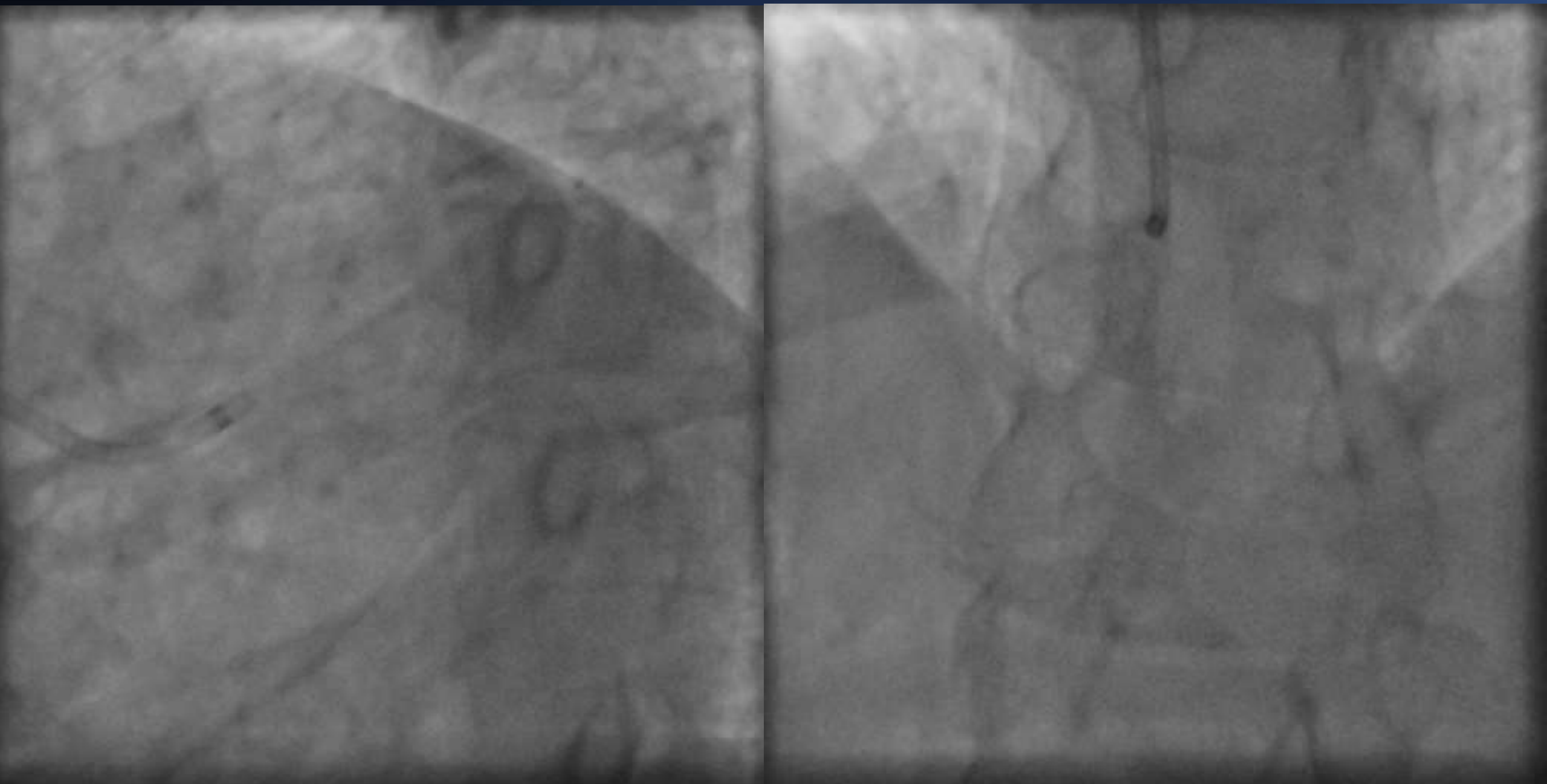
- ECHO 1 monht ago - hypokinesia, basal lower, partially posterior, middle & lower LV segments. . MR 2st. TR 1st. Dilatation of th e LA. EF 56%

- Medications: DAPT, statins, hypotensive drugs, beta-blockers.

Angiography

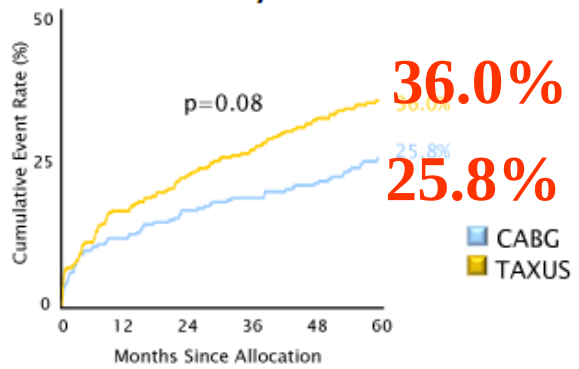


Angiography



Risk calculations for PCI and CABG

MACCE by SYNTAX Score 23-32



The cumulative MACCE rate is displayed for the SYNTAX Trial group this score corresponds to.

SYNTAX Score I

Lesion 1	
(segment 5): 5x2=	10
Bifurcation Type: Medina 1,1,1:	2
Aorto Ostial lesion	1
Sub total lesion 1	*13*
Lesion 2	
segment number(s)	
(segment 7): 2.5x5=	12.5
Age T.O. is unknown	1
the first segment beyond the T.O. visualized by contrast: 7	0
+ sidebranch: Yes, all sidebranches <1.5mm	1
Sub total lesion 2	*14.5*
TOTAL:	*27.5* 27.5

SYNTAX Score II

SYNTAX II

Decision making -between CABG and PCI- guided by the SYNTAX Score II to be endorsed by the Heart Team.

PCI

SYNTAX Score II:	31.3 31.3
PCI 4 Year Mortality:	7.5 % 7.5%

CABG

SYNTAX Score II:	21.7 21.7
CABG 4 Year Mortality:	3.4 % 3.4%

Treatment recommendation ⓘ: *CABG*

Risk assessment of adverse CABG

Patient related factors			Cardiac related factors		
Age [1] (years)	63	0.11	NYHA	II	.1070545
Gender	female	2196434	CCS class 4 angina [8]	no	0
Renal impairment [2] *See calculator below for creatinine clearance*	normal (CC >85ml/min)	0	LV function	good (LVEF > 50%)	0
Extracardiac arteriopathy [3]	yes	5360268	Recent MI [9]	no	0
Poor mobility [4]	no	0	Pulmonary hypertension [10]	no	0
Previous cardiac surgery	no	0	**Operation related factors**		
Chronic lung disease [5]	no	0	Urgency [11]	elective	0
Active endocarditis [6]	no	0	Weight of the intervention [12]	isolated CABG	0
Critical preoperative state [7]	no	0	Surgery on thoracic aorta	no	0
Diabetes on insulin		0			

EuroSCORE II — 1.28 %

EuroSCORE II

Note: This is the 2011 EuroSCORE II

Calculate | Clear

1.28%

STS Adult Cardiac Surgery Database Version 2.9

RISK SCORES

Procedure: Isolated CAB

CALCULATE

2.649%

Risk of Mortality:	2.649%
Renal Failure:	NA
Permanent Stroke:	1.434%
Prolonged Ventilation:	7.176%
DSW Infection:	0.182%
Reoperation:	4.009%
Morbidity or Mortality:	55.795%
Short Length of Stay:	28.509%
Long Length of Stay:	6.224%

PRINT | CLEAR

2018 ESC/EACTS TYPE OF REVASCULARISATION

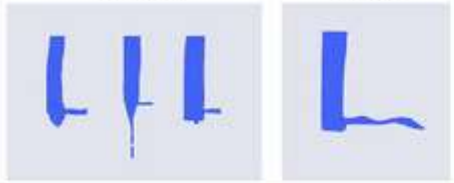
Type of revascularization (CABG or PCI) in patients with SCAD with suitable coronary anatomy for both procedures and low predicted surgical mortality				
Recommendations according to the extent of CAD	**CABG**		**PCI**	
	Class[a]	**Level[b]**	**Class[a]**	**Level[b]**
One-vessel CAD				
With proximal LAD stenosis	I	A	I	A
Two-vessel CAD				
With proximal LAD stenosis	I	B		
LM CAD				
LM with low SYNTAX score 0 - 22	I	A	I	A
LM with intermediate SYNTAX score >22 and ≤32	I	A		
LM with high SYNTAX score >32[c]	I	A	III	B
Three-vessel CAD without diabetes mellitus				
Three-vessel disease with low SYNTAX score 0 - 22	I	A	I	A
Three-vessel disease with intermediate or high SYNTAX score >22[c]	I	A	III	A
Three-vessel CAD with diabetes mellitus				
Three-vessel disease with low SYNTAX score 0 - 22	I	A		
Three-vessel disease with intermediate or high SYNTAX score >22[c]	I	A	III	A

J-CTO SCORE SHEET

Version 1.0

Variables and definitions

Tapered / Blunt

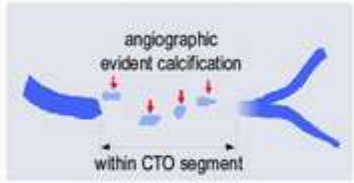


Entry with any tapered tip or dimple indicating direction of true lumen is categorized as "tapered".

Entry shape
- ☐ Tapered (0)
- ☐ Blunt (1)

point

Calcification

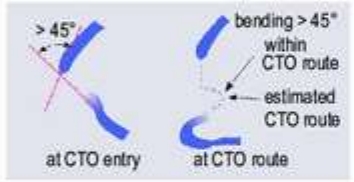


Regardless of severity, 1 point is assigned if any evident calcification is detected within the CTO segment.

Calcification
- ☐ Absence (0)
- ☐ Presence (1)

point

Bending > 45 degrees

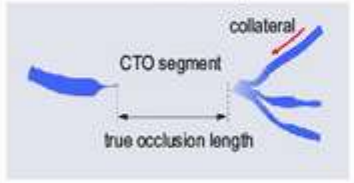


One point is assigned if bending > 45 degrees is detected within the CTO segment. Any tortuosity separated from the CTO segment is excluded from this assessment.

Bending > 45°
- ☐ Absence (0)
- ☐ Presence (1)

point

Occlusion length



Using good collateral images, try to measure "true" distance of occulusion, which tends to be shorter than the first impression.

Occl.Length
- ☐ < 20 mm (0)
- ☐ ≥ 20 mm (1)

point

Re-try lesion

Is this Re-try (2nd attempt) lesion> (previously attempted but failed)

Re-try lesion
- ☐ No (0)
- ☐ Yes (1)

point

Category of difficulty (total point)

- ☐ easy (0)
- ☐ Intermediate (1)
- ☐ difficult (2)
- ☐ very difficult (≥ 3)

Total **0** points

COMPLEX PCI Make It Simple!

CVRF

Who is right and which is better?!

Patient

Heart Team

PCI

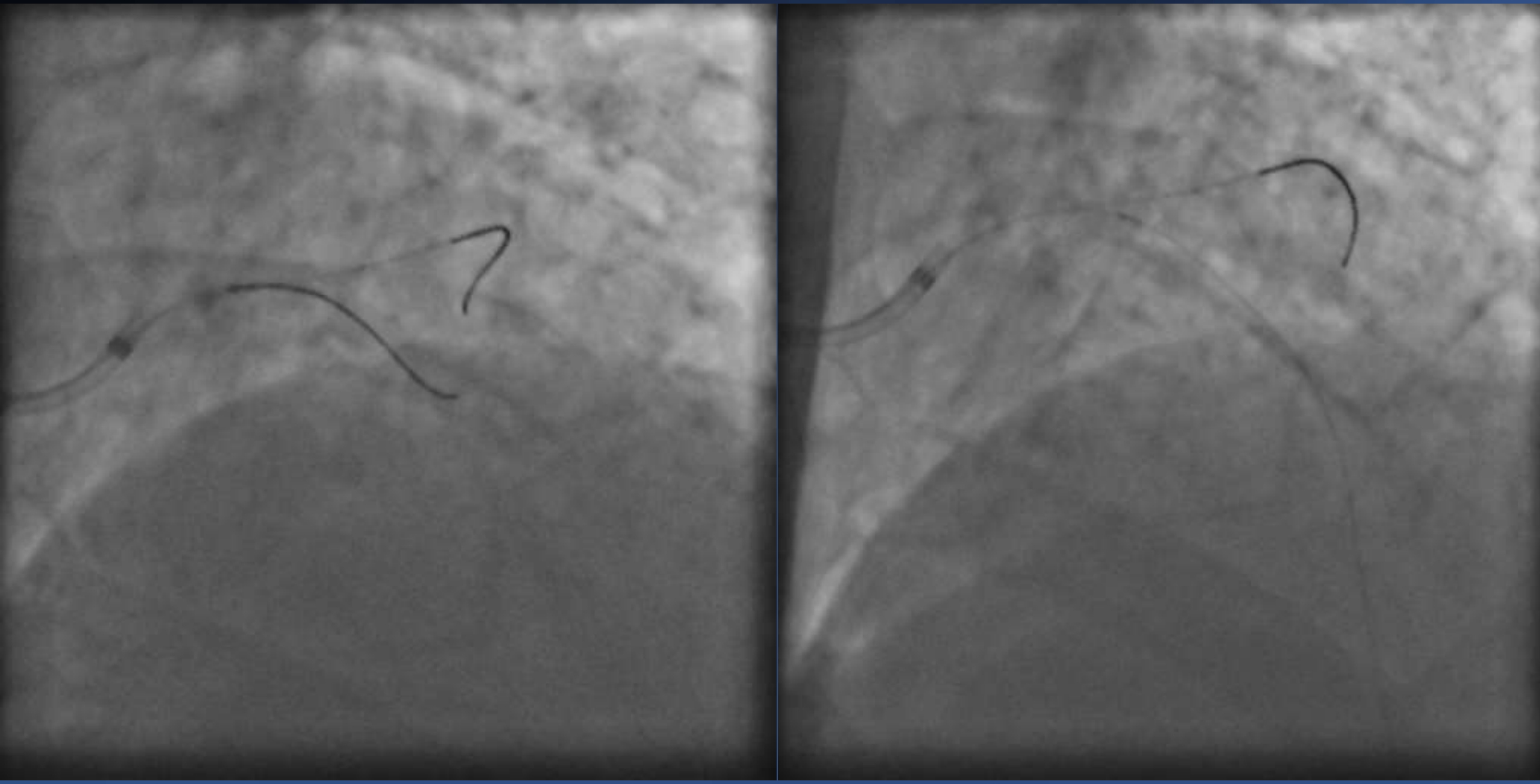
CABG

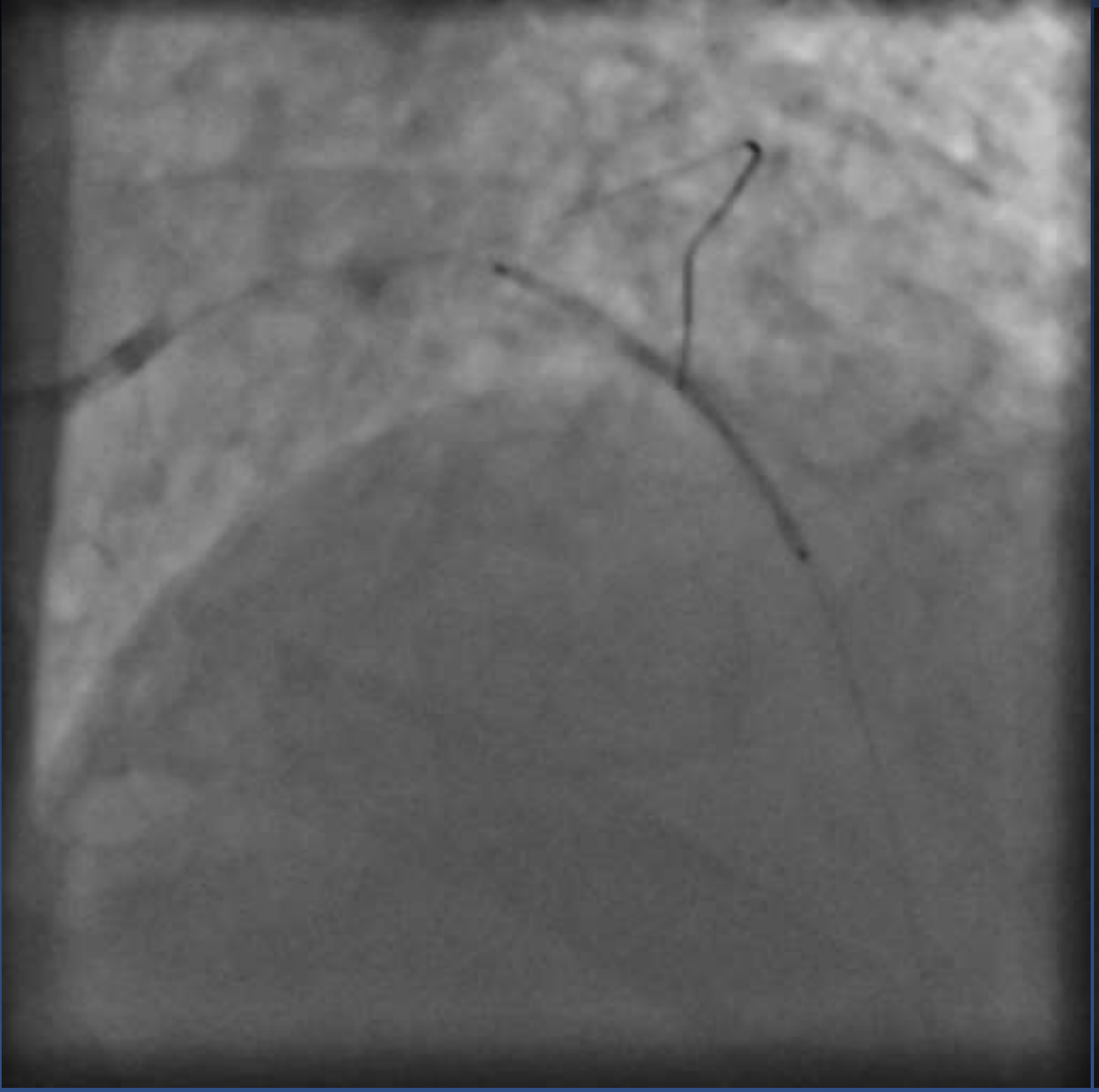
Discussion Points

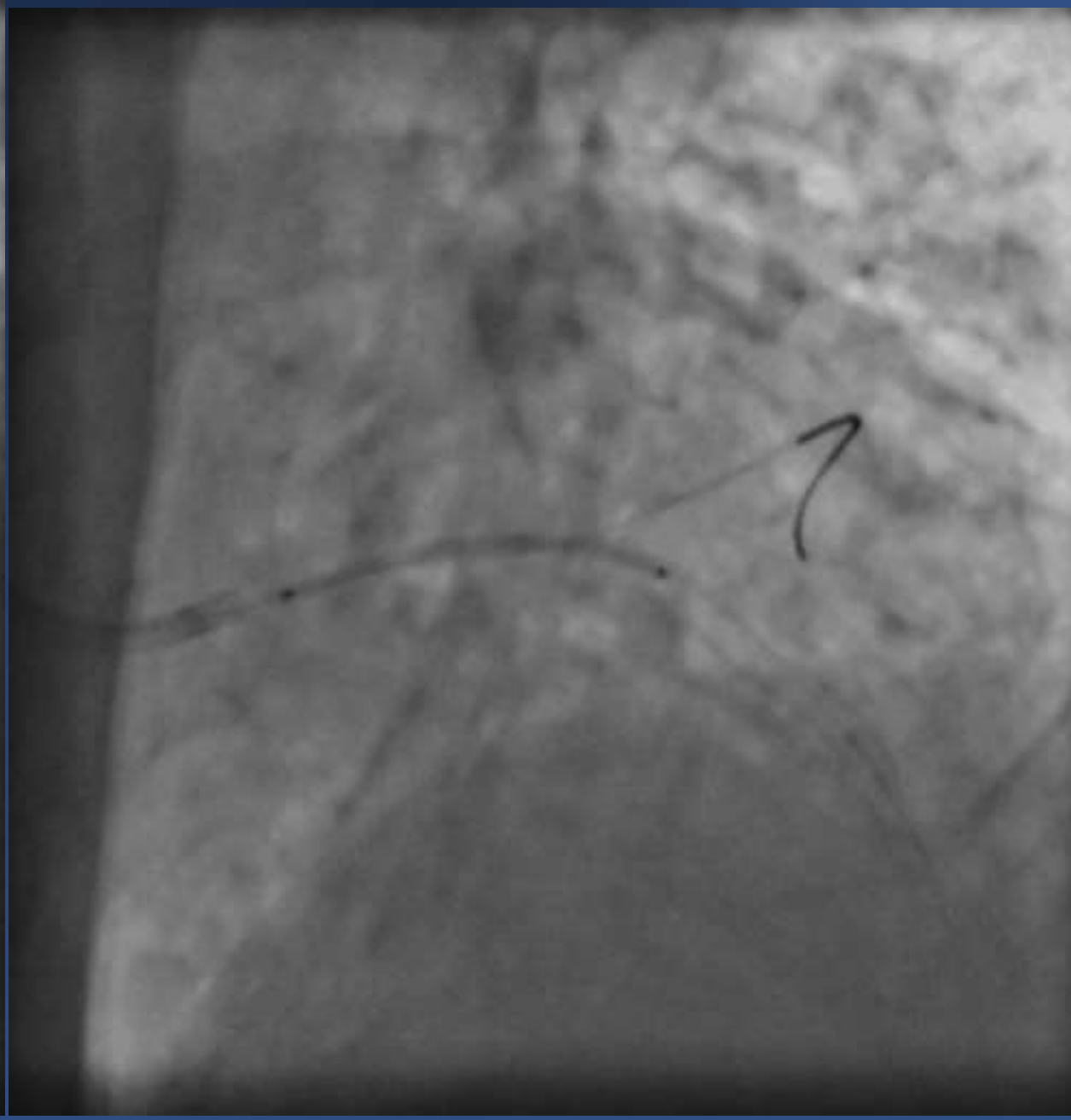
- CABG
- PCI only LM – LCX
- Recanalization LAD and PCI LM (provisional stent)

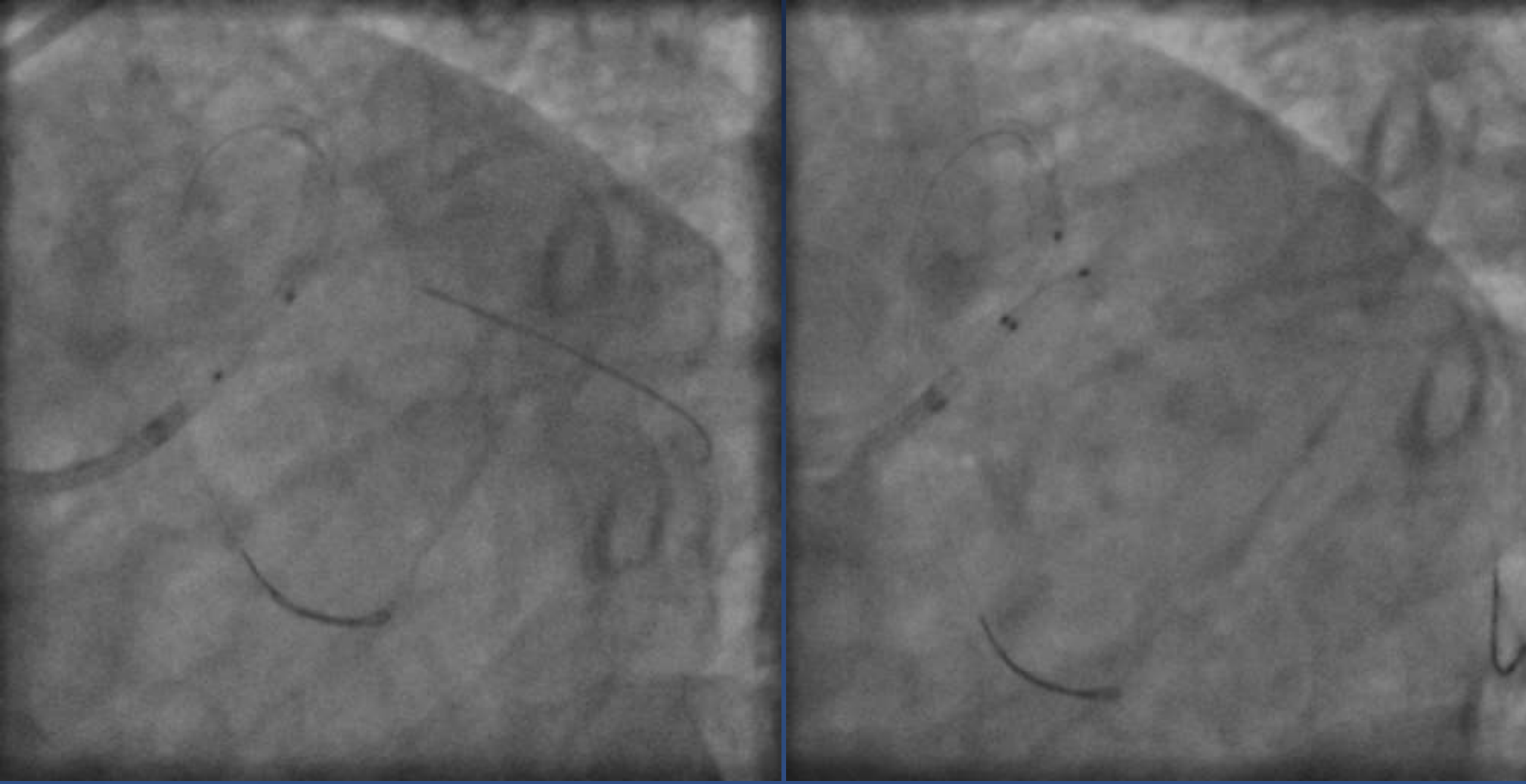
- We choice OCT guided PCI (radial access, EBU 3.5SH 6F, two wire, recanalisation LAD, predilatation LM and LAD, provisional stenting, with OCT control).

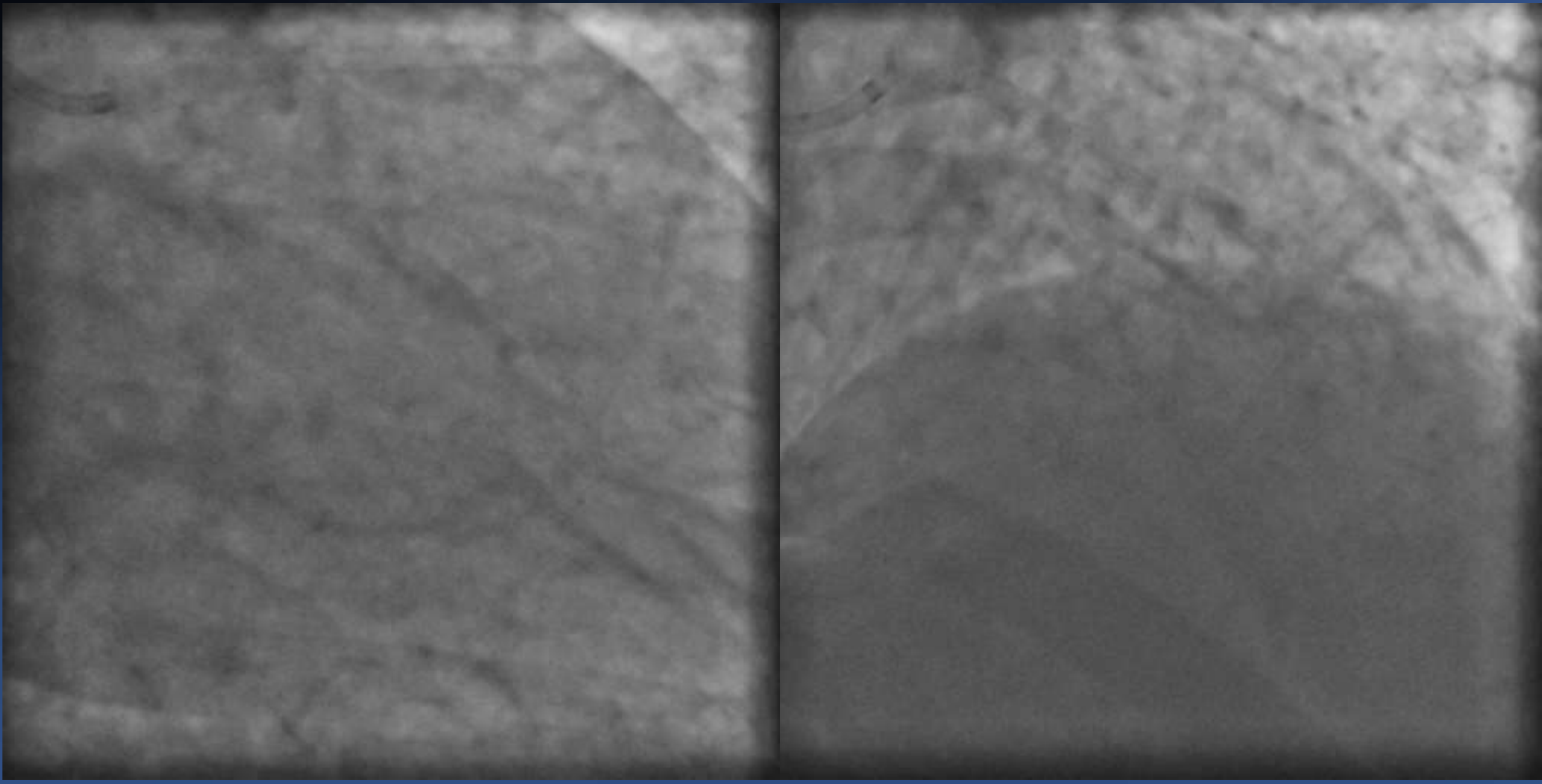
- We opened the LAD and installed 1 ZDES, the n performed a provisional stent LM and LAD 1ZDES with POT, did kissing and POT again, by OCT control of the LM, LAD and LCX.

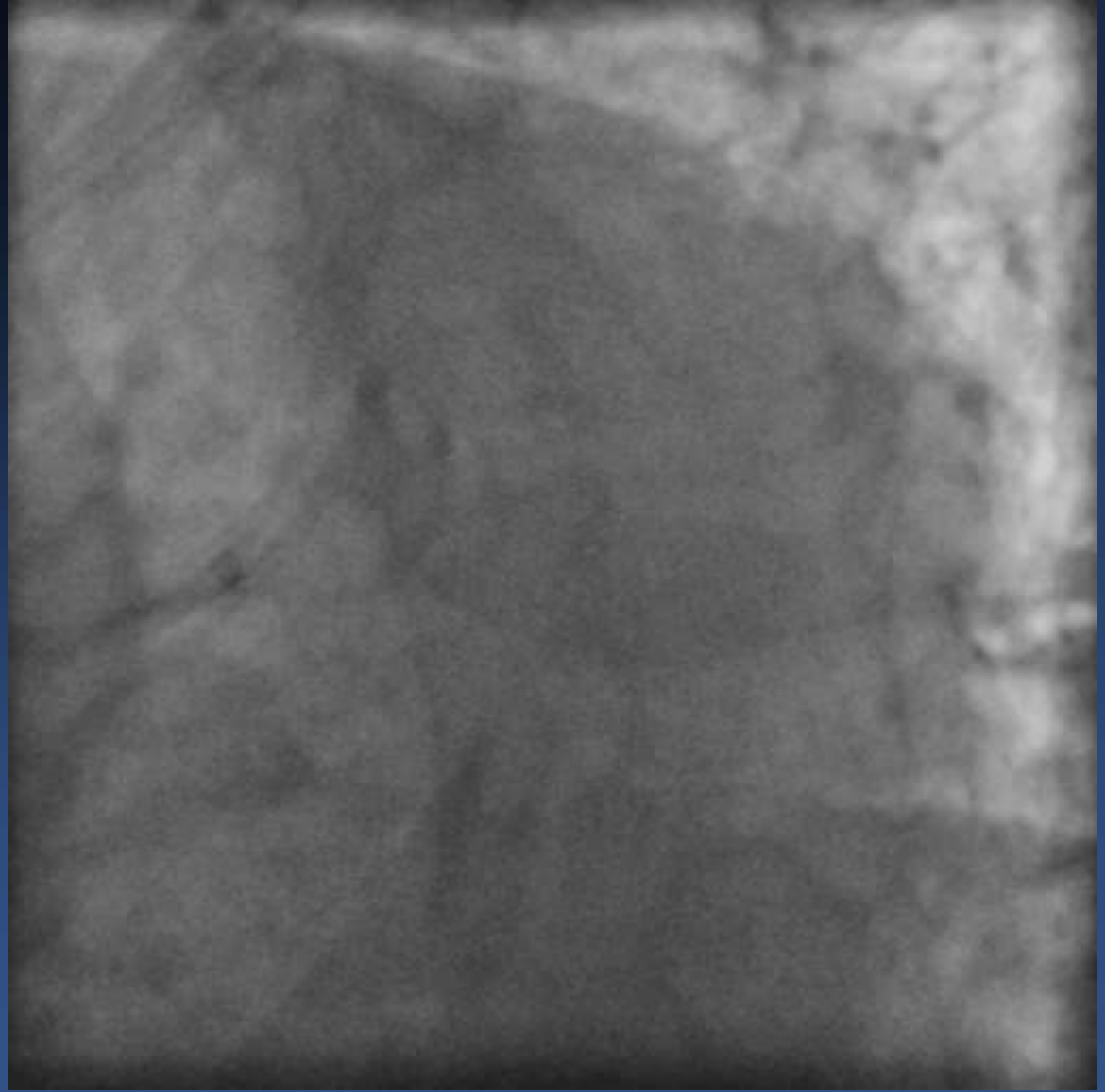




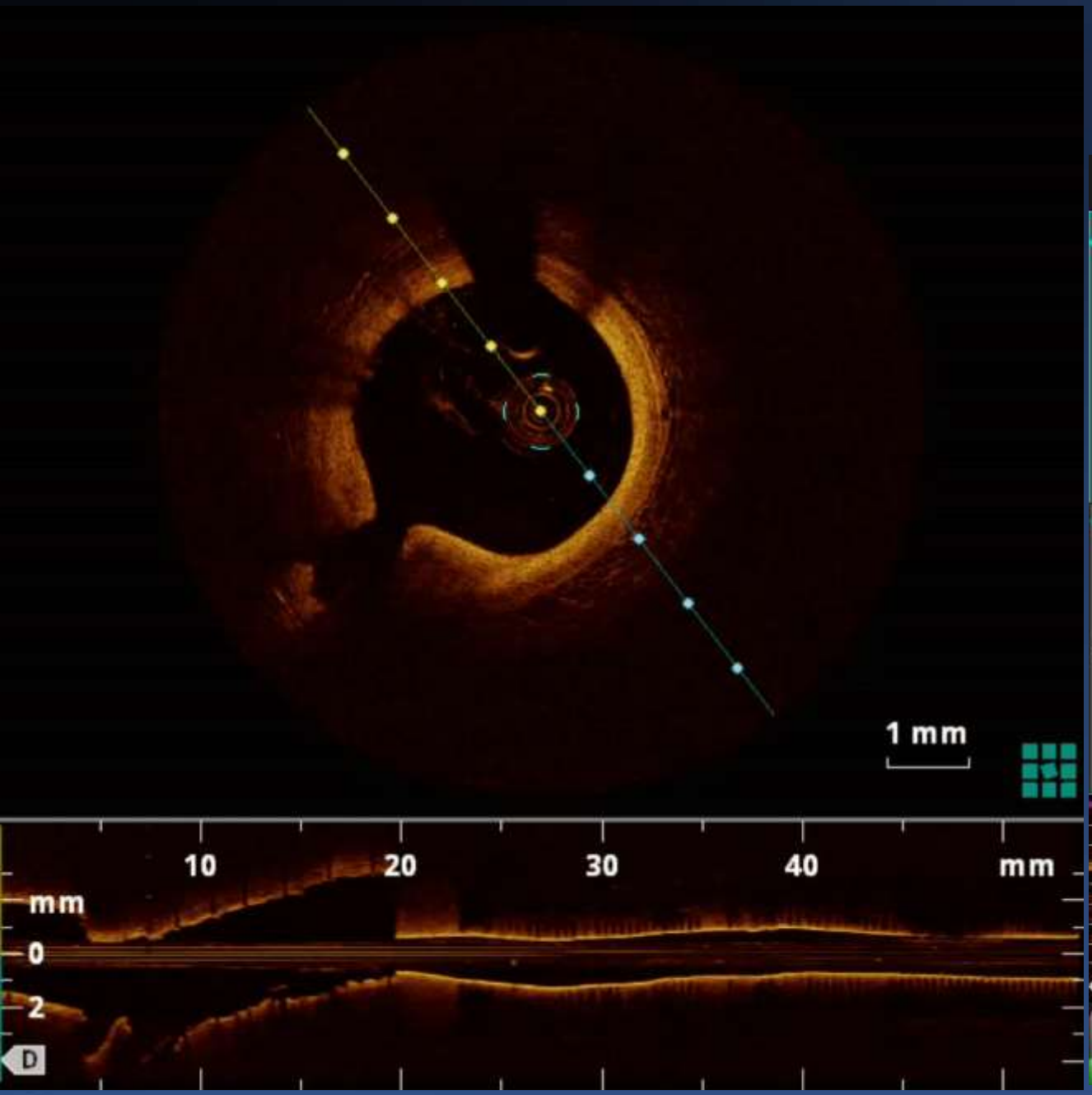


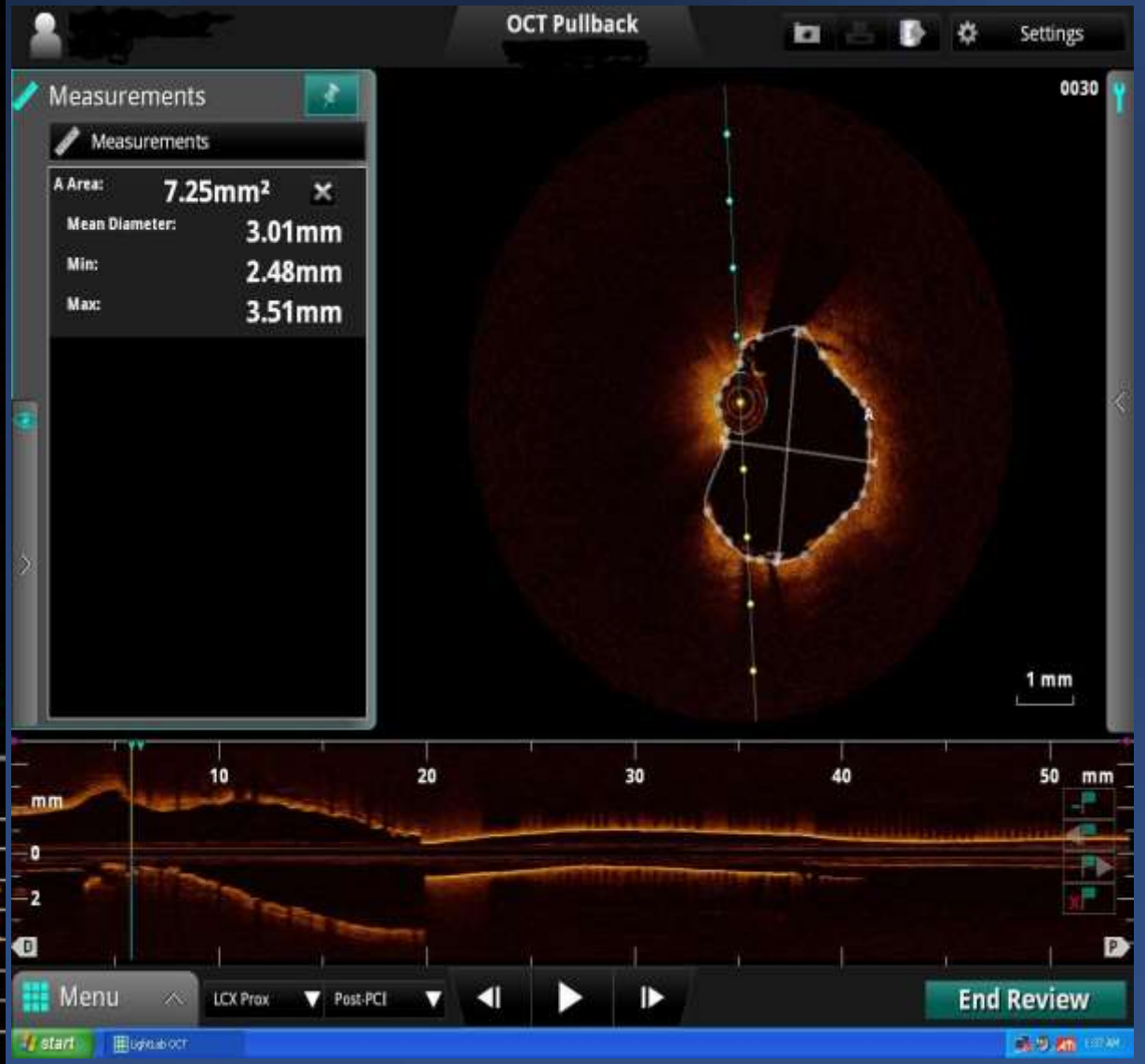




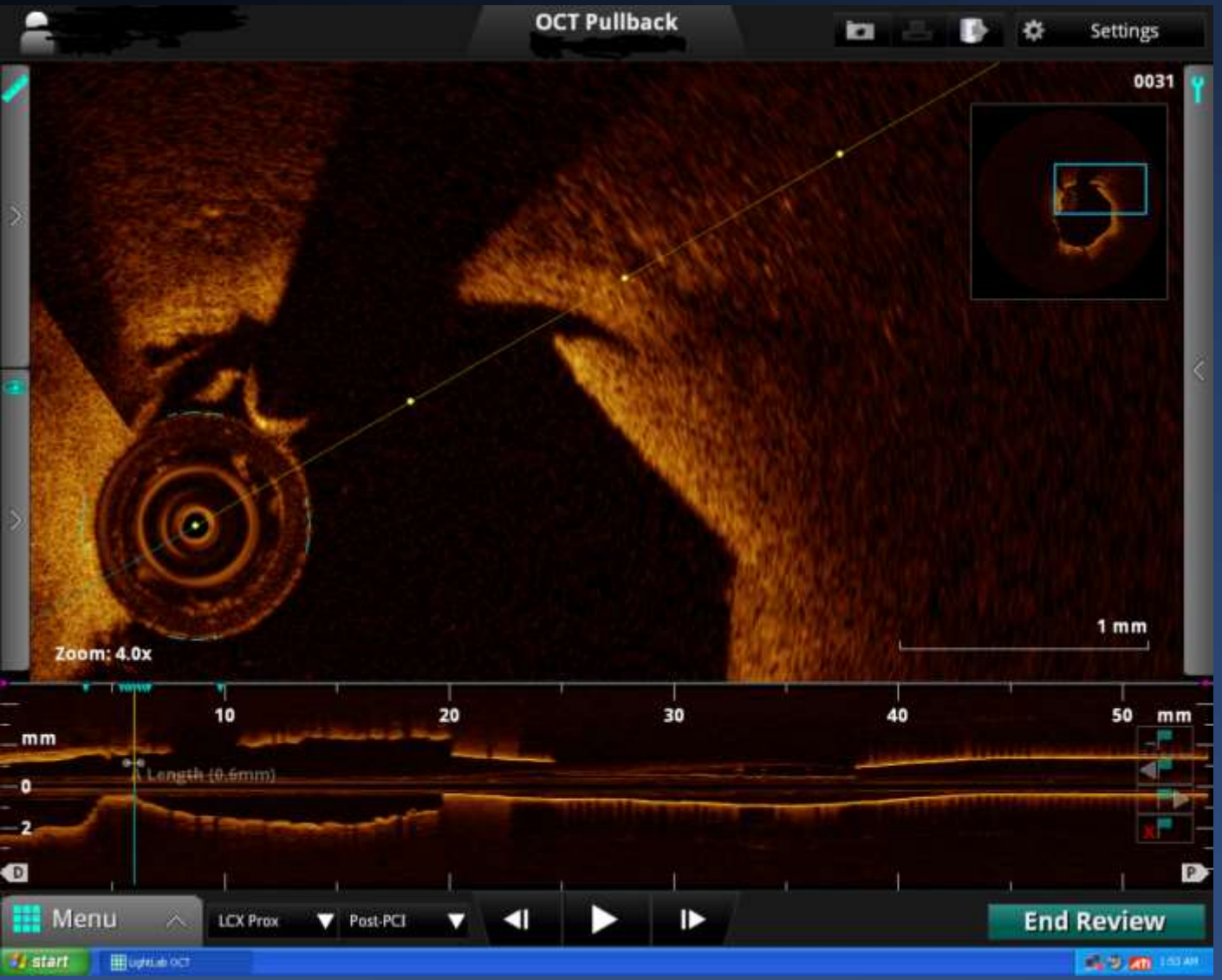


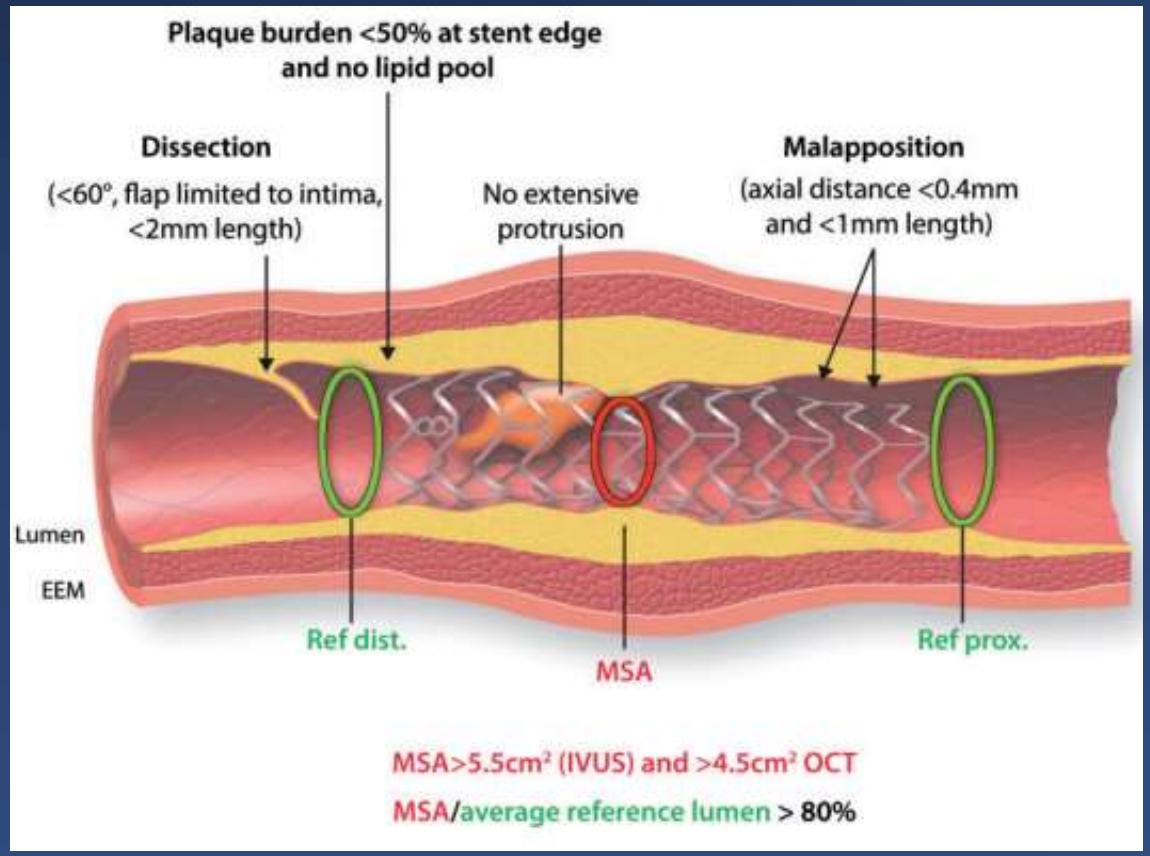
OCT LCX - LM


1 mm
10
20
30
40
mm
mm
0
2
D

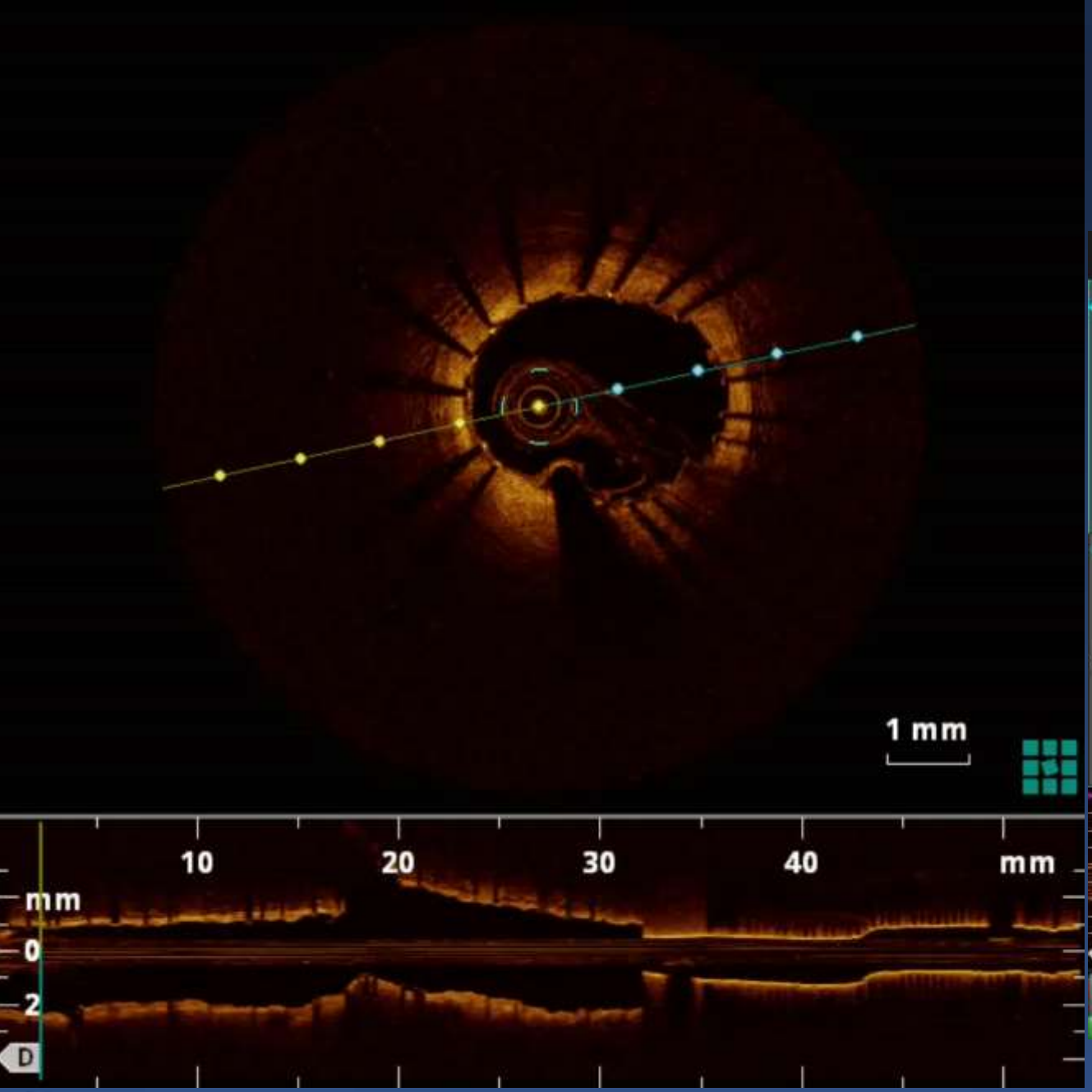

OCT Pullback
Settings
Measurements
Measurements
A Area: 7.25mm²
Mean Diameter: 3.01mm
Min: 2.48mm
Max: 3.51mm
0030
1 mm
10
20
30
40
50
mm
mm
0
2
D
P
Menu
LCX Prox
Post-PCI
End Review
start

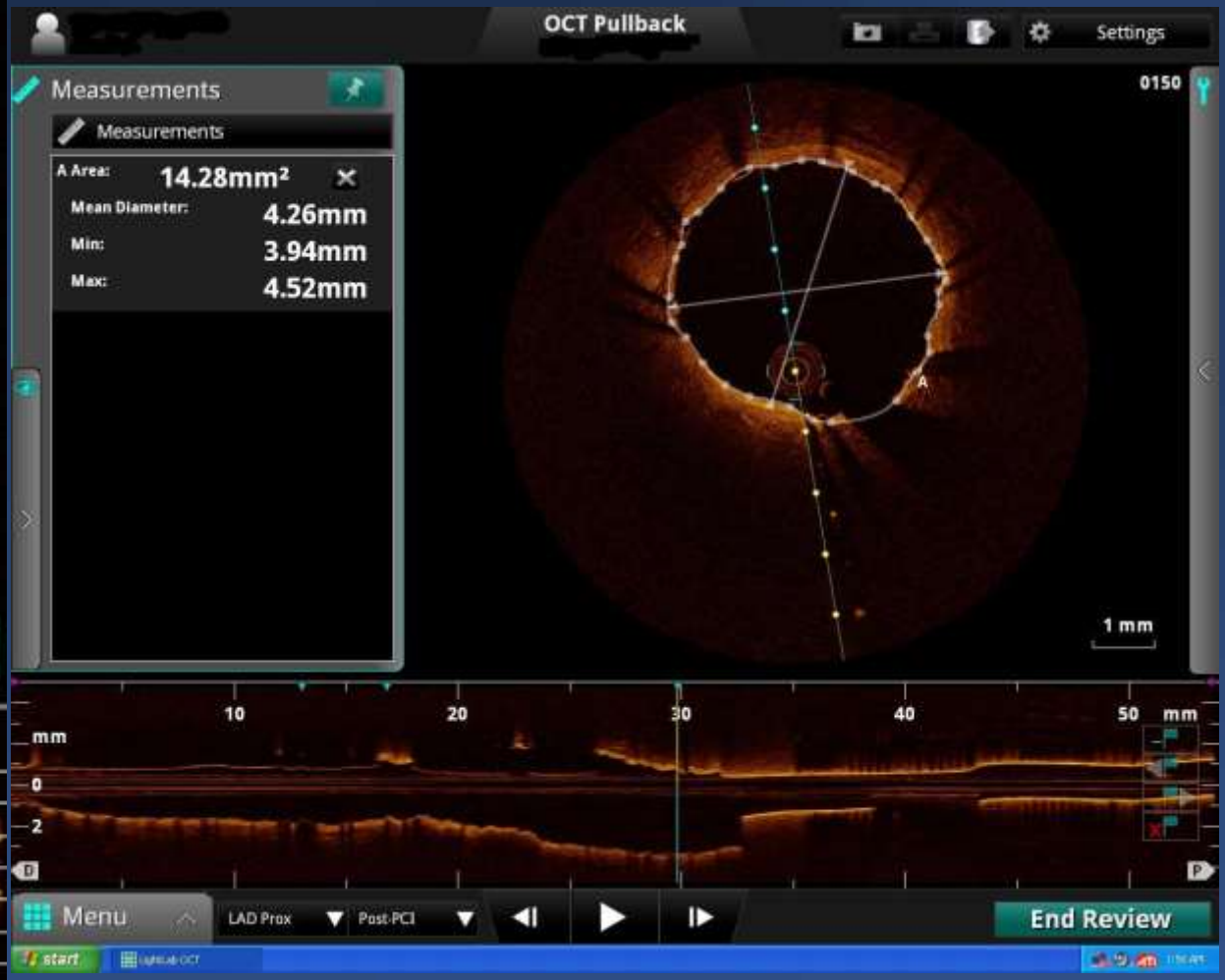
Ostium LCX


OCT Pullback
Settings
0031
1 mm
Zoom: 4.0x
10
20
30
40
50
mm
mm
0
2
Length (0.6mm)
Menu
LCX Prox
Post-PCI
End Review
start


Plaque burden <50% at stent edge
and no lipid pool
Dissection
(<60°, flap limited to intima,
<2mm length)
No extensive
protrusion
Malapposition
(axial distance <0.4mm
and <1mm length)
Lumen
EEM
Ref dist.
MSA
Ref prox.
MSA>5.5cm² (IVUS) and >4.5cm² OCT
MSA/average reference lumen > 80%

OCT LAD - LM


1 mm
10
20
30
40
mm
mm
0
2
D


OCT Pullback
Settings
Measurements
Measurements
A Area: 14.28mm²
Mean Diameter: 4.26mm
Min: 3.94mm
Max: 4.52mm
0150
1 mm
10
20
30
40
50
mm
mm
0
2
D
P
Menu
LAD Prox
Post-PCI
End Review

Conclusion/Take-home Message

- Using of OCT in high-risk patients for PCI allows to performing coronary interventions with high efficiency comparable to surgery.
- The decision on the method of revascularization should be taken by a heart team, taking into account the recommendations, calculating risks and individual patient characteristics.
- Need as a necessarily to use these modern methods of intravascular imaging to help us and our patients come to the best decision for them.