

Resorbable Magnesium Scaffold: My Patient Based Approach

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TCTAP 2018





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Magmaris preliminary recommendation upon commercial launch: a consensus from the expert panel on 14 April 2016



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Who is a good candidate for a Magmaris implantation ?

**Magmaris preliminary recommendations upon commercial launch,
- a consensus from the expert panel on April 14th 2016 -**

J Fajadet, M Haude, M Joner, J Koolen, M Lee, R Tölg, R Waksman

General considerations:

- Focus on optimal procedure AND optimal patient selection
- Be responsible and ensure that patients receive the best treatment
- Understand which patients could receive bioresorbable scaffold
- Reduce the risks of inadequate use



Patient characteristics	Recommendation	Lesion characteristics	Recommendation
Patients with long life expectancy	***	<i>De novo</i> lesions	***
Diabetic patients	**	Tortuous vessels	–
STEMI	–	Severe calcification	–
Cardiogenic shock	–	In-stent restenosis	–
Stable angina	***	Reference vessel diameter less or larger than the available device sizes	–
NSTEMI/unstable angina	**	Diffuse long lesions	–
Contraindications for DAPT	–	Chronic total occlusions	**
Target lesion located in a SVG	–	Ostial lesions	–
Patients with poor medical compliance	–	Bifurcations	**
No adequate lesion preparation	–	Presence of thrombus	–
		Left main lesions	–
– not recommended; ** evaluation pending; *** recommended			

EuroIntervention 2016;12:828-833



Magmaris Difference

Acute	Sub-Acute	Late	Very Late
<ul style="list-style-type: none">• Trackability• Single Step Inflation• 0.6 mm optimization• Lower Vessel Coverage• Radial Resistance• Lower Recoil• Lower platelet coverage	<ul style="list-style-type: none">• Better Endothelialization	<ul style="list-style-type: none">• Lower Neo-atherosclerosis• Return of Vasomotion	<ul style="list-style-type: none">• Faster Resorption• Clinical Evidence

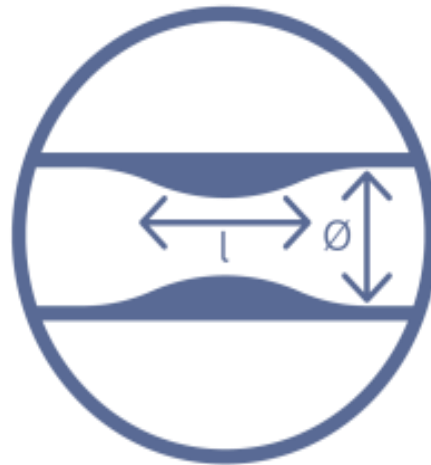


4P Strategy:

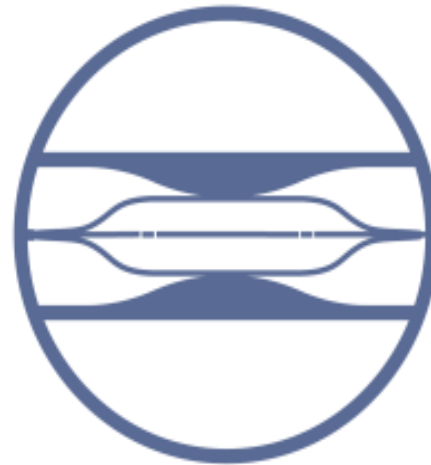
Patient / lesion selection, Proper sizing, Pre-dilatation, Post-dilatation



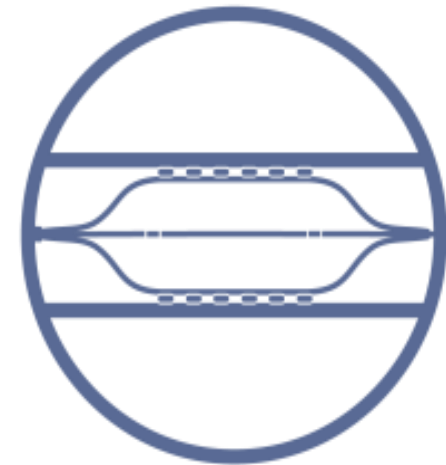
Patient and lesion selection



Proper scaffold sizing



Pre-dilatation for lesion preparation



Post-dilatation



Who is a good candidate for a Magmaris implantation ?

- The question isn't only, who could receive a scaffold but also who could **BENEFIT** from a scaffold
 - Patients with an anticipated long life expectancy (> 5 years)
 - Possible return of vasomotion
 - First lesion, first time in the cath lab
 - Discrete shorter lesions (to be covered by a single scaffold)
 - De novo lesions
 - Compliance to DAPT duration



Patient and lesion
selection



Which patient or lesion subsets should not be treated with a Magmaris ?

- Patients for whom adequate lesion preparation cannot be obtained:

- Minimal lumen diameter 2.5mm after preparation of the lesion required

- Patients with higher risk of scaffold thrombosis:

- Remaining thrombus at the lesion site
- STEMI/NSTEMI



Patient and lesion selection



Which patient or lesion subsets should not be treated with a Magmaris ?

- Patients for whom return of vasomotion cannot be expected:
 - Highly calcified lesion
 - Venous bypass grafts
 - In-stent restenosis
- Patients for whom proper sizing can't be achieved:
 - MI
 - Left main
 - Complex bifurcations
- DAPT contraindications



Patient and lesion selection

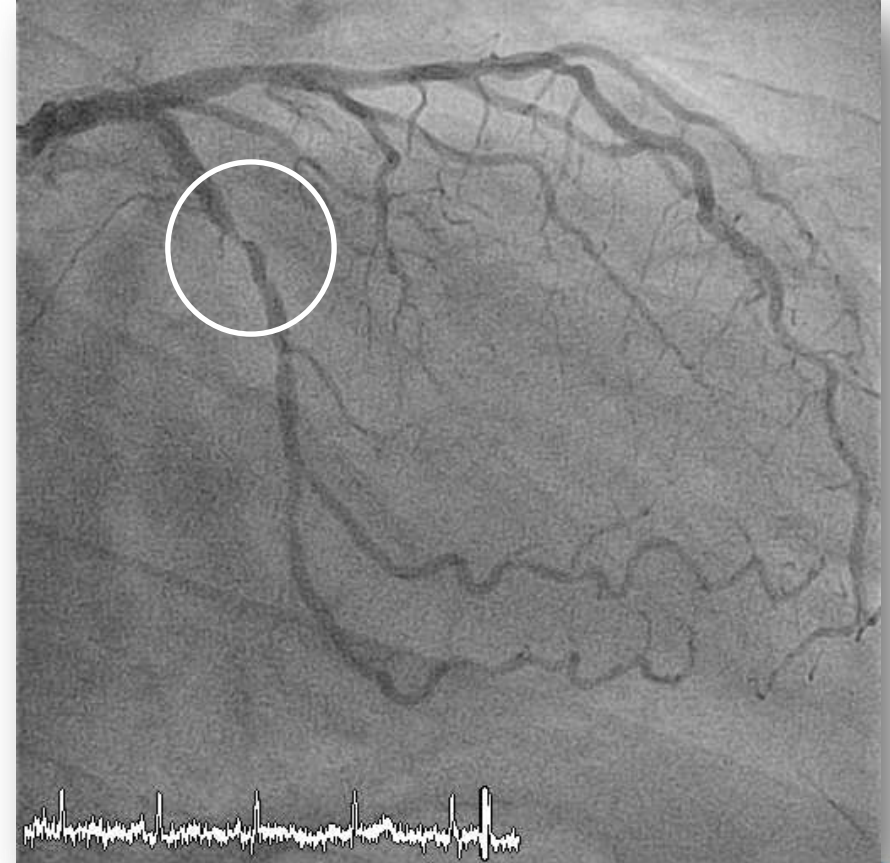


An ideal Magmaris case !



Patient and lesion selection

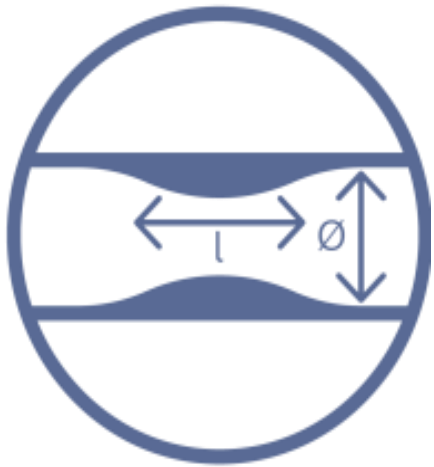
- 50 year old male patient with stable angina (CCS II)
- CVRF:
 - Type 2 diabetes (NIDDM),
 - Hyperlipidemia
- ECG: sinus rhythm, no pathologies
- hs-troponin normal on admission (< 14 pg/ml)



Magmaris implantation - tips and tricks

- Correct target vessel and scaffold sizing

- If uncertain, use QCA, IVUS and / or OCT for quantitative lesion evaluation (always after ic NTG)
- Understand that QCA underestimates and IVUS overestimates vessel dimensions by about 0.25 mm compared to eyeball
- Since only 3.0 and 3.5 mm Magmaris are available, do not implant into vessels <2.75 mm and >3.75 mm



Proper scaffold
sizing



Magmaris implantation - tips and tricks

- **Lesion preparation**

- NC balloon, B/A ratio 1:1, full expansion of the balloon should be achieved, residual stenosis <20% (minimum 2.5 mm), accept lesion dissection
- if necessary use scoring balloon,
- if very calcified stenosis use rotablator followed by NC balloon dilatation



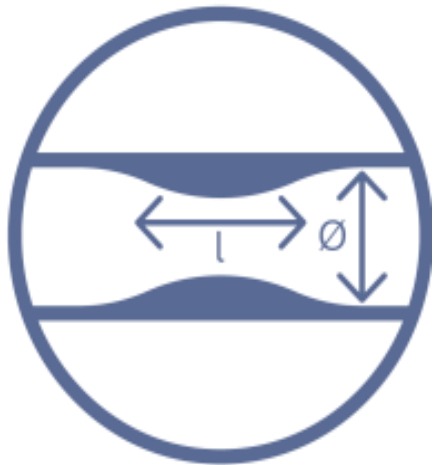
Pre-dilatation for lesion preparation



Magmaris implantation - tips and tricks

- **Magmaris implantation:**

- Inflate the implantation balloon until full and homogenous expansion, but respect the maximum rated burst pressure
- Angiography of implant result (QCA)
- OCT for documentation of implant result (helpful during the learning phase)



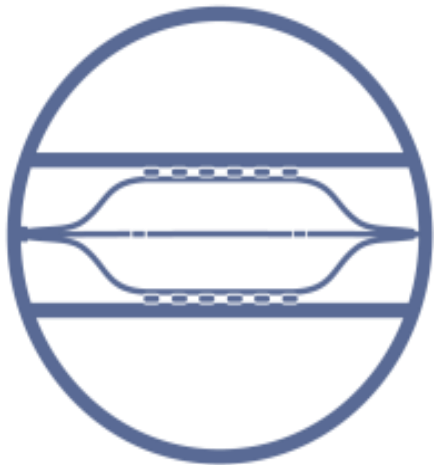
Proper scaffold
sizing



Magmaris implantation - tips and tricks

- **Post-dilatation:**

- Always post-dilate with a NC balloon at high pressure (>16 atm) of the same size or maximally 0.5 mm larger to respect the Magmaris expansion limit of 0.6 mm beyond nominal scaffold size, if OCT is not used or shows significant malapposition
- Use imaging enhancement technologies (Stent Boost, etc) or marker wires for better identification of Magmaris markers
- Sometimes look for another projection to better identify the Magmaris markers

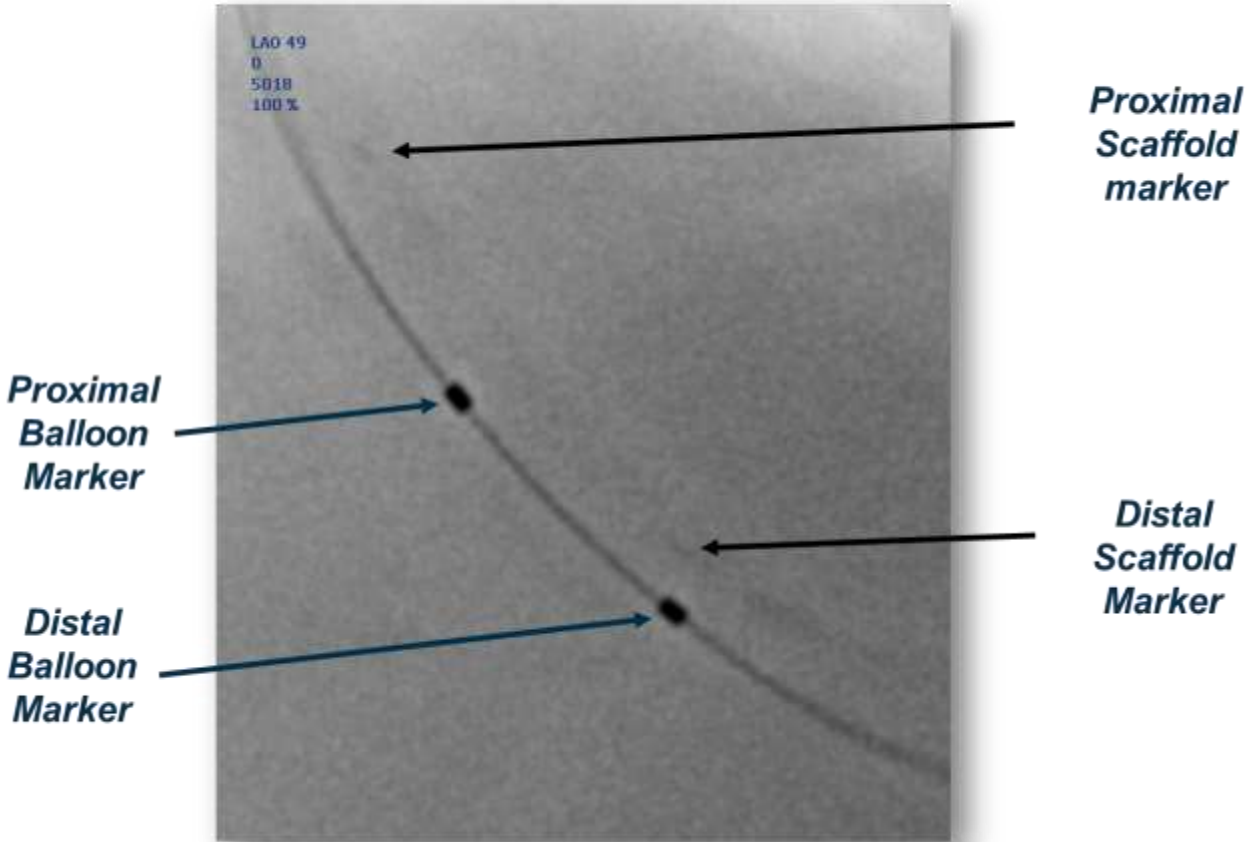


Post-dilatation



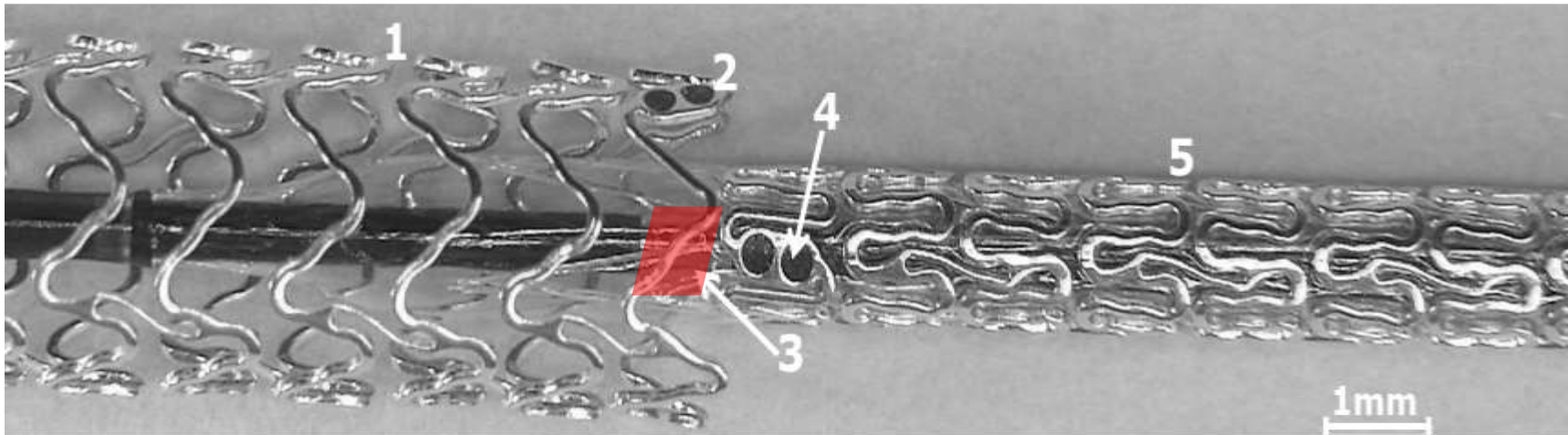
Magmaris implantation - tips and tricks

Stent Boost

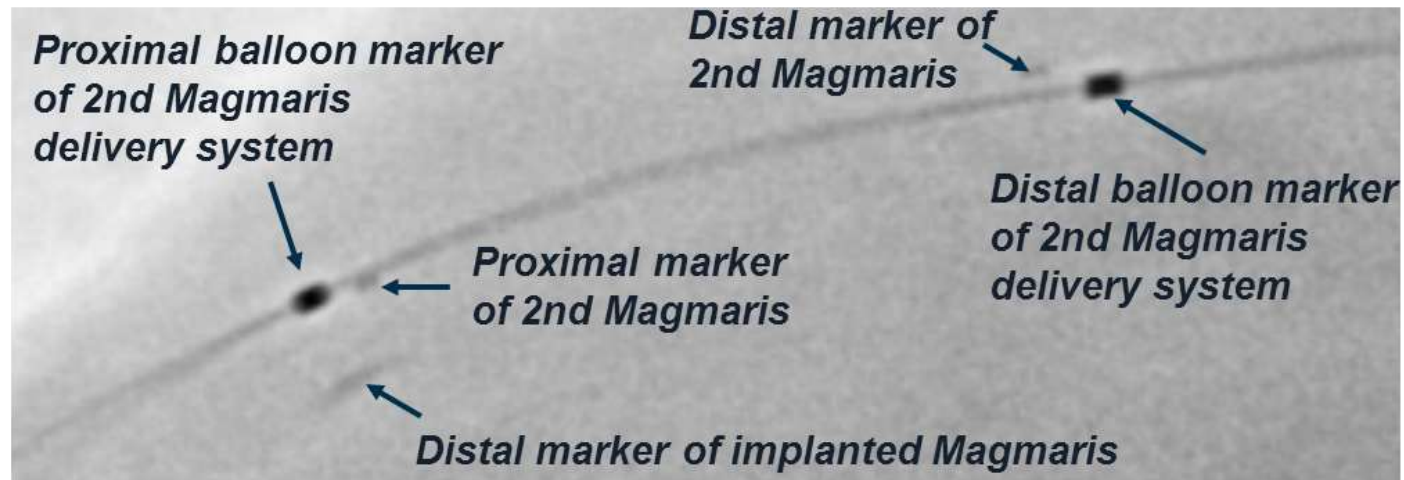
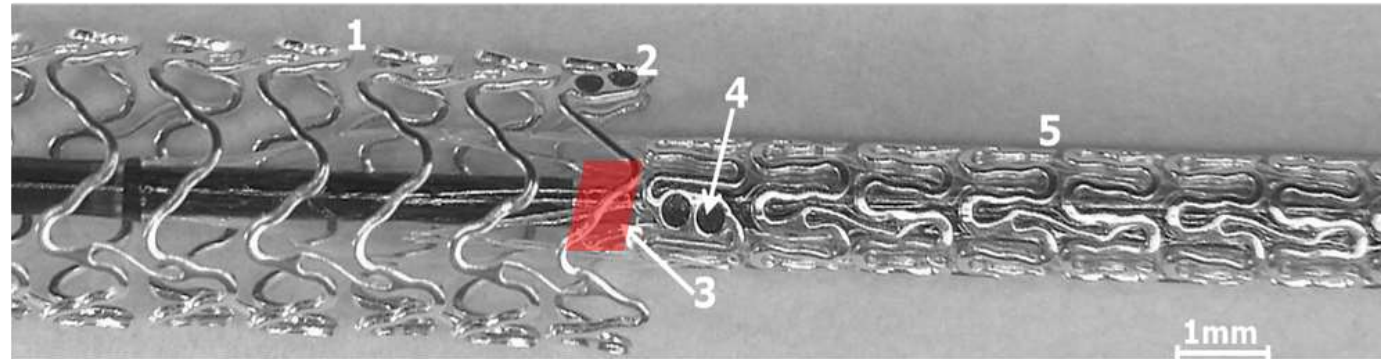


Magmaris implantation - tips and tricks

- How to manage 2 Magmaris if needed in long lesions or in the case of significant dissections distal or proximal:



Magmaris implantation - tips and tricks



Magmaris implantation - tips and tricks

- How to manage a Medina 1/0/0, 0/1/0 or 1/1/0 **bifurcation lesion**:
 - single scaffold strategy
 - Do not open the struts in front of the side branch as long as there is good flow to the side branch
 - If there is impaired flow to the side branch, rewire and make a snuggle dilatation with 2 NC balloons in main and side branch
 - If there is a flow limiting side-branch dissection and side branch is >2.75 mm, use DES (best Osiro) for tackling the dissection with kissing post-dilatation



Magmaris implantation - tips and tricks

- Duration of DAPT after Magmaris implantation:
 - At least 6 months



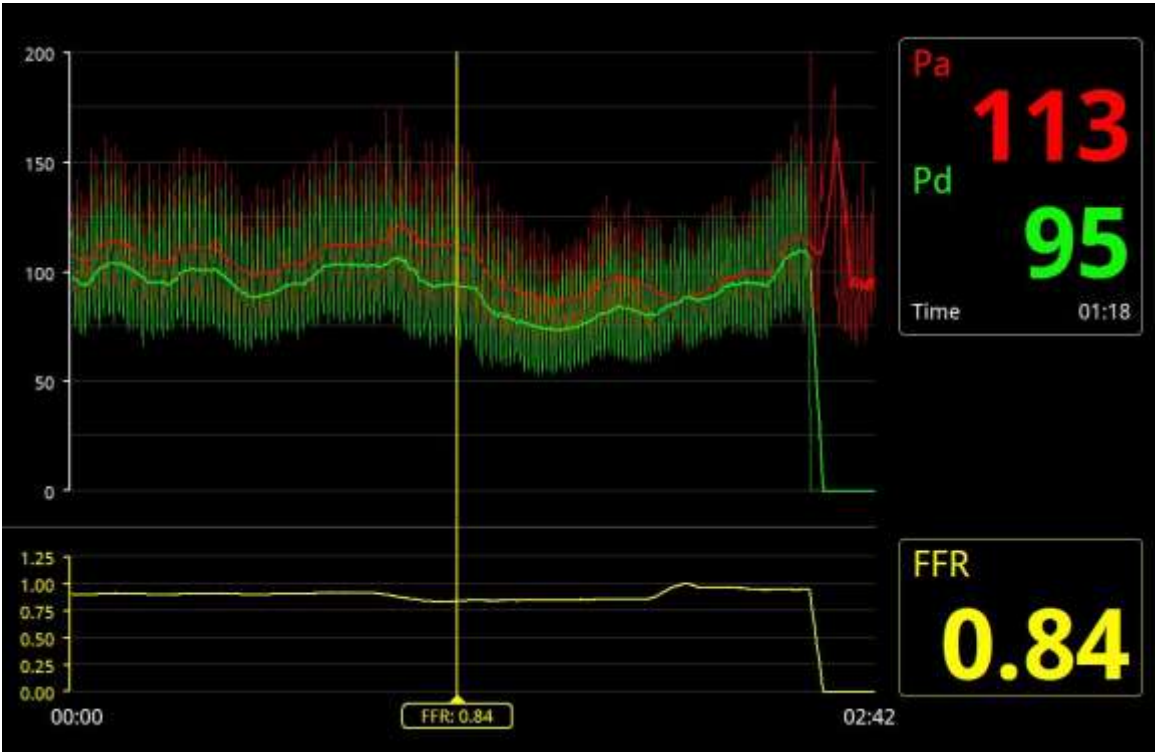
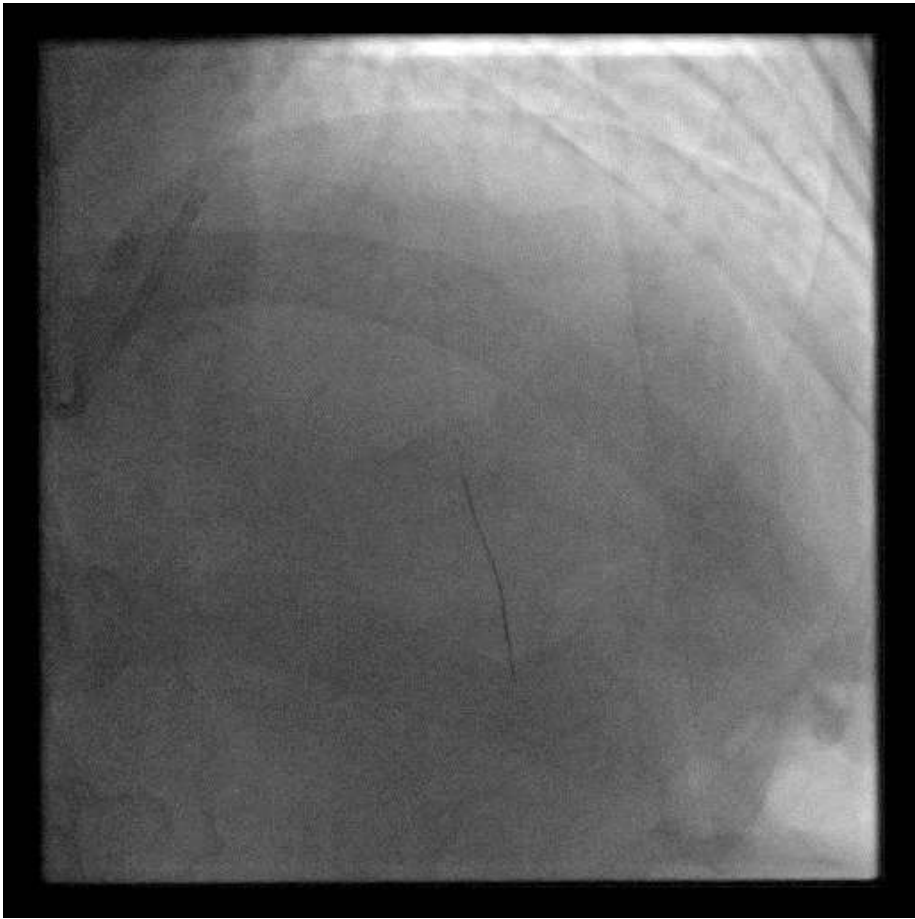
QEH First Magmaris Case

M/57

ACS, Tnl +ve

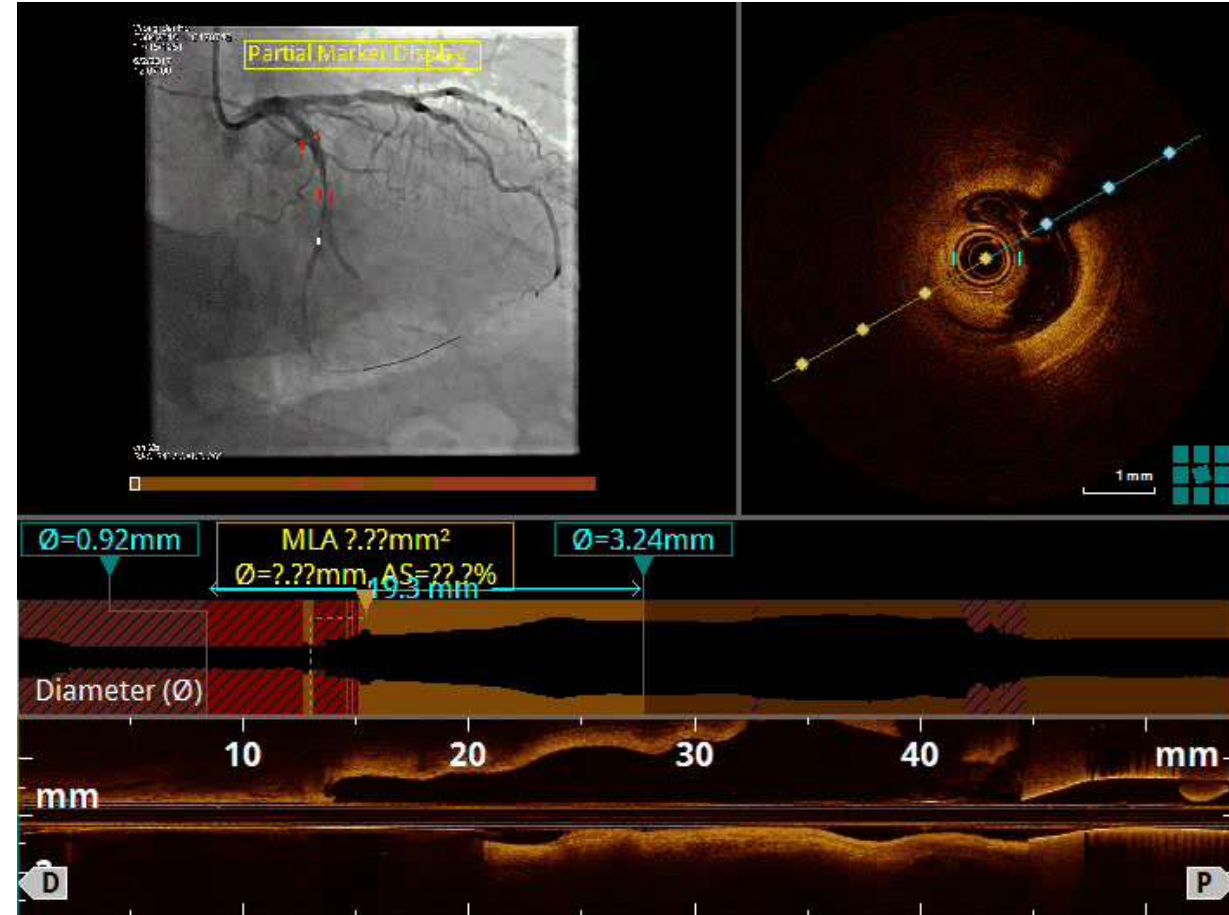
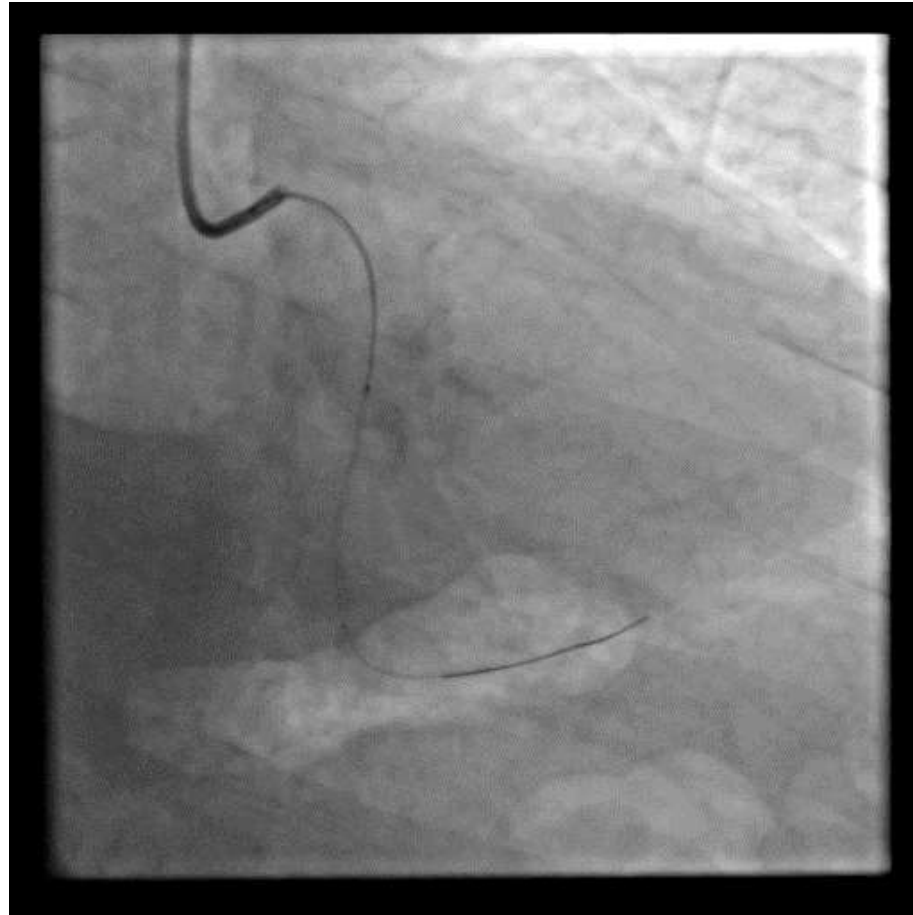


LAD FFR 0.84



TNG

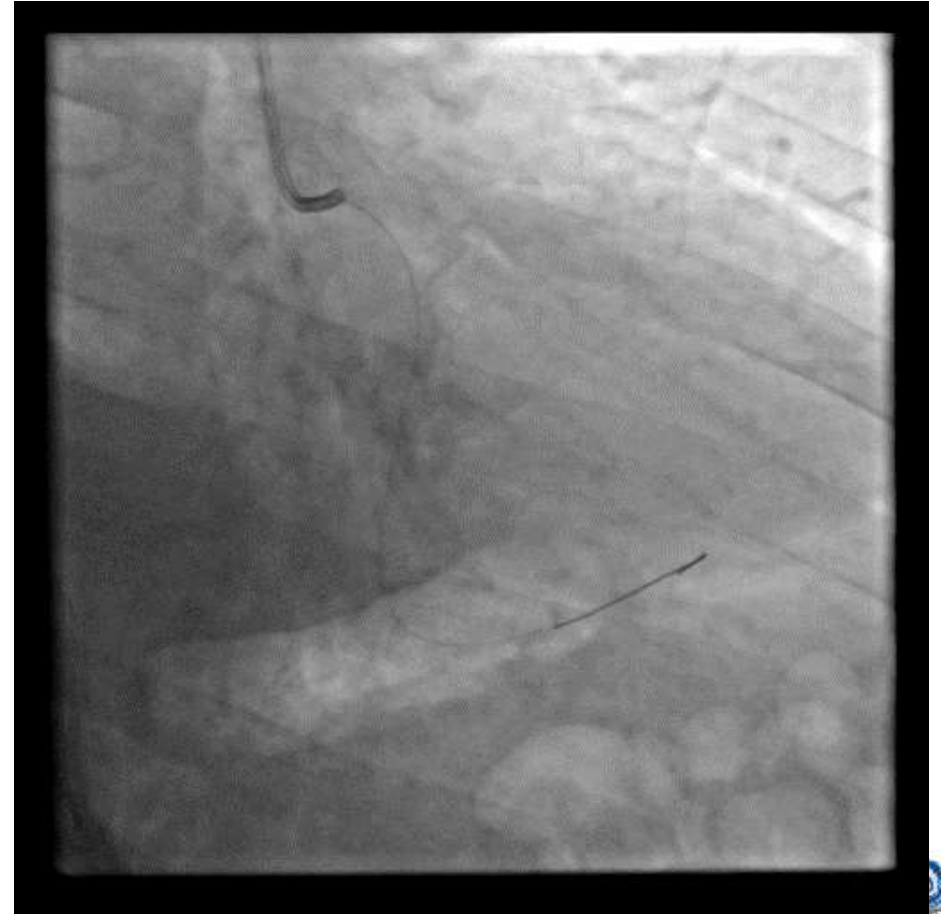
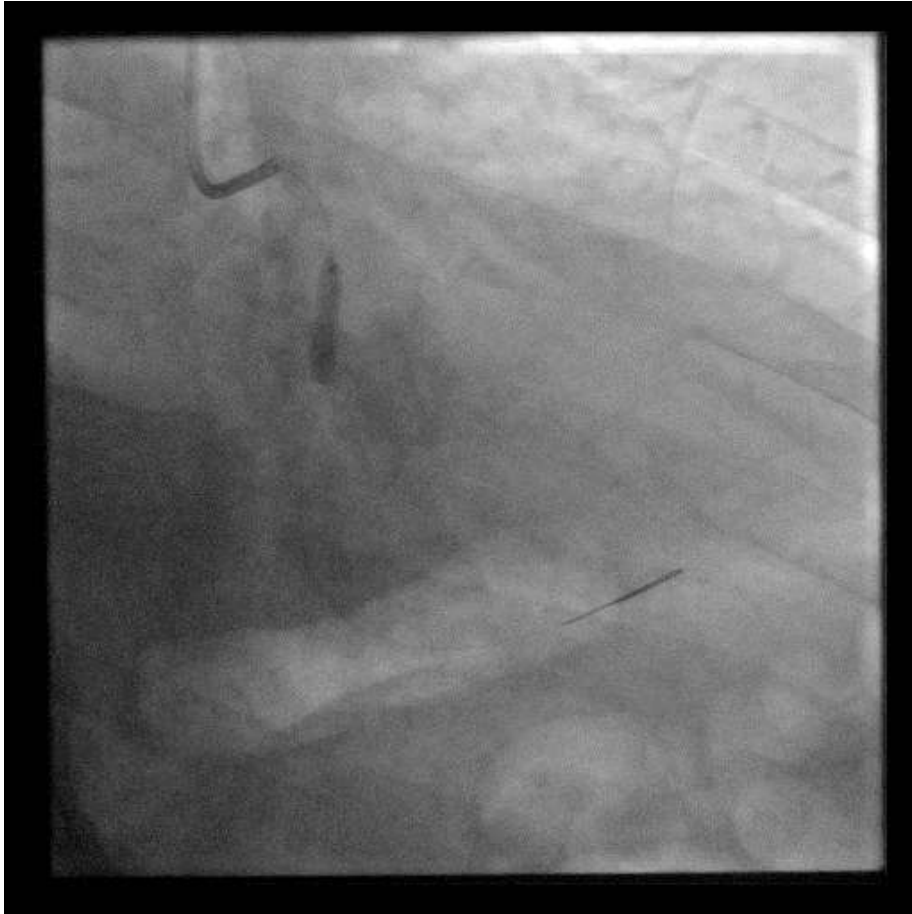
OCT



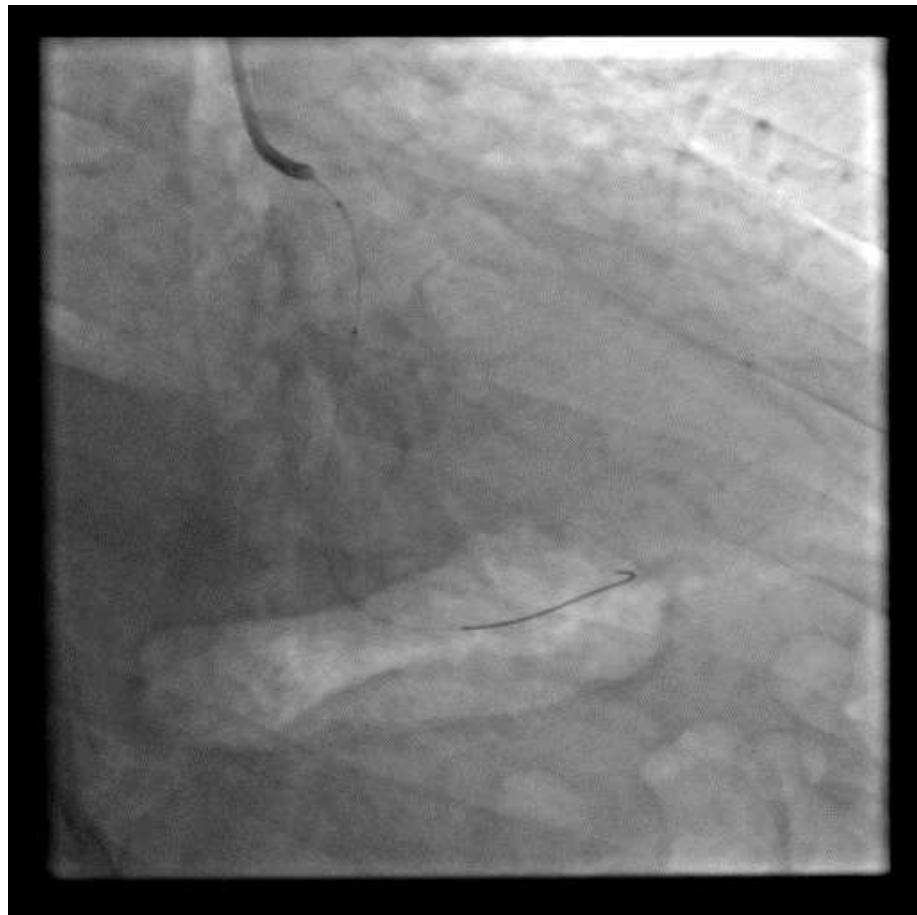
Angiosculpt
3.5x15 at
12atm



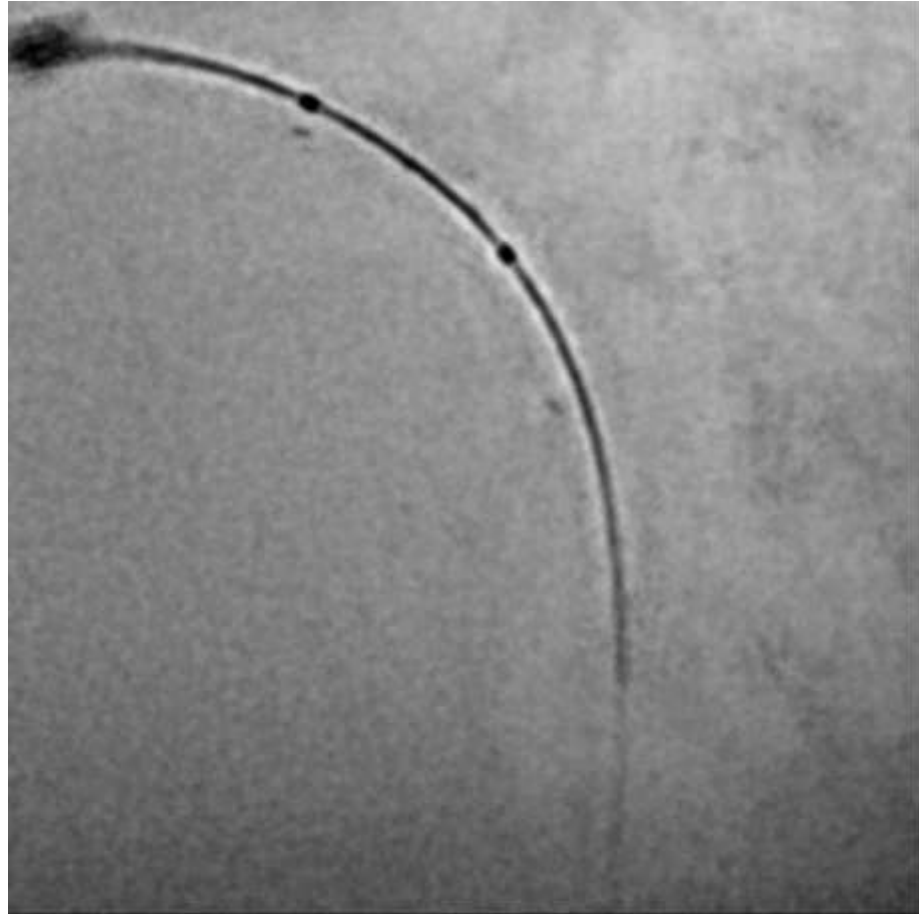
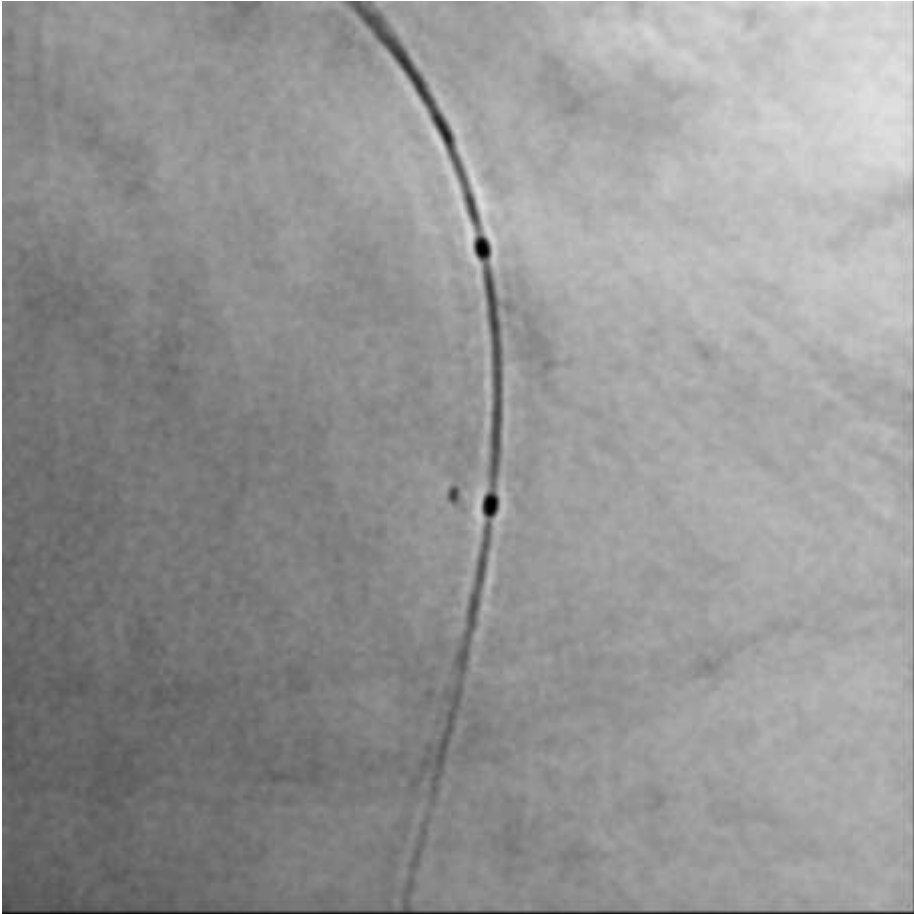
NC Emerge
4.0x15 at
16atm



Magmaris
3.5x25 at
12atm



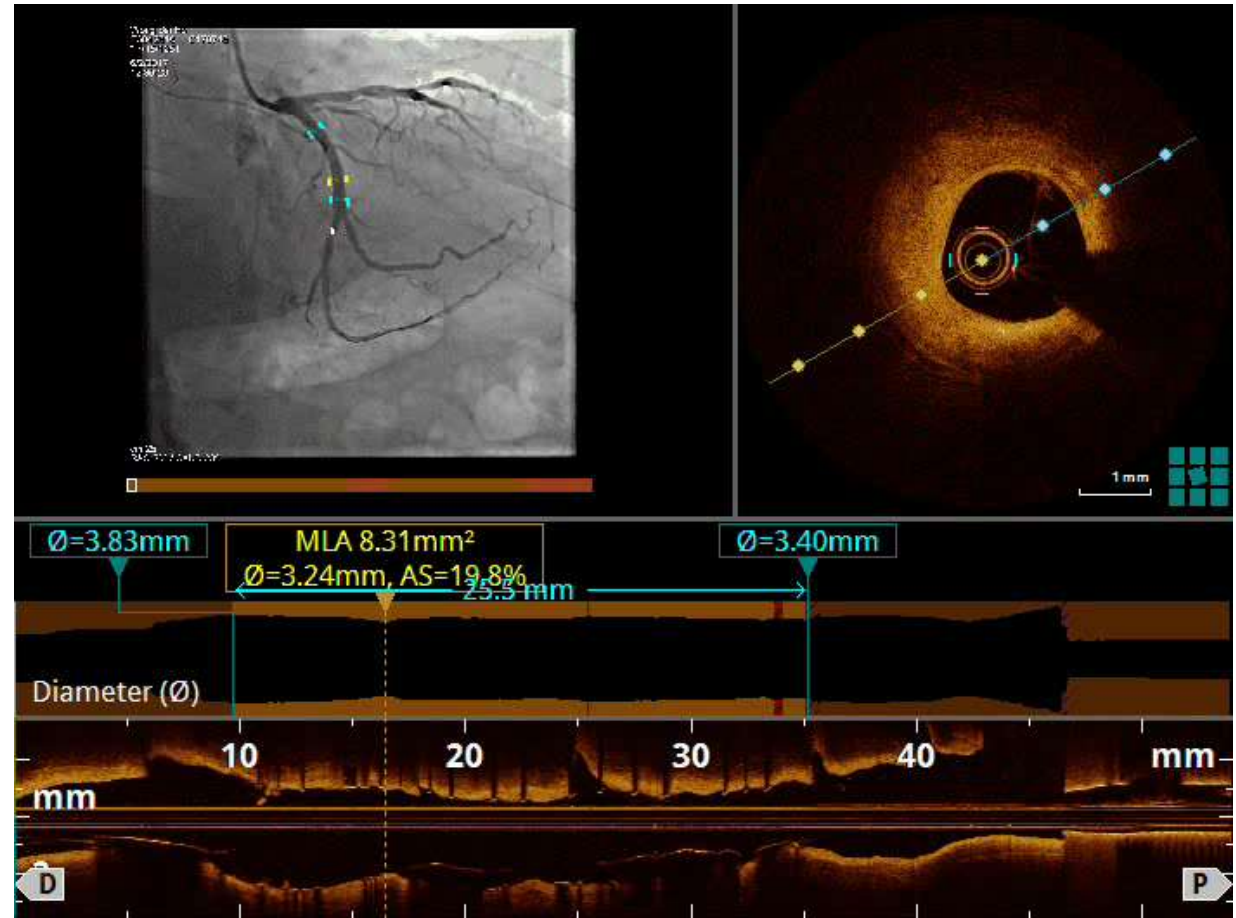
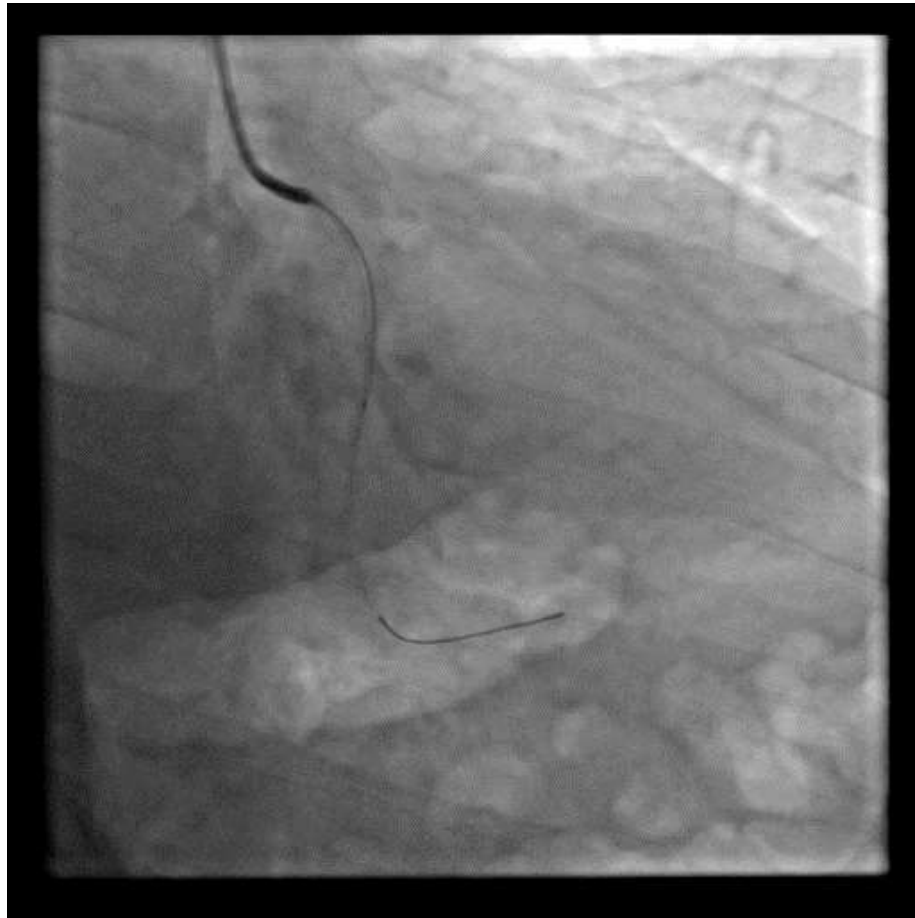
Stent Boost for
post-dilatation



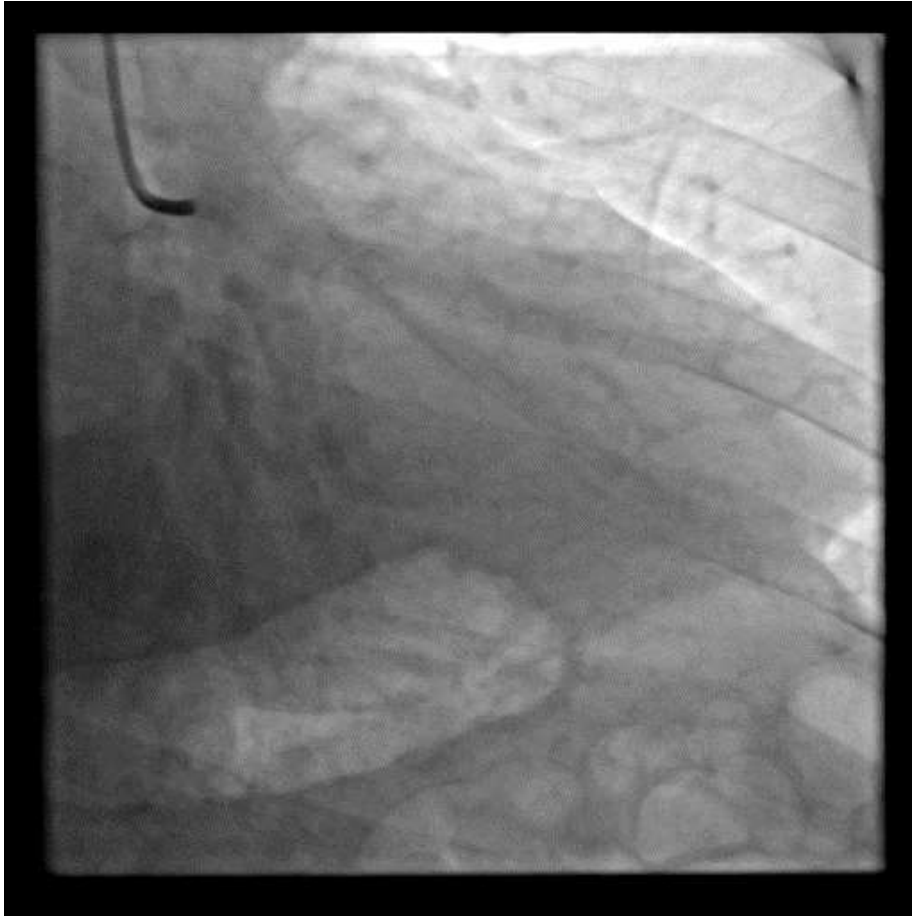
NC Emerge
4.0x15 at
20atm



Final OCT



Final Results



Case 2: When OCT images are not good enough

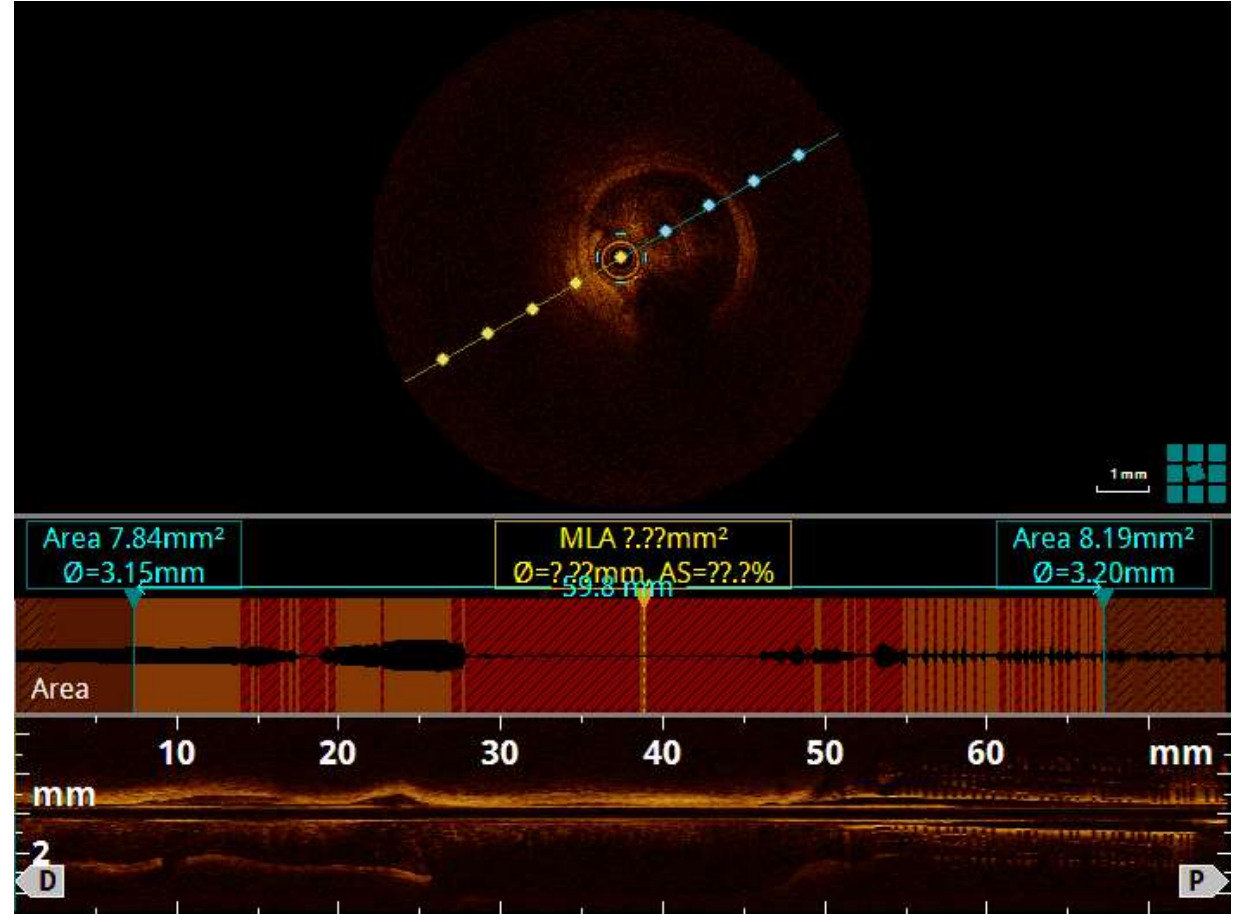
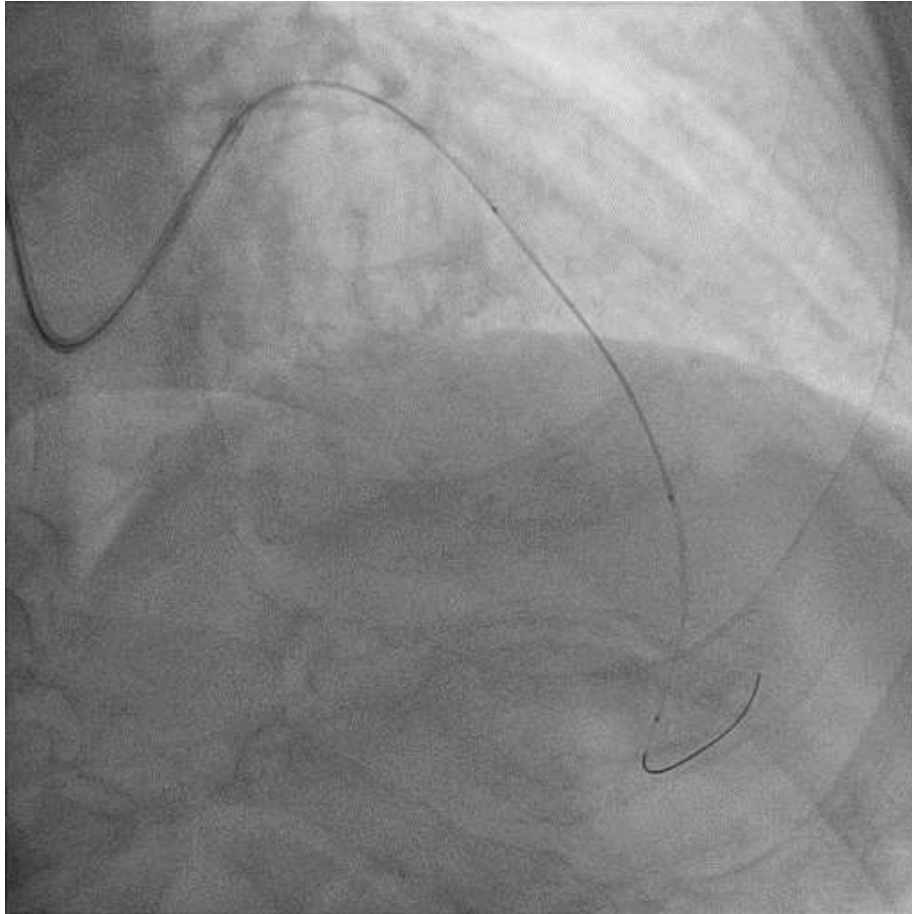
Stable angina

+ve TMT

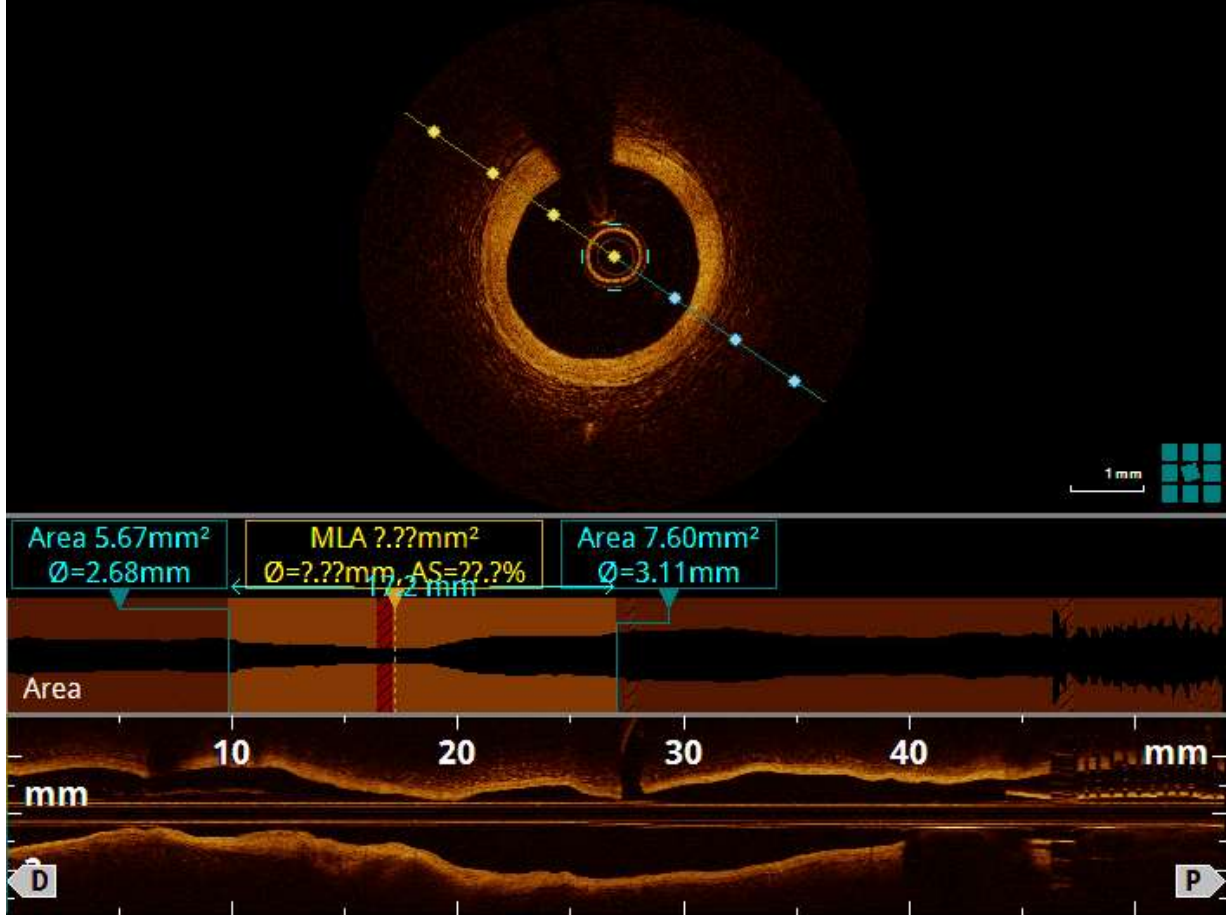
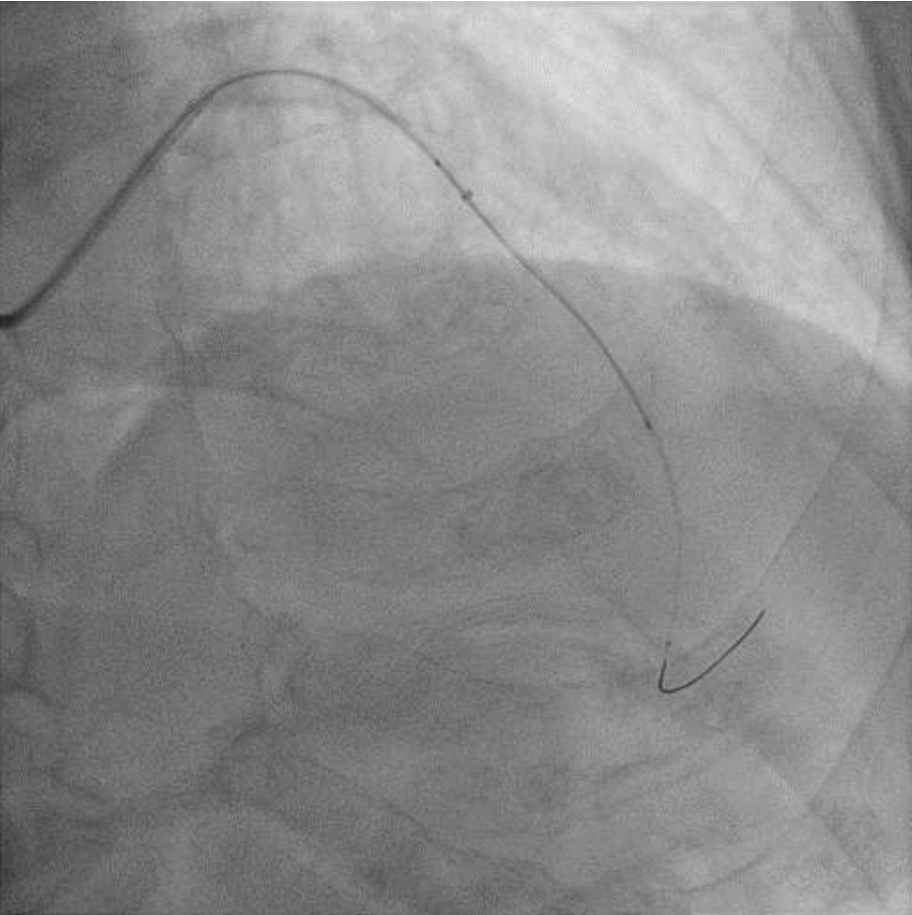


TNG

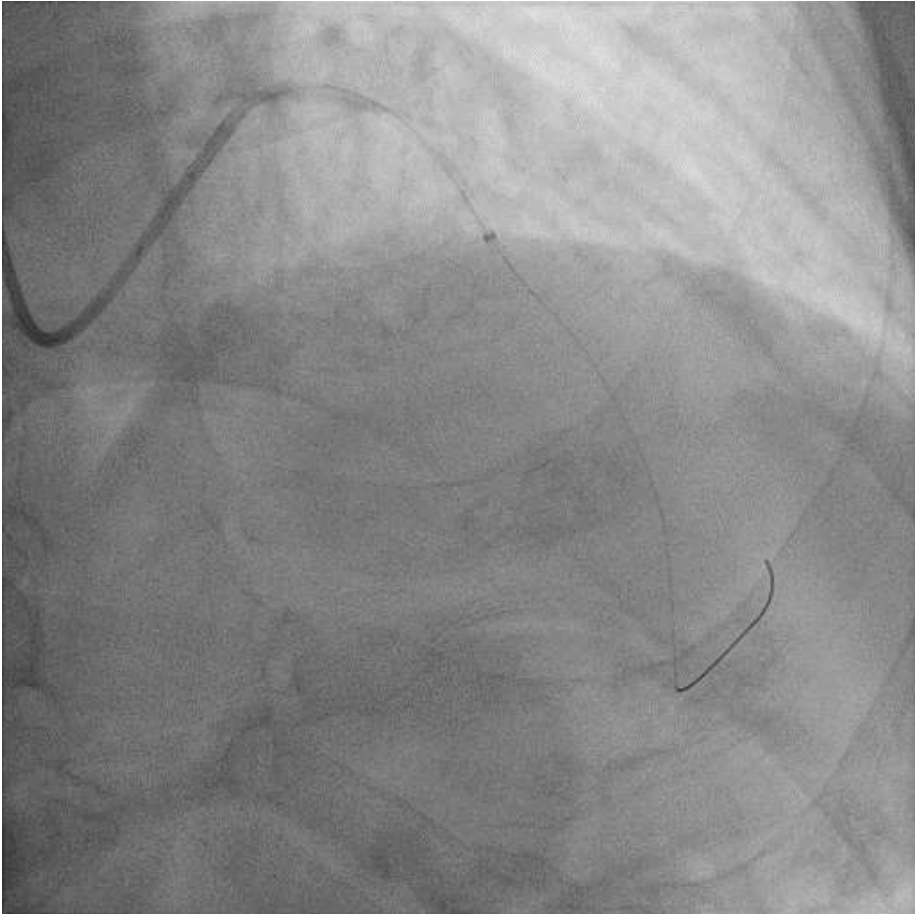
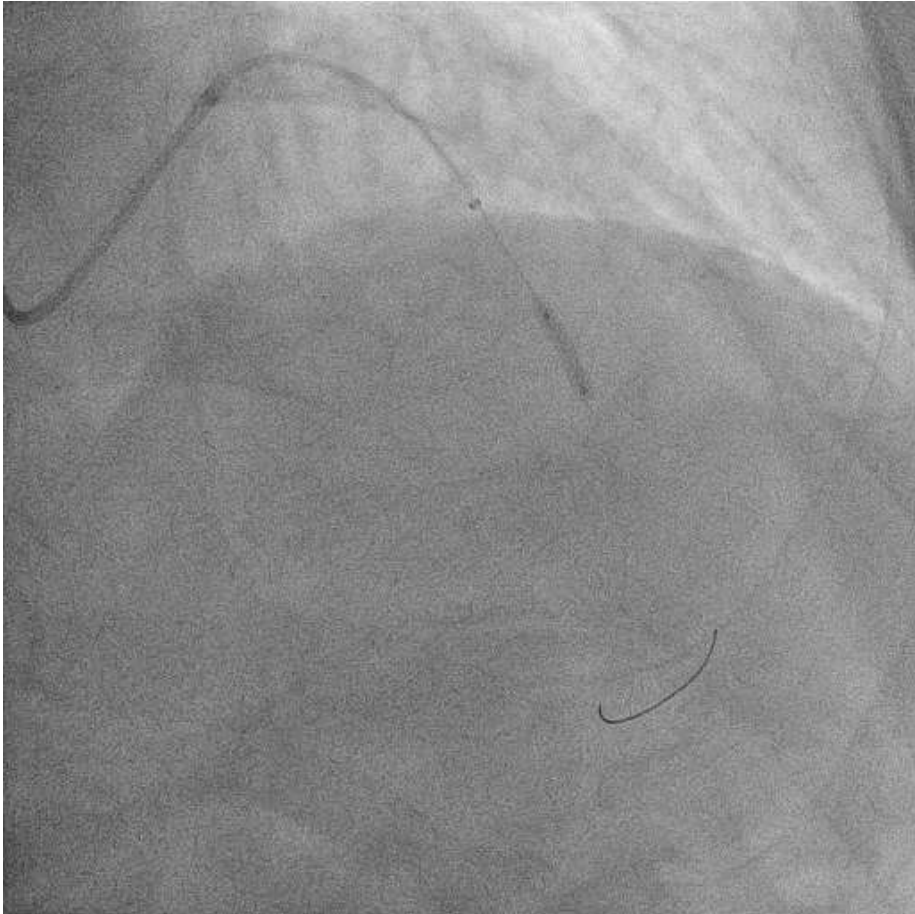
OCT thro'
Guiding



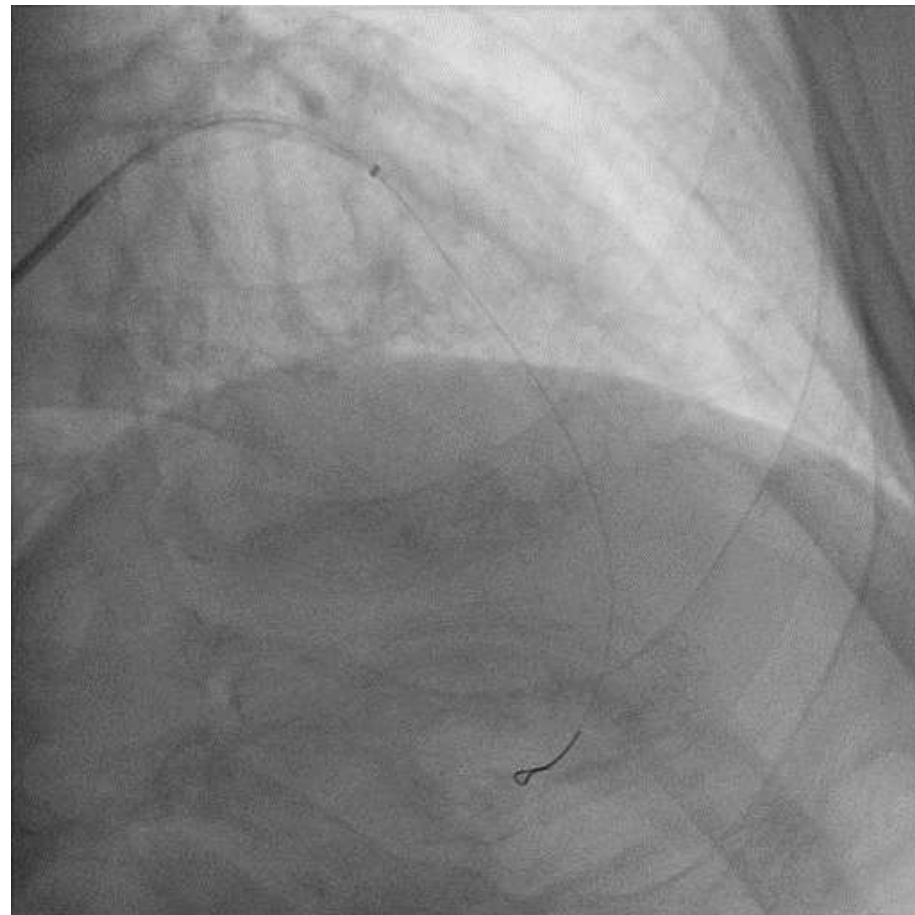
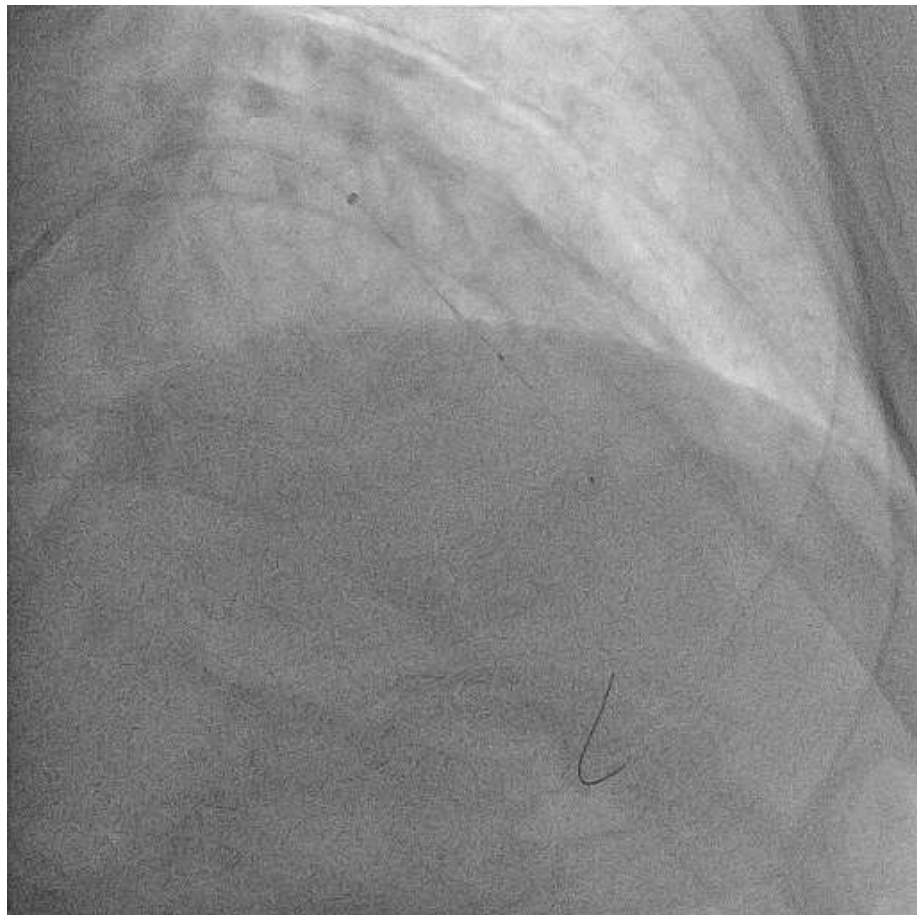
OCT thro'
Guideliner



NC Trek
2.75x12 at
24atm

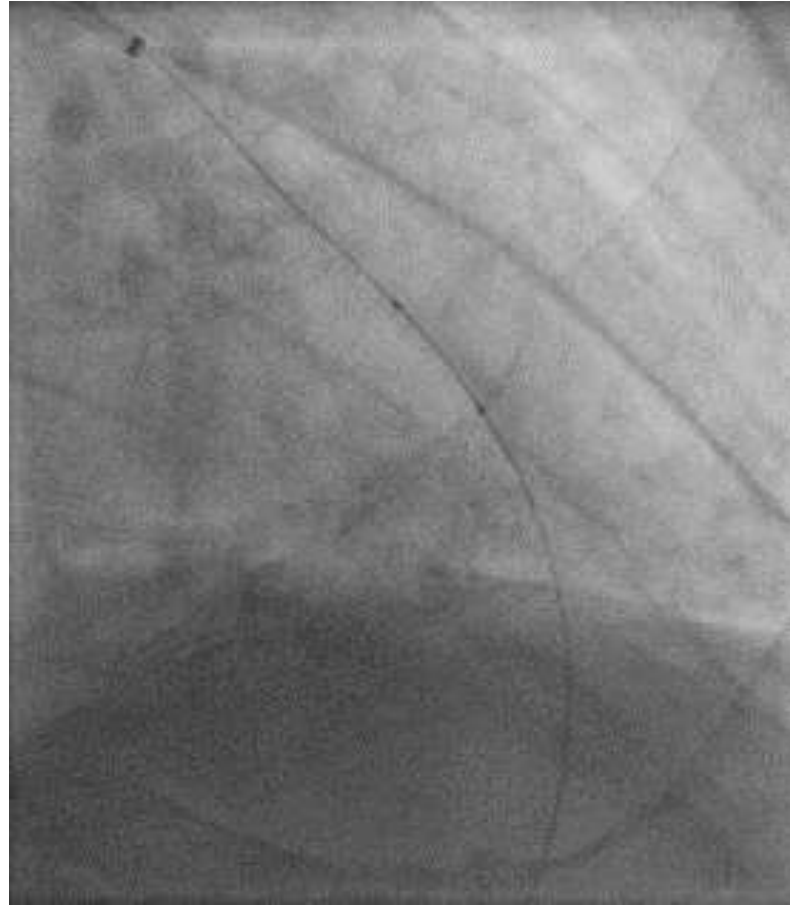


Magmaris
3.0x20 at
12atm

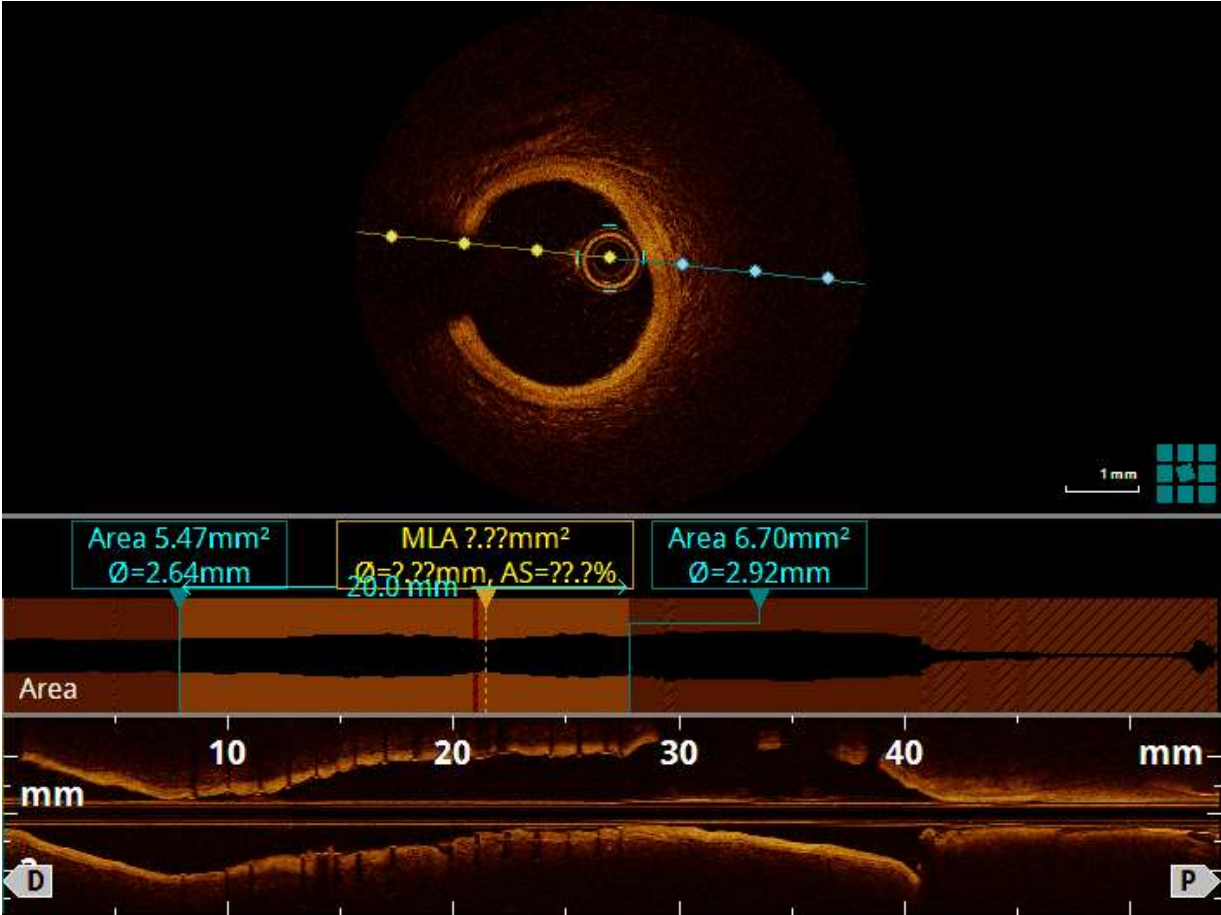
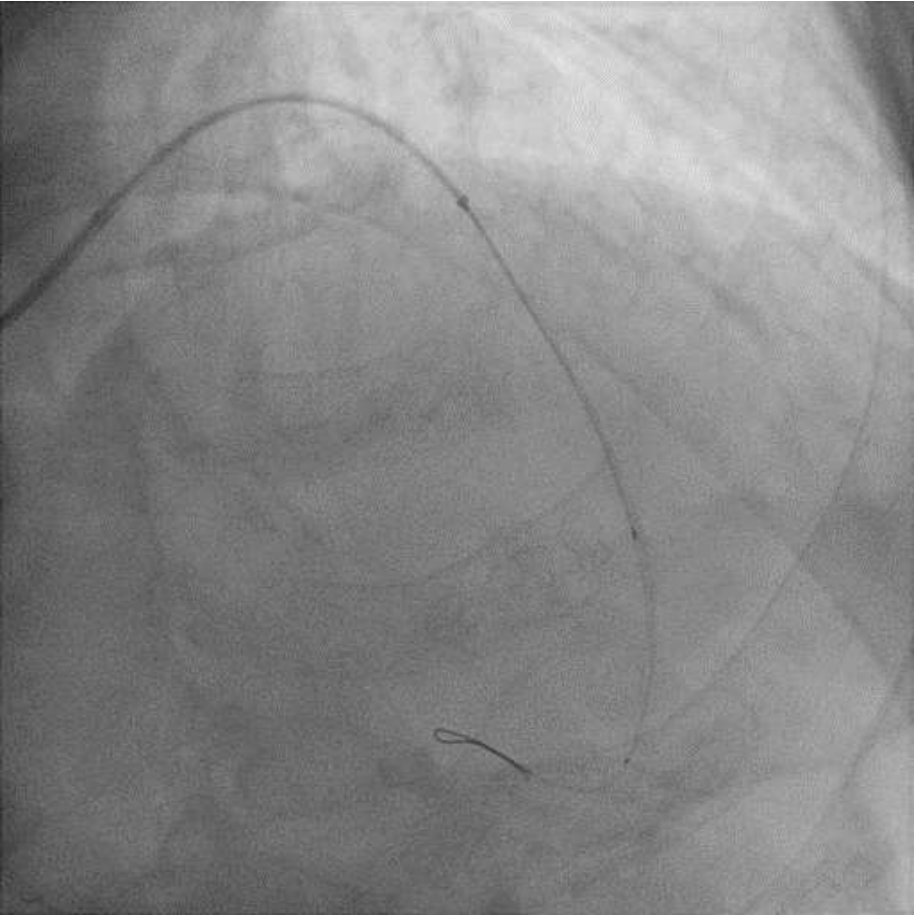


NC Trek
3.25x12 at
16atm

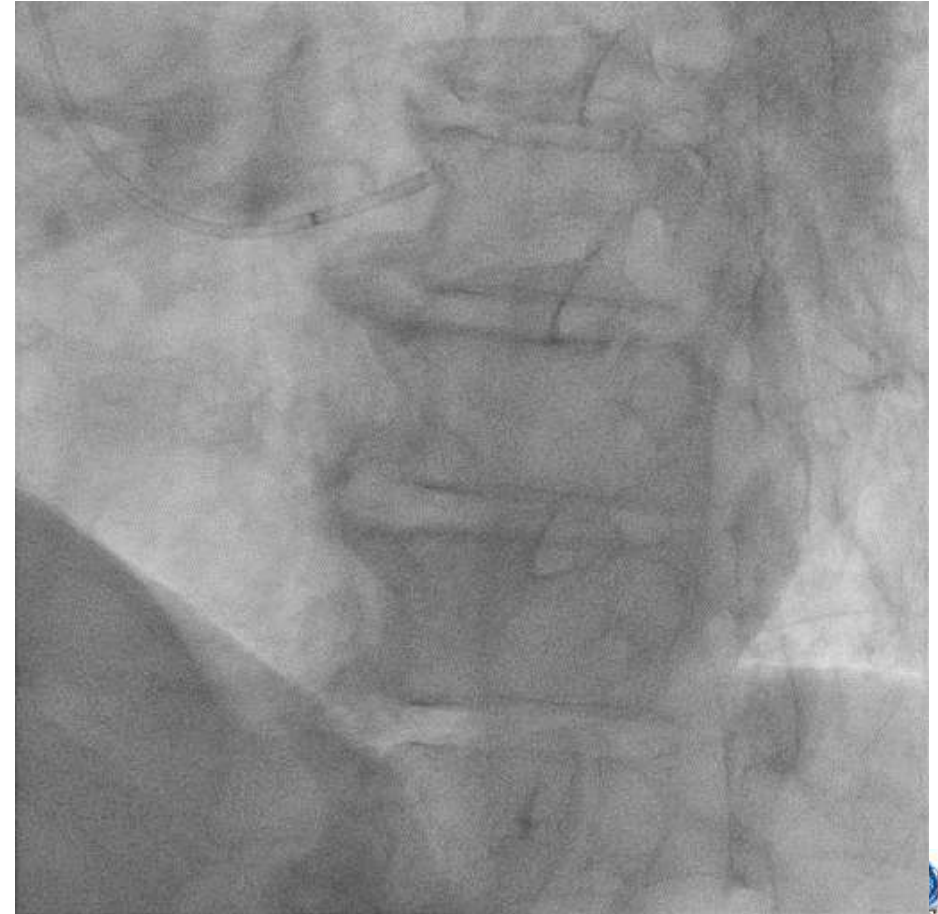
Use different
projections to
see the
markers



Final OCT



Final
Angiogram

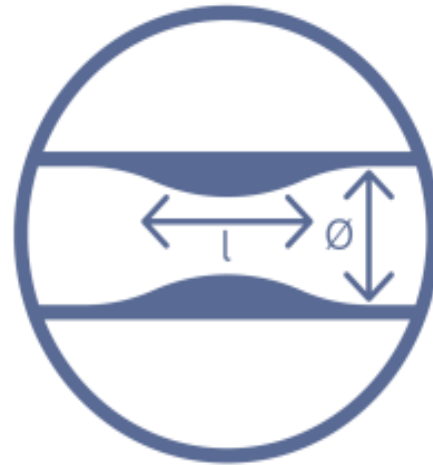


4P Strategy:

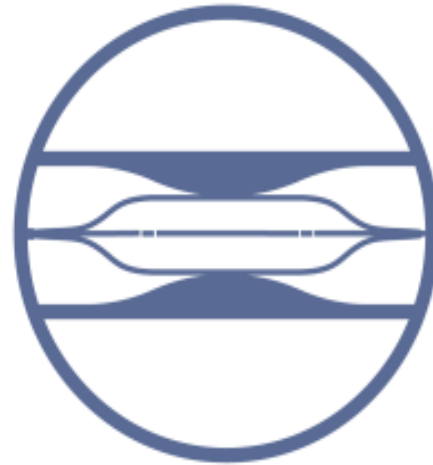
Patient selection, Proper sizing, Pre-dilatation, Post-dilatation



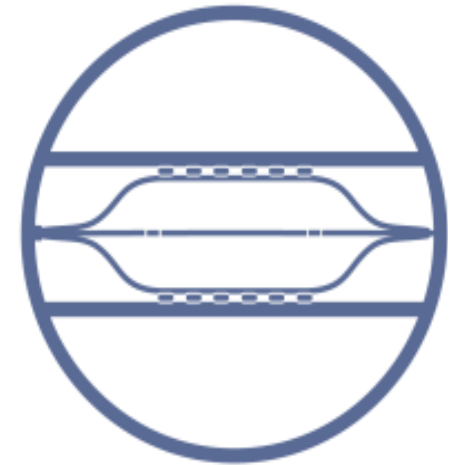
Patient and lesion selection



Proper scaffold sizing



Pre-dilatation for lesion preparation



Post-dilatation



14th

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