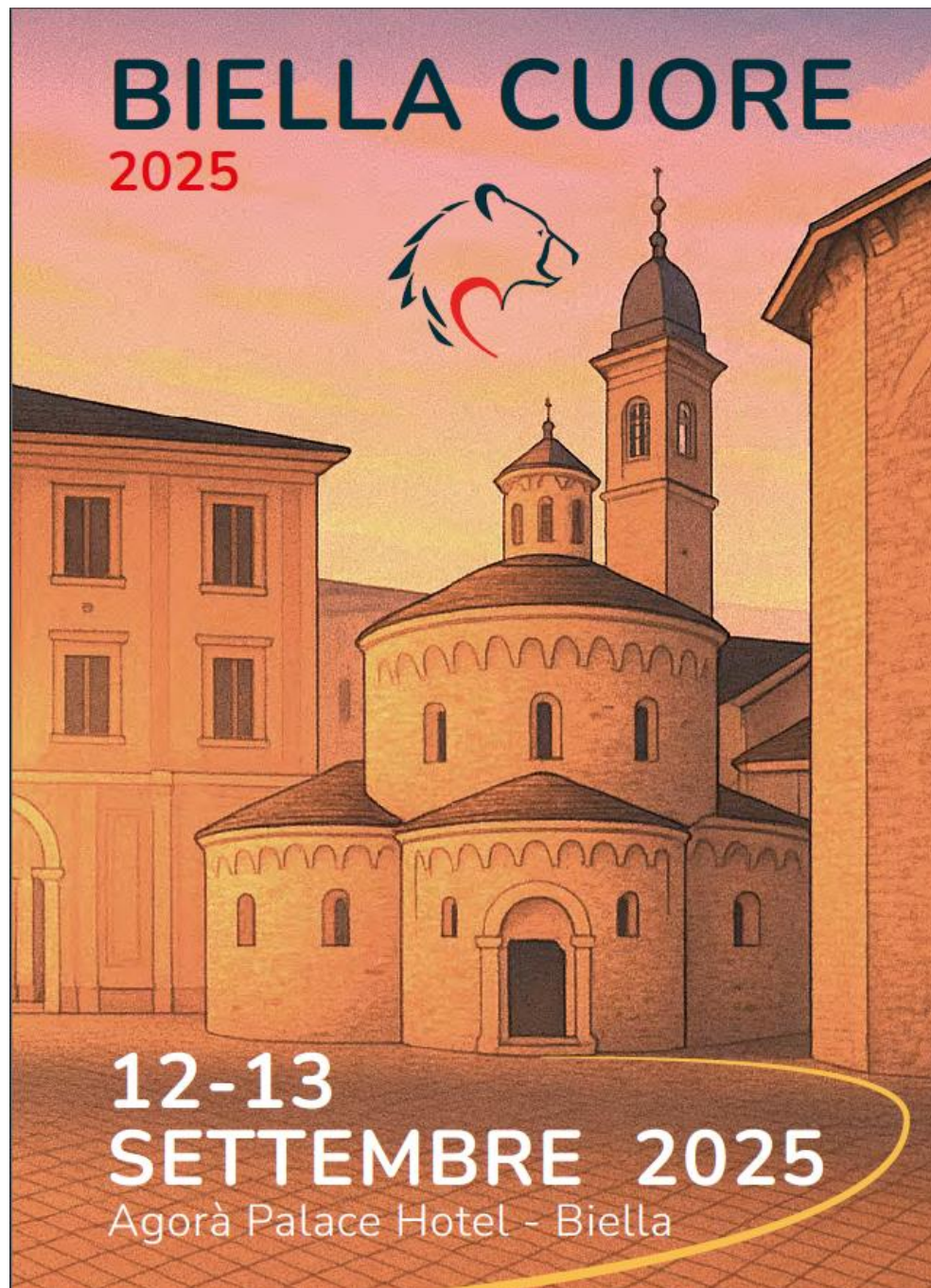




Angioplastica di biforcazioni: imaging sempre mandatorio?

Dr. Gianmarco Annibali

*A.O. Ordine Mauriziano
Torino*

BIELLA CUORE

12-13 SETTEMBRE 2025



Revascularization to improve outcomes

In CCS patients with LVEF $\leq 35\%$, it is recommended to choose between revascularization or medical therapy alone, after careful evaluation, preferably by the Heart Team, of coronary anatomy, correlation between coronary artery disease and LV dysfunction, comorbidities, life expectancy, individual risk-to-benefit ratio, and patient perspectives.

I

C

Assessment of procedural risks and post-procedural outcomes

Intracoronary imaging guidance by IVUS or OCT is recommended for performing PCI on anatomically complex lesions, in particular left main stem, true bifurcations and long lesions.

I

A

Intracoronary pressure measurement (FFR or iFR) or computation (QFR):

- is recommended to guide lesion selection for intervention in patients with multivessel disease;
- should be considered at the end of the procedure to identify patients at high risk of persistent angina and subsequent clinical events;
- may be considered at the end of the procedure to identify lesions potentially amenable to treatment with additional PCI.

I

A

IIa

B

IIb

B

Choice of revascularization modality

It is recommended that physicians select the most appropriate revascularization modality based on patient profile, coronary anatomy, procedural factors, LVEF, patient preferences and outcome expectations.

I

C

Mode of revascularization in patients with chronic coronary syndrome

Left main disease

In CCS patients at low surgical risk with significant left main coronary stenosis, CABG:

- is recommended over medical therapy alone to improve survival;
- is recommended as the overall preferred revascularization mode over PCI, given the lower risk of spontaneous myocardial infarction and repeat revascularization.

I

A

I

A

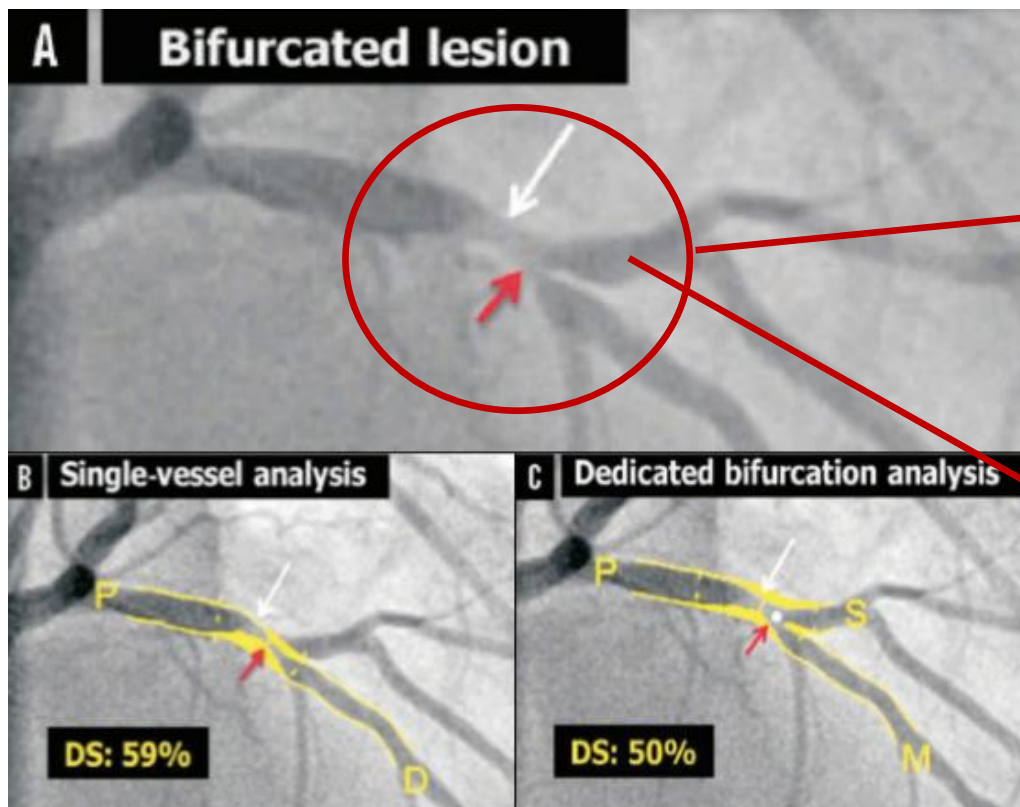
In CCS patients with significant left main coronary stenosis of low complexity (SYNTAX score ≤ 22), in whom PCI can provide equivalent completeness of revascularization to that of CABG, PCI is recommended as an alternative to CABG, given its lower invasiveness and non-inferior survival.

I

A



- PCI of bifurcation lesions: ~15% to 20% of cases
Associated with an unfavourable outcome
> 90% guided by angiography alone



Angiographic features of a bifurcation:

- Stenosis severity
- Plaque distribution
- SB involvement
- Bifurcation angle

Significant SB:

- Branch that you don't want to lose in a particular patient (symptoms, location of ischaemia, viability, LV function, etc.)

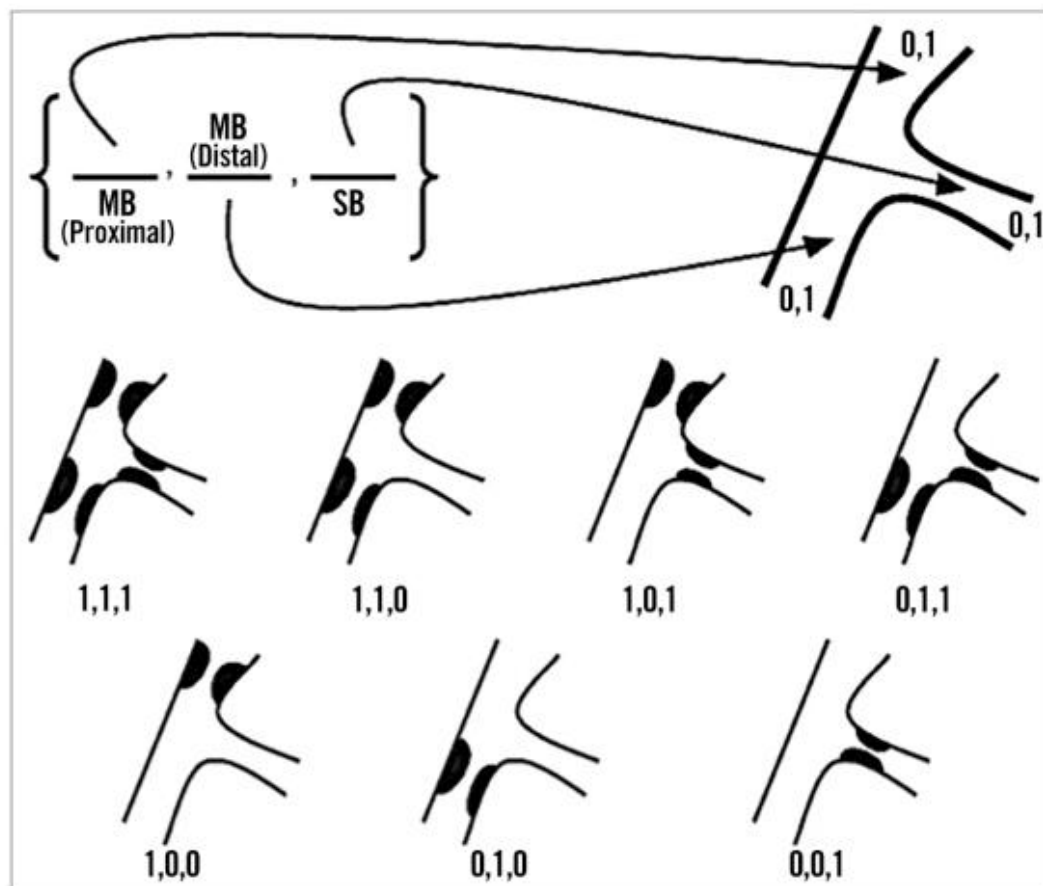
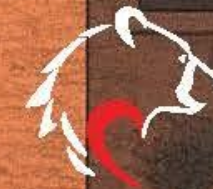
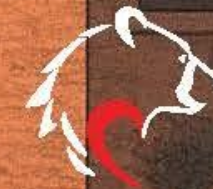


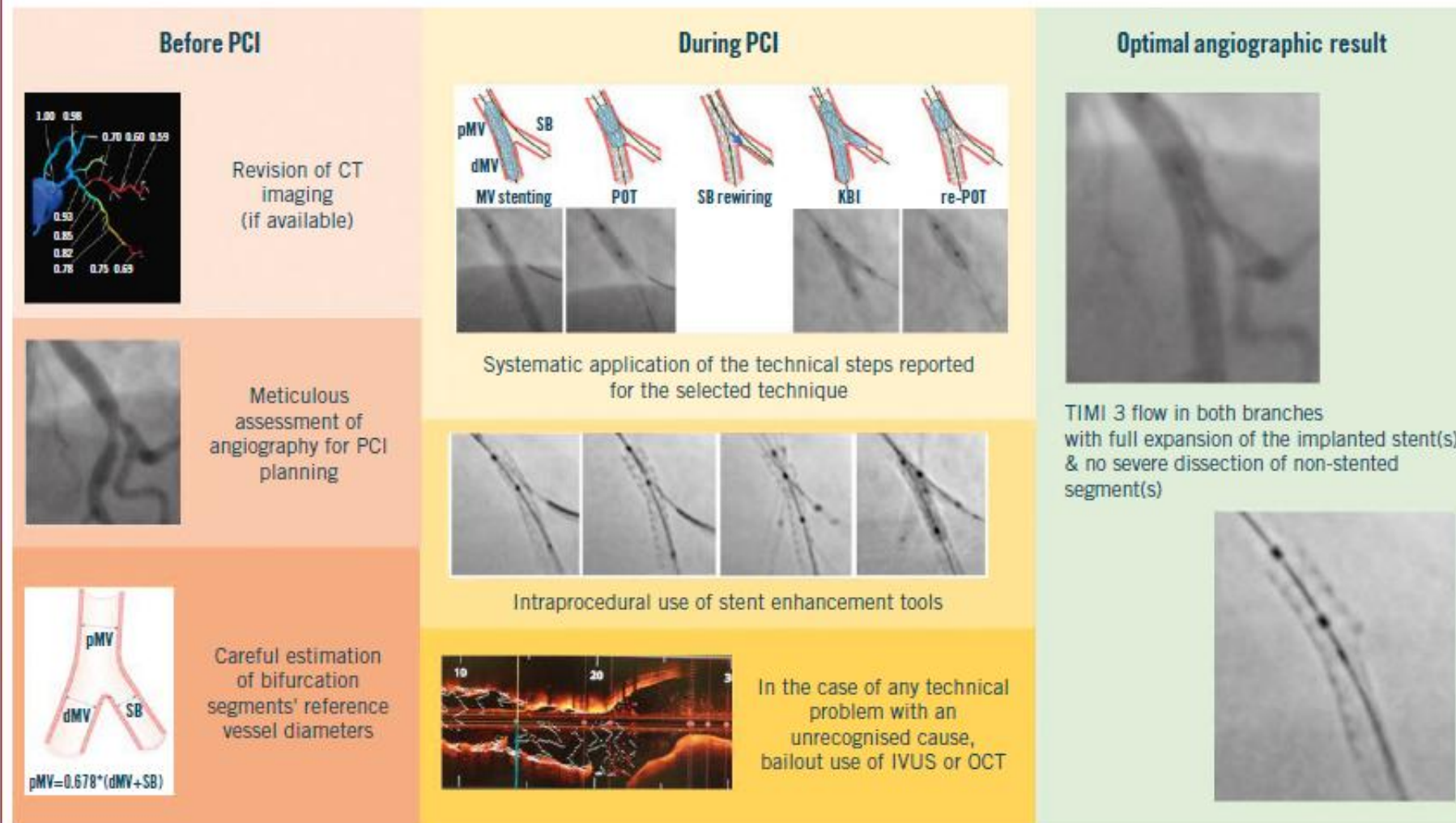
Figure 1. *Medina's classification.*



- Not always easy to define bifurcation anatomy by angiography
- No information on plaque composition
- Limited information on plaque distribution, carina anatomy, etc.



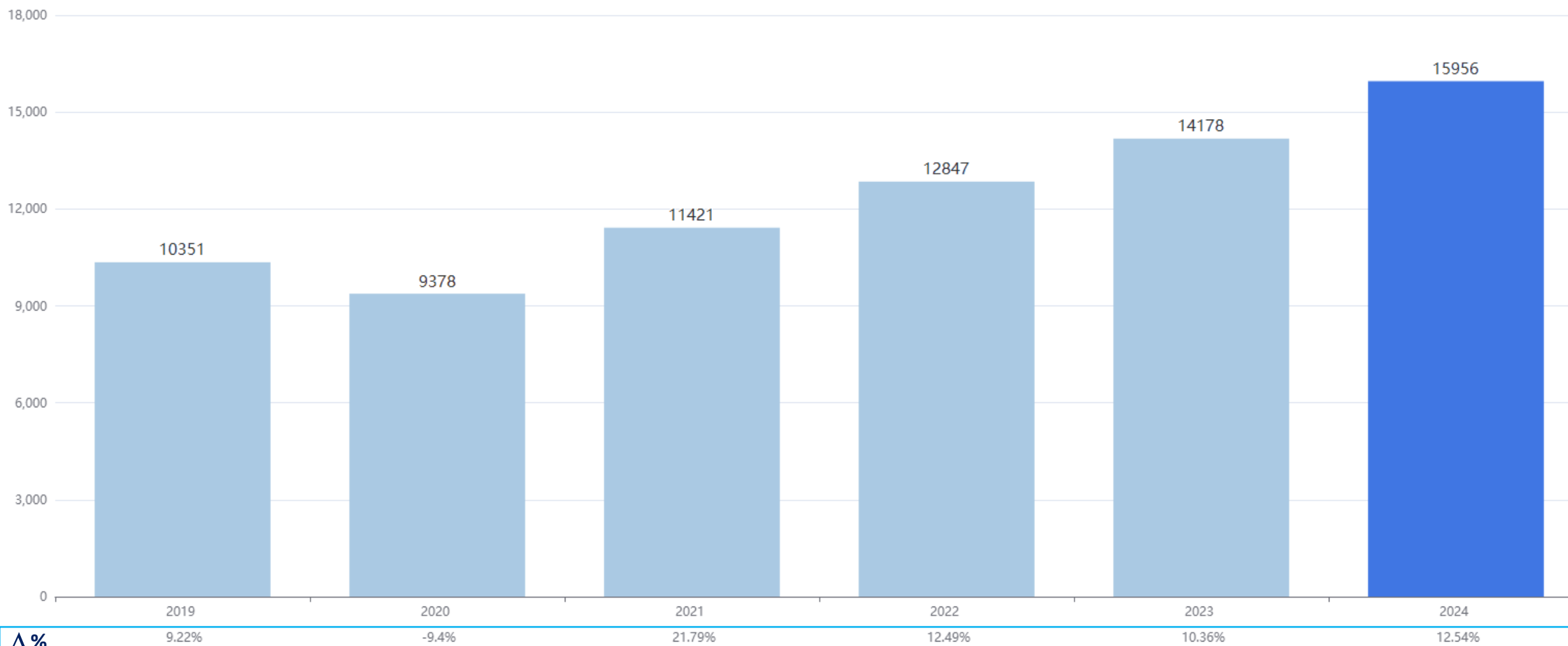
Key points for achieving an optimal angiography-guided PCI.



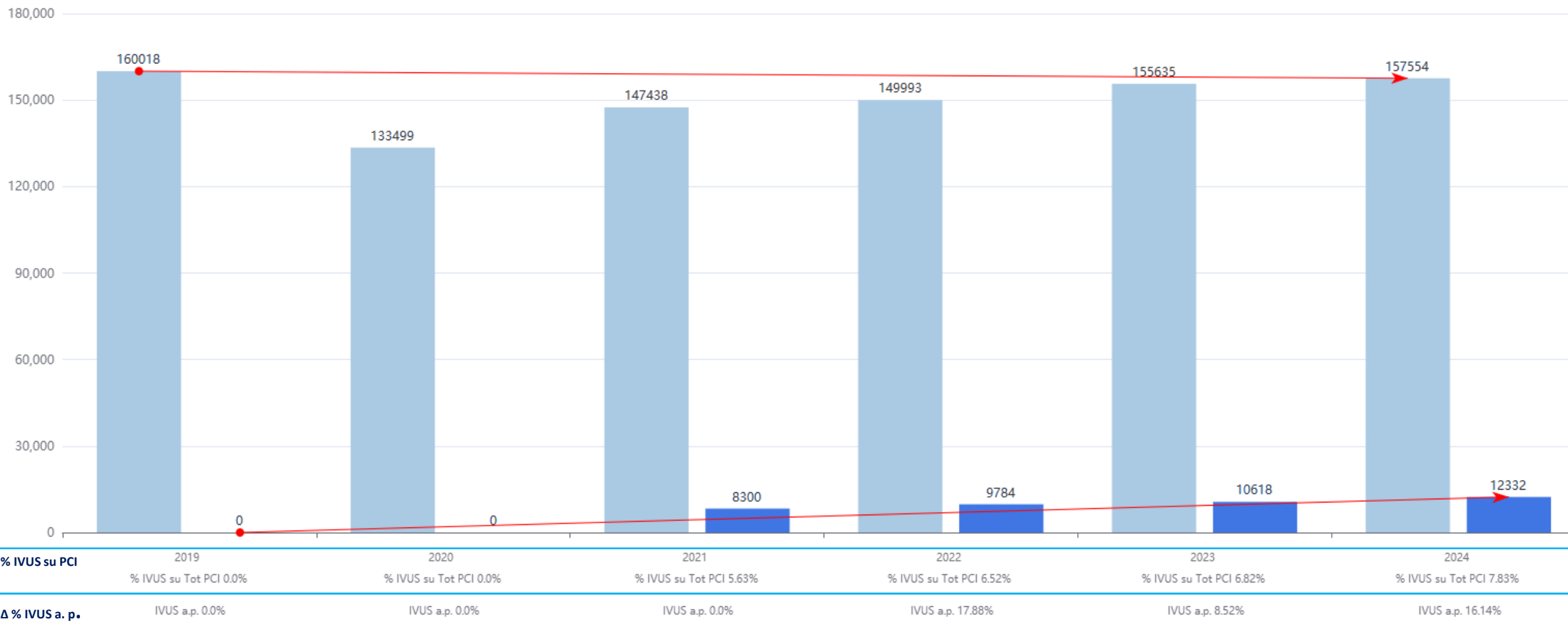
Procedure con IVUS, Procedure con OCT, PCI con IVUS, OCT Italia e Regioni 2024

Regione	Procedure con Ivus	Δ % Ivus anno precedente	Procedure con Oct	Δ % Oct anno precedente	PCI	PCI IVUS guidate	PCI OCT guidate
ABRUZZO	340	-36,69%	34	-39,29%	3.034	288	28
ALTO ADIGE	6	0,10%	0	-	876	6	0
BASILICATA	35	0,40%	21	-8,7%	1.418	17	17
CALABRIA	198	2,59%	13	333,33%	4.450	130	11
CAMPANIA	976	38,83%	555	68,18%	15.740	708	404
EMILIA ROMAGNA	1.106	1,1%	158	53,4%	12.119	640	129
FRIULI VENEZIA GIULIA	195	39,29%	60	15,38%	2.325	151	52
LAZIO	1.394	33,14%	453	25,14%	15.909	1.090	359
LIGURIA	487	22,36%	193	9,66%	4.744	452	165
LOMBARDIA	3.736	13,66%	556	15,59%	29.864	3.040	390
MARCHE	635	28,28%	44	109,52%	3.204	419	27
MOLISE	76	65,22%	7	-22,22%	1.276	52	4
PIEMONTE	2.339	-1,06%	459	11,41%	15.558	1.913	324
PUGLIA	666	12,88%	395	38,11%	10.186	548	327
SARDEGNA	289	73,05%	277	116,41%	2.915	219	195
SICILIA	1.105	6,15%	216	-5,26%	12.818	893	165
TOSCANA	1.049	16,95%	366	12,62%	8.525	743	248
TRENTINO	98	28,95%	16	77,78%	1.237	37	1
UMBRIA	114	-8,8%	20	11,11%	1.441	98	8
VALLE D'AOSTA	64	8,47%	10	66,67%	623	63	8
VENETO	1.048	17,62%	154	-4,94%	9.292	825	101
TOTALI ITALIA	15.956	12,54%	4.007	25,61%	157.554	12.332	2.963

Procedure con IVUS Serie storica Italia

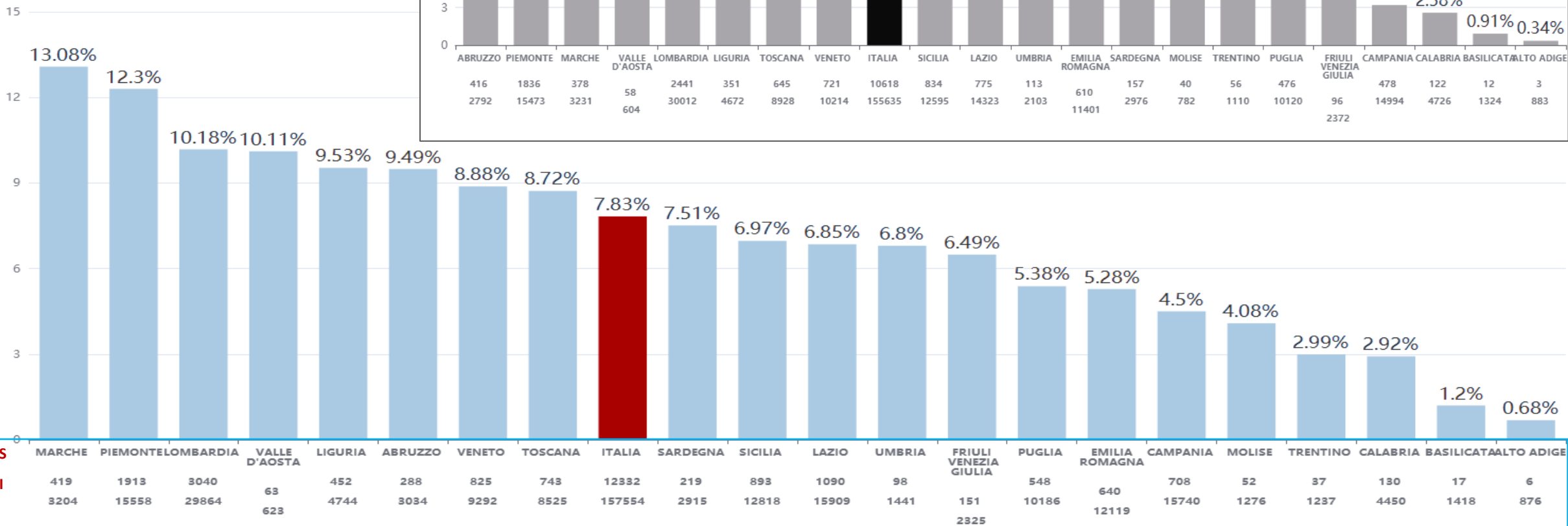


PCI IVUS-Guidate Serie storica Italia

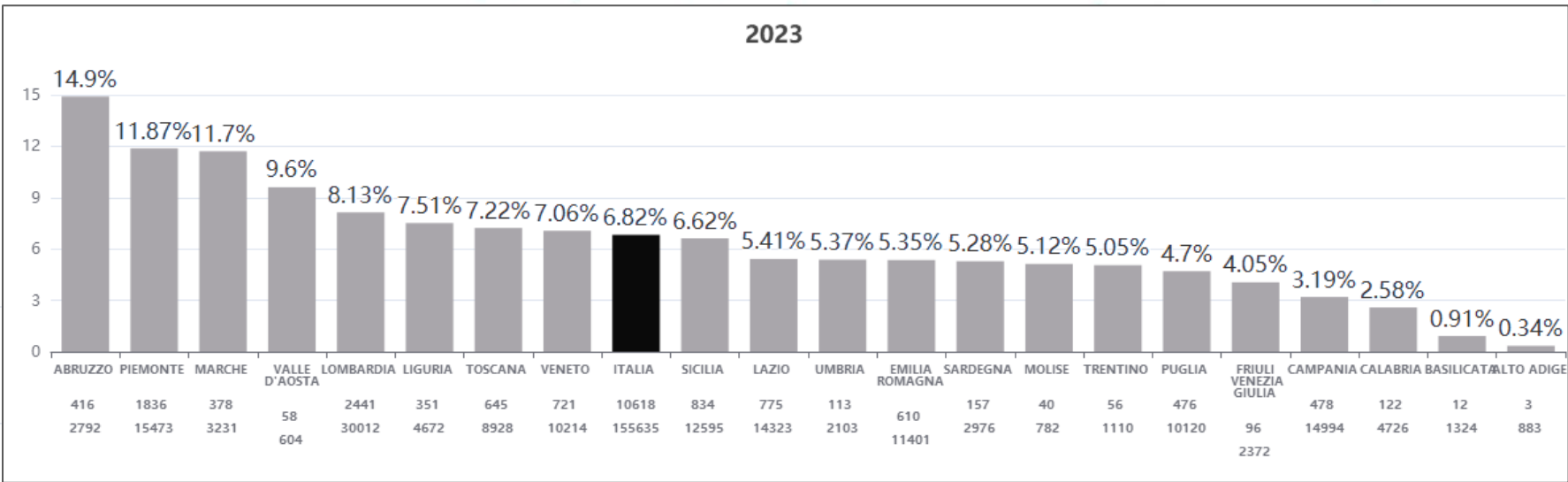


% PCI IVUS-GUIDATE Italia e Regioni 2024

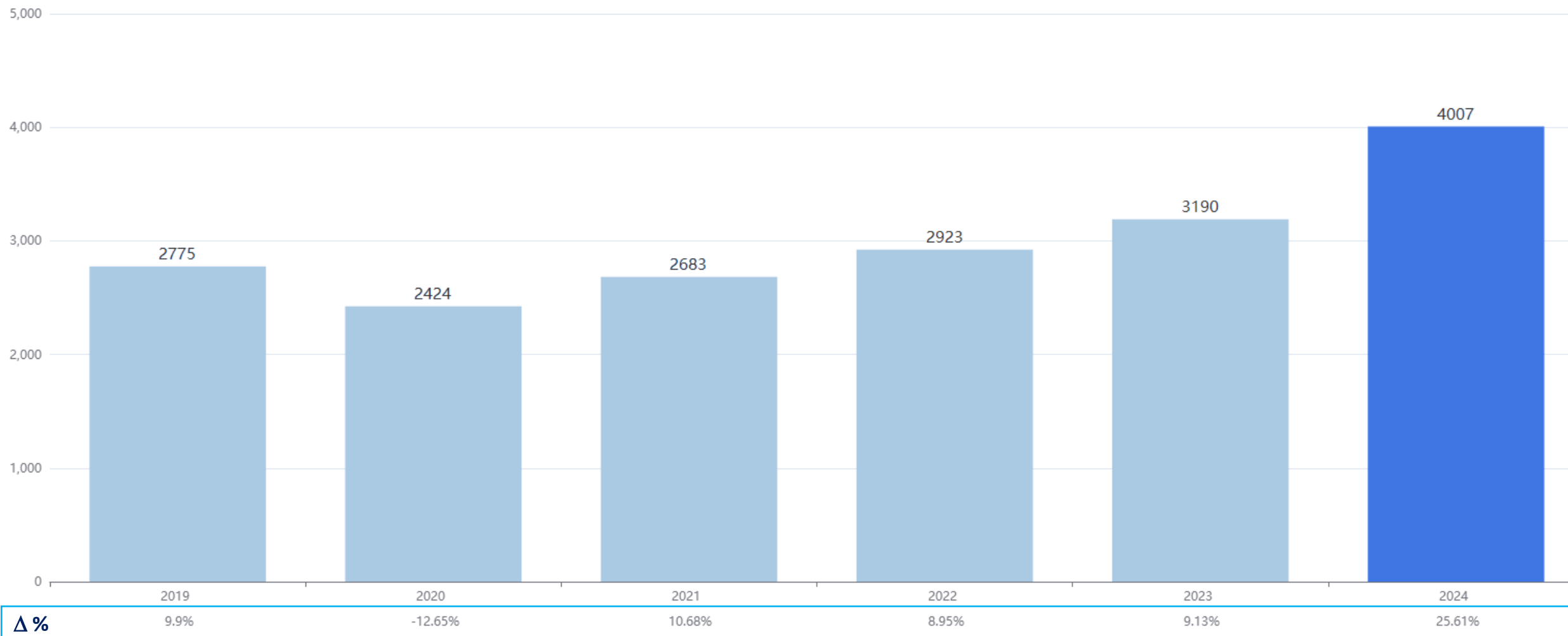
2024



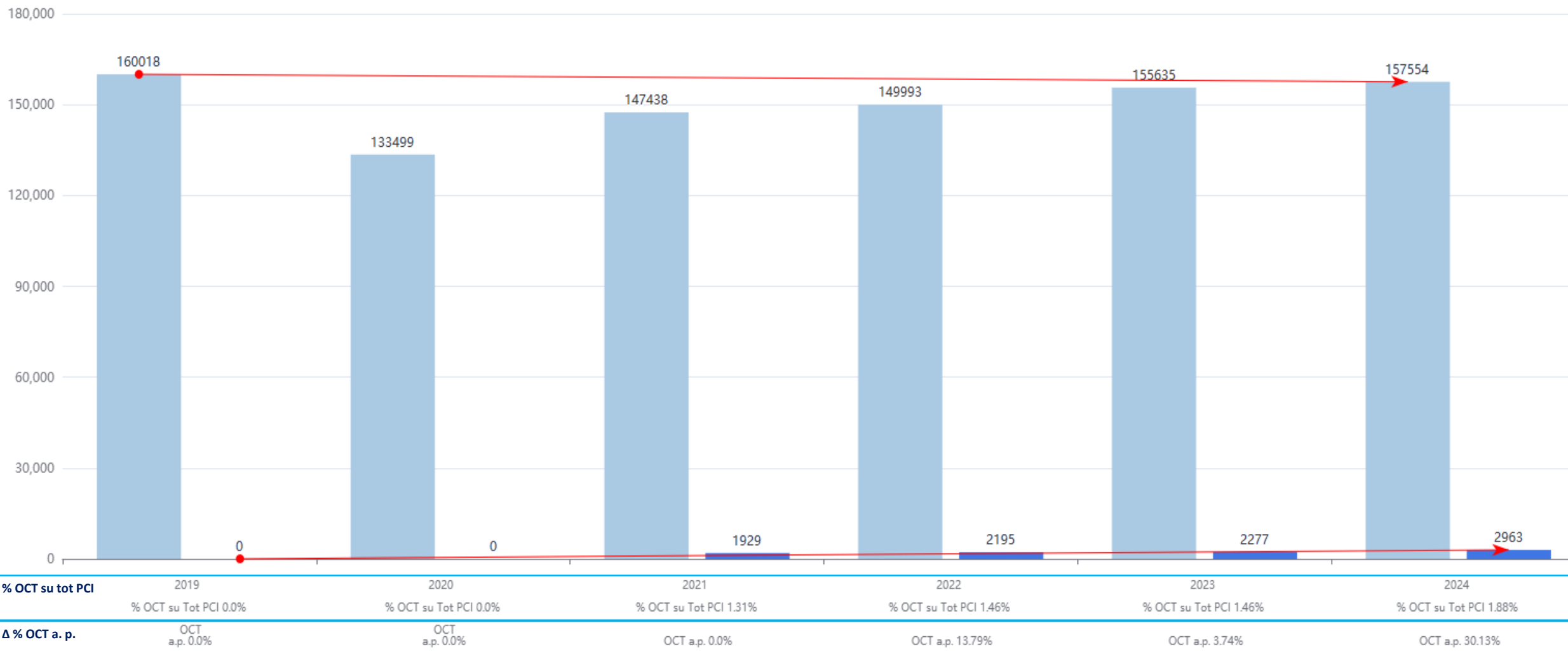
2023



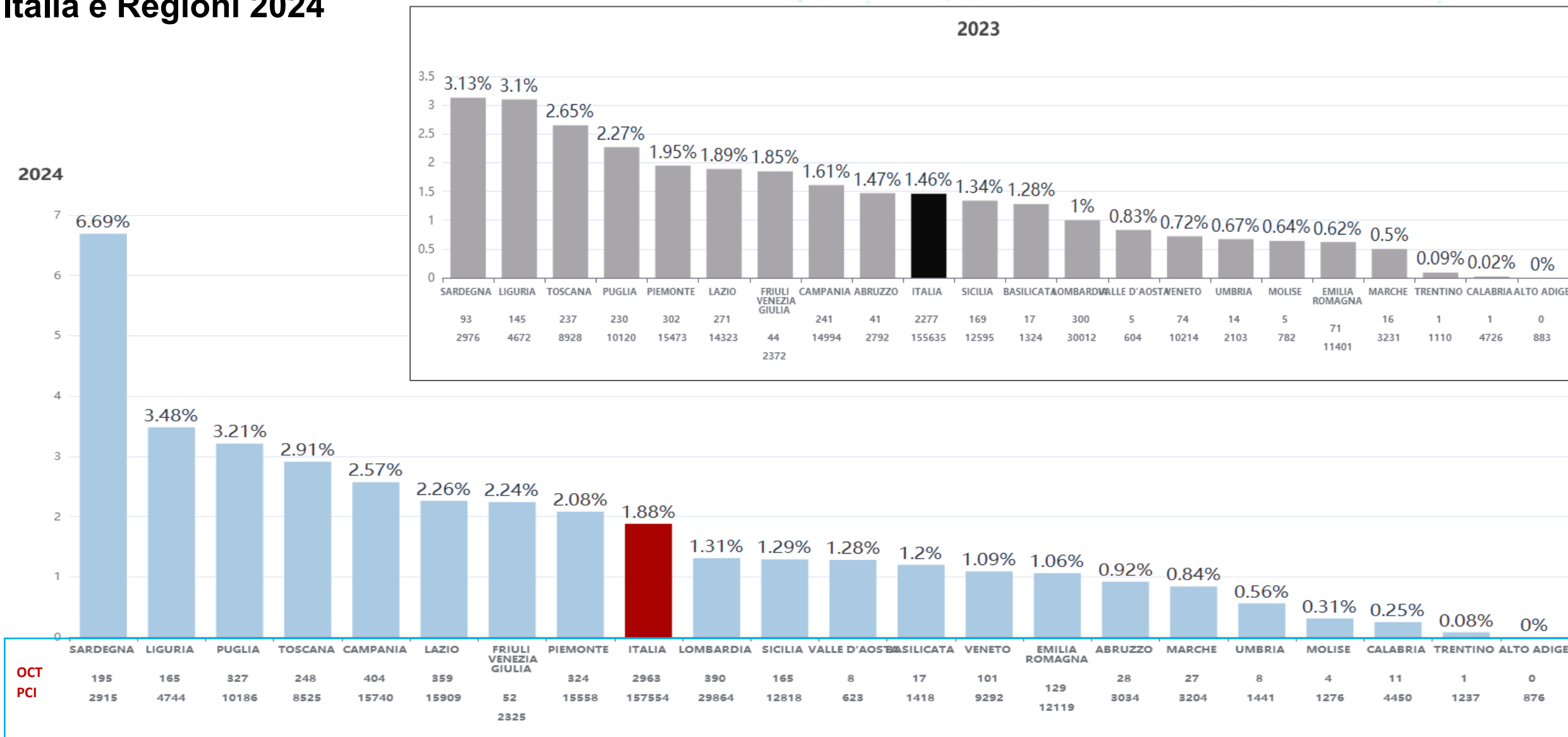
Procedure con OCT Serie storica Italia



Procedure OCT-guidate Serie storica Italia

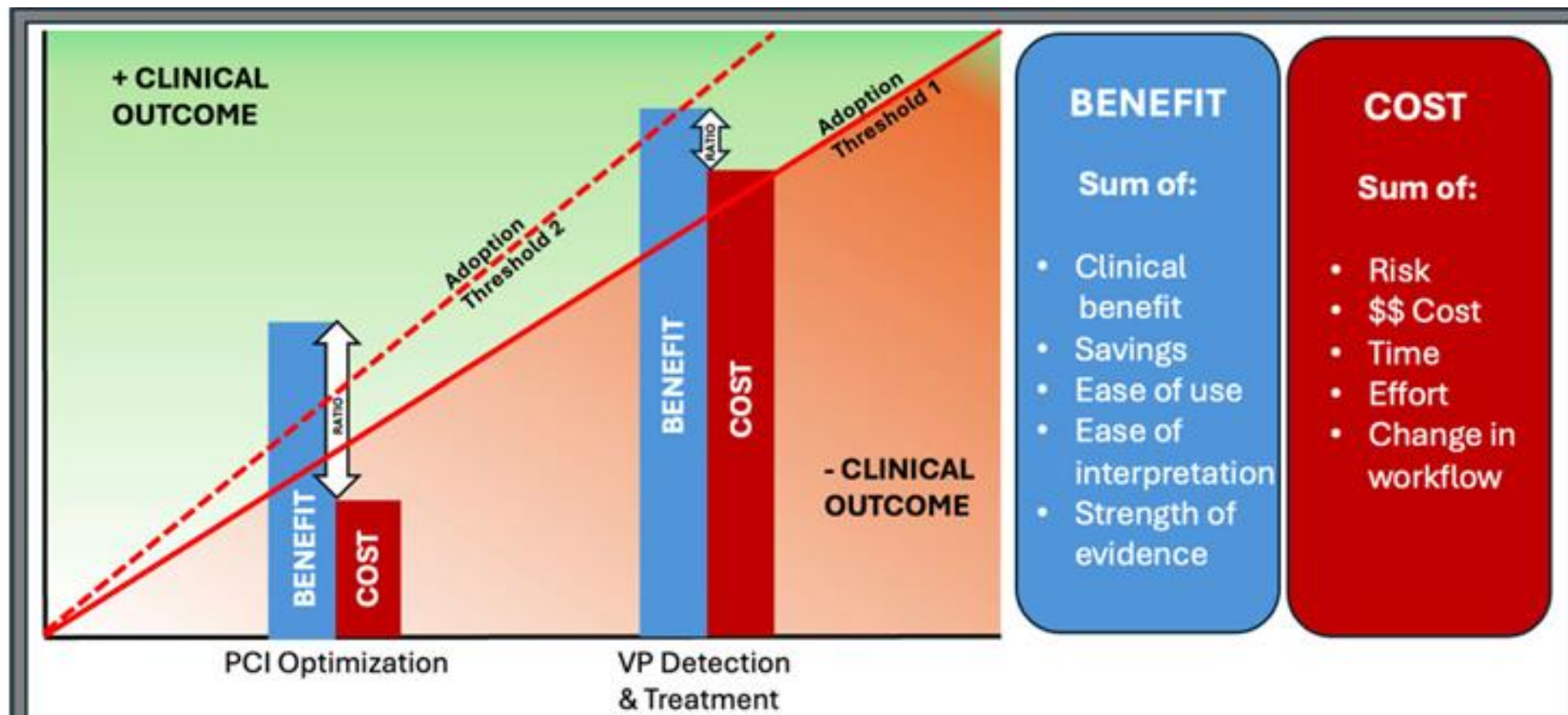


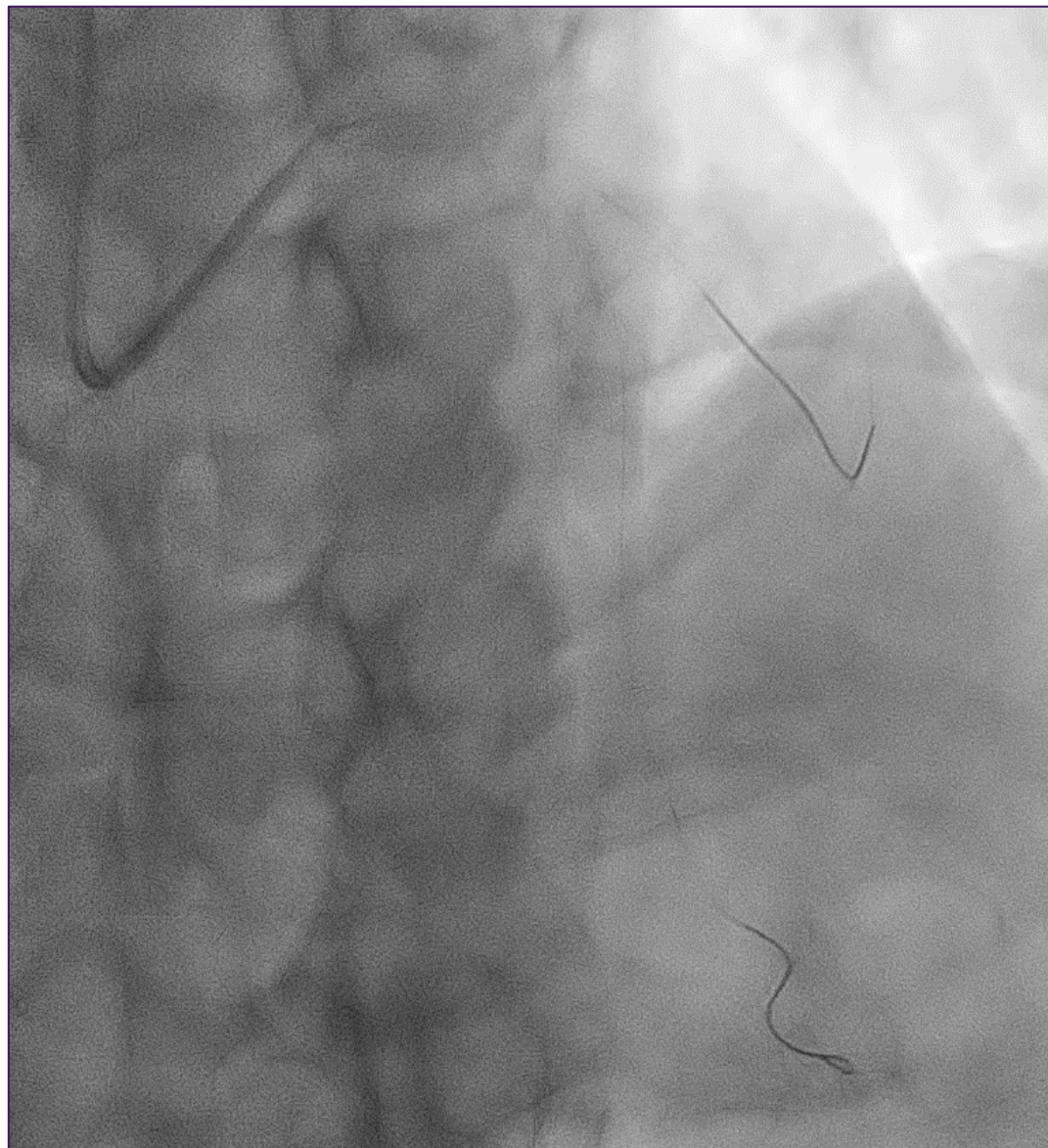
% Procedure con OCT su PCI Italia e Regioni 2024



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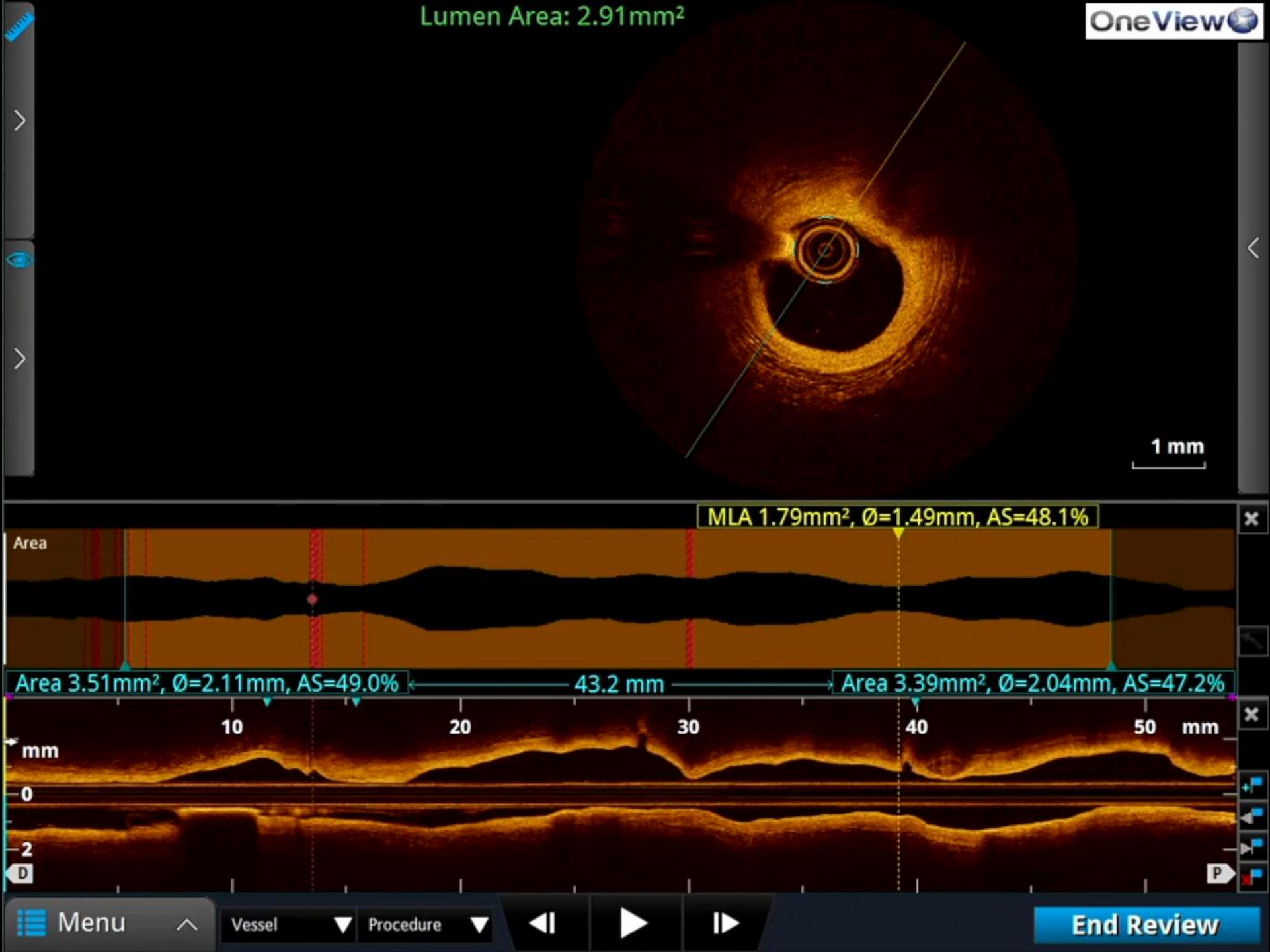
76 yo male with SAP (CCS III)



- ❖ LAD-D1 bifurcation
- ❖ True bifurcation
- ❖ Narrow bifurcation angle (45°)
- ❖ Large suboccluded side branch
- ❖ Long disease

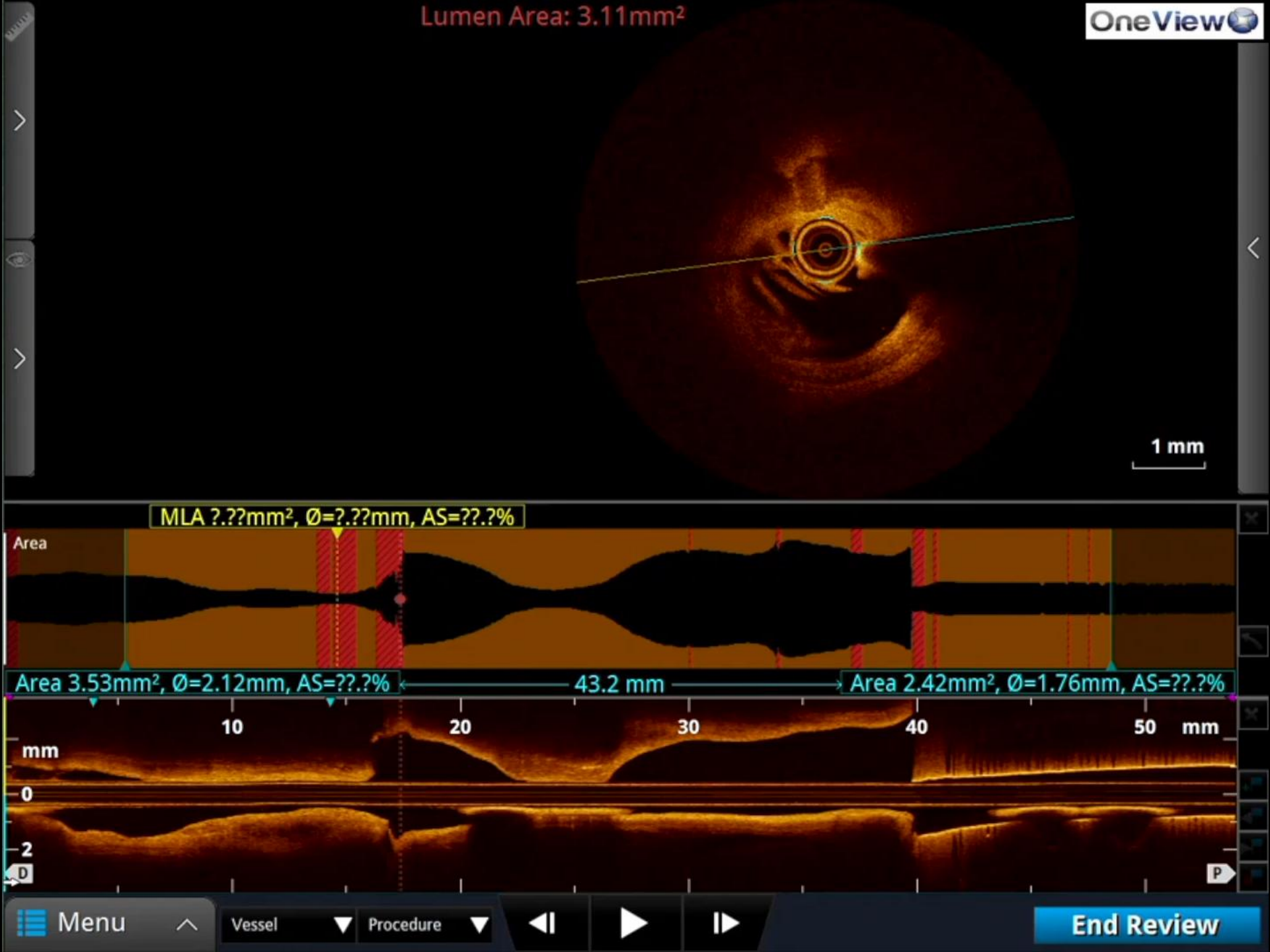
LAD

Pre-
PCI



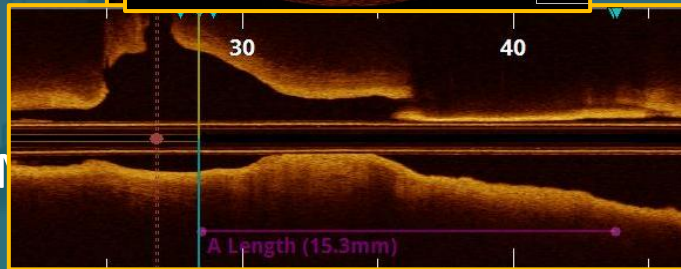
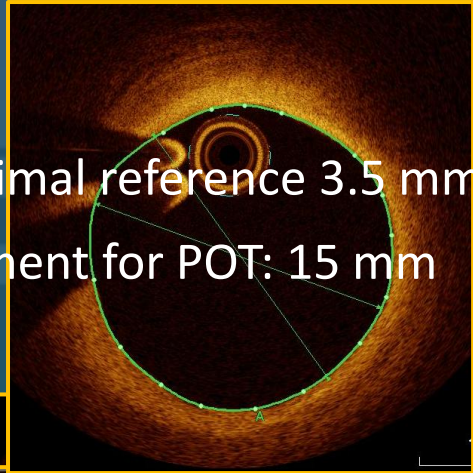
Diag

Pre-
PCI

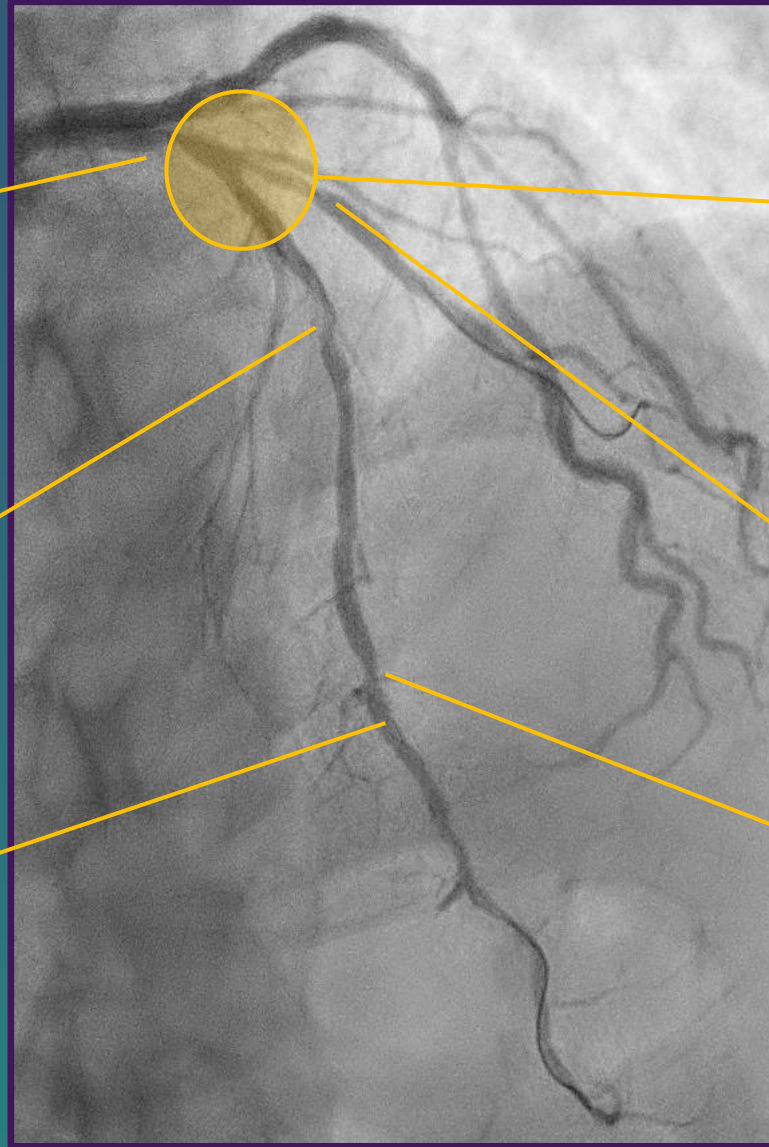
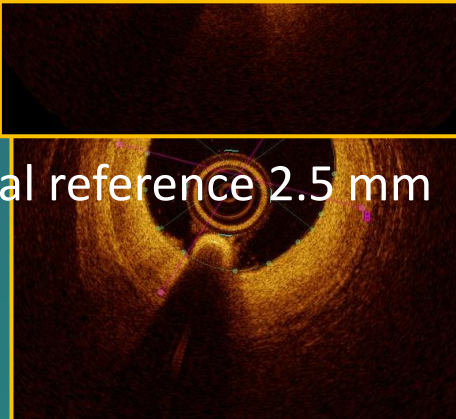


Procedural planning guided by OCT

- Proximal reference 3.5 mm
- Segment for POT: 15 mm

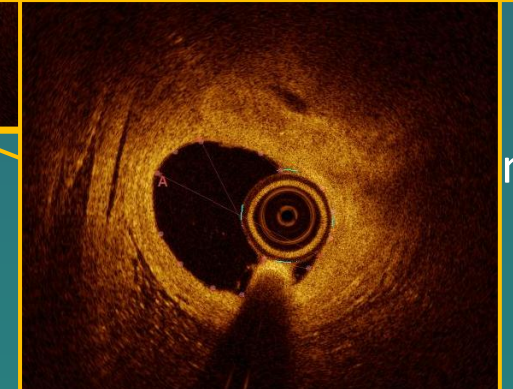
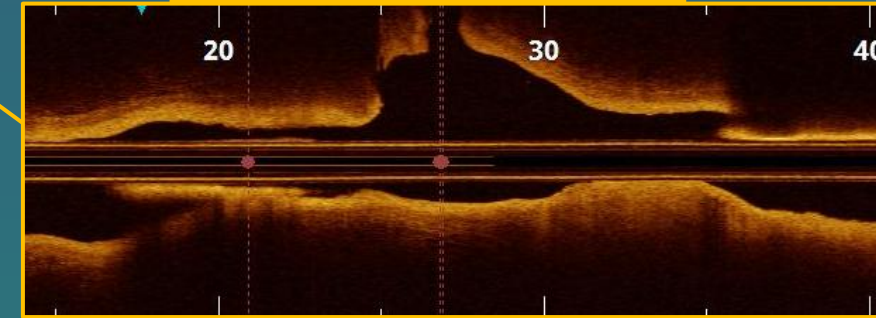
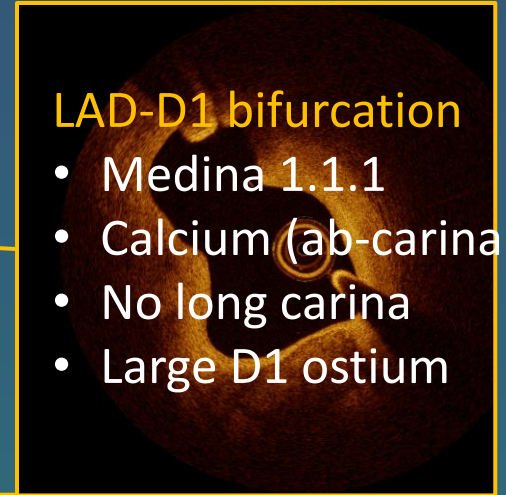


Distal reference 2.5 mm

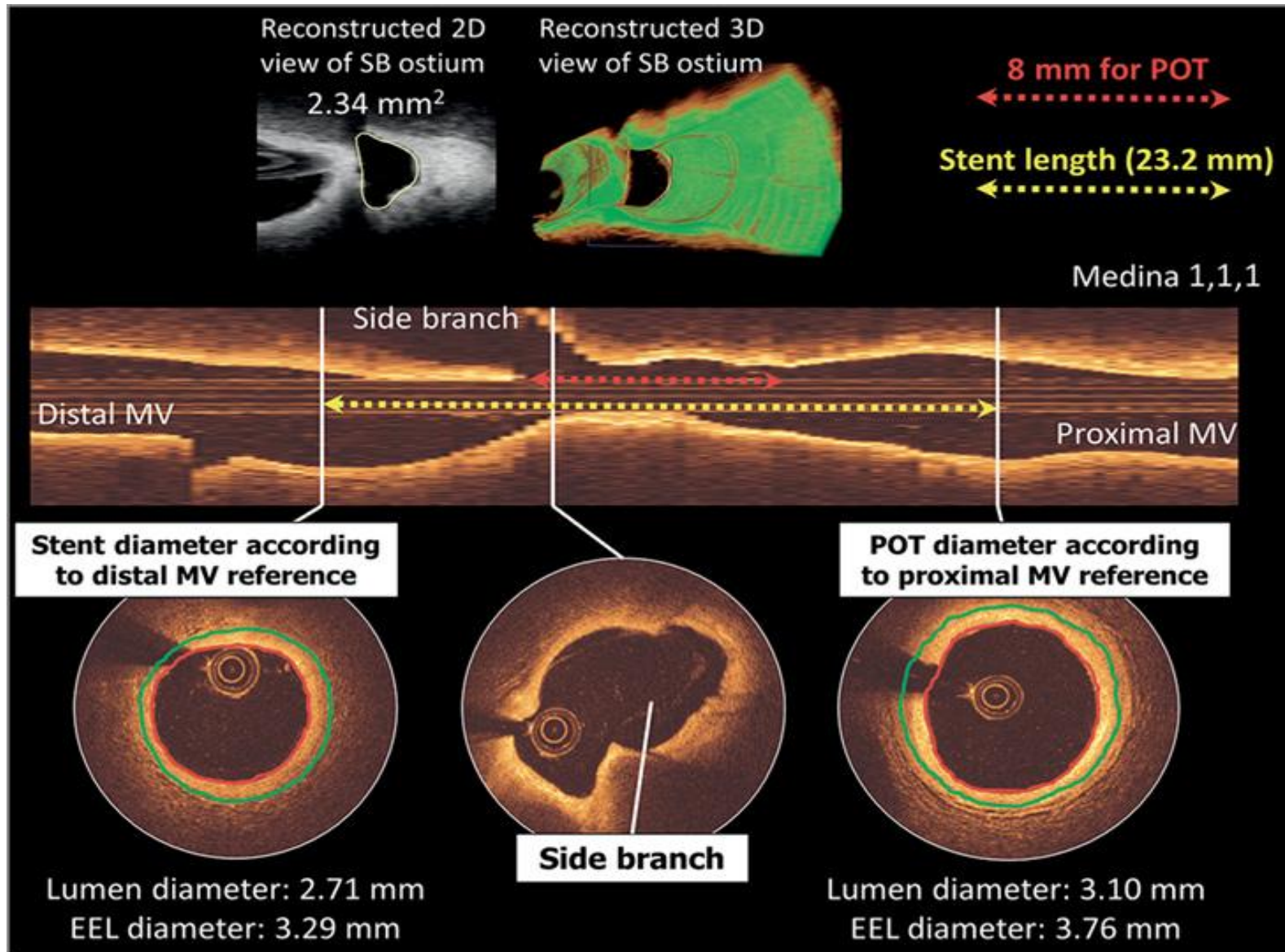


LAD-D1 bifurcation

- Medina 1.1.1
- Calcium (ab-carinal)
- No long carina
- Large D1 ostium



Analysis of bifurcation anatomy by ic imaging



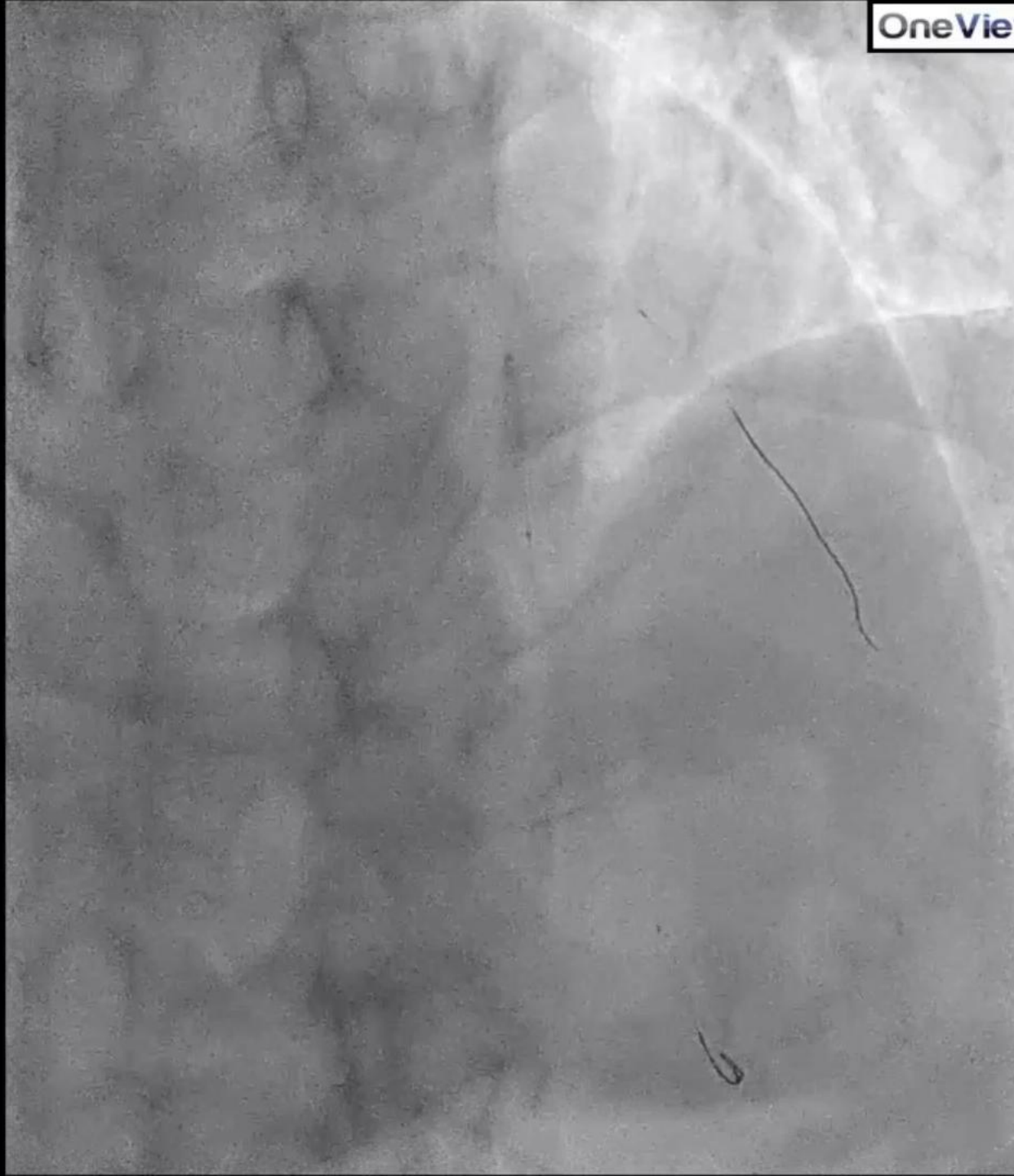
- Plaque morphology and distribution
- SB ostium (diameter and disease)
- SB angle
- Carina length and carina tip angle
- Distal reference for stent sizing
- Prox reference for POT

Importance of knowing differences in stent platforms

							
DES size	Xience Sierra	Xience Skypoint	Resolute Onyx	Synergy	Synergy Megatron	Ultimaster	Orsiro
2.25	3.75	3.75	3.5	3.5		4.5	3.5
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2.75				5.0			
3.0			5.50				
3.5	6.0	6.0		6.0			
4.0			6.0		6.0	6.0	
4.5							6.0
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BIELLA C
12-13 SETTEMBRE

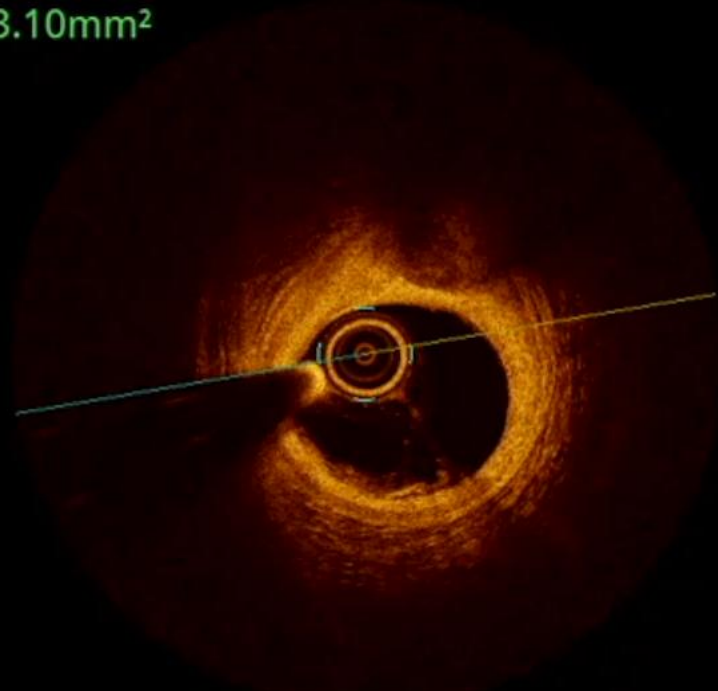
OneView



BIEL
12-13

Lumen Area: 3.10mm²

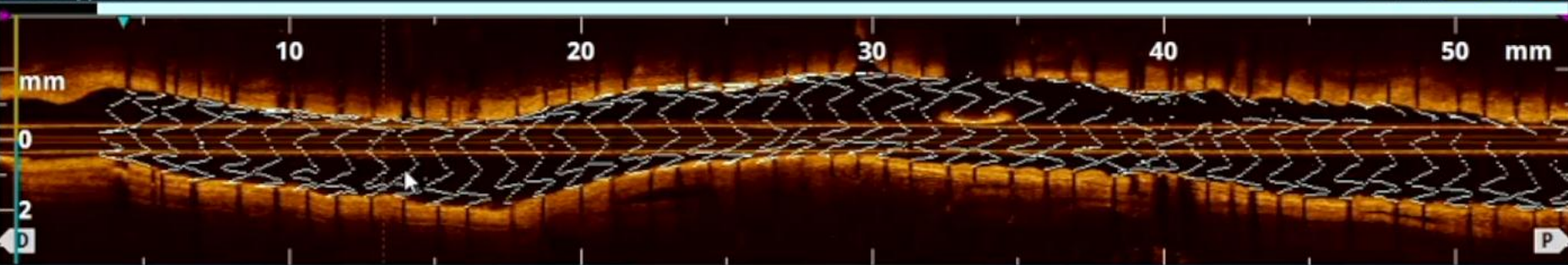
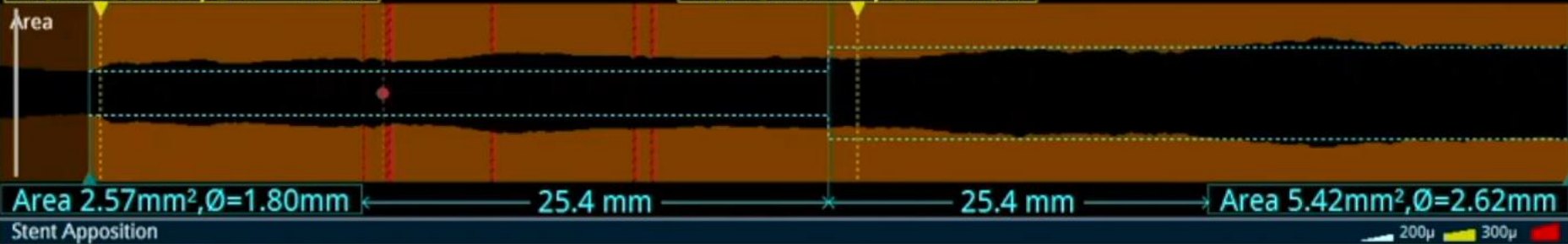
OneView



1 mm

MSA 2.89mm², EXP = 112%

MSA 3.78mm², EXP = 70%



Menu

Vessel

Procedure



End Review

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12-13 SETTEMBRE 2025

