

Rotational Atherectomy and Super High-Pressure Balloon for Calcified Lesions

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Disclosure

➤ Grant support

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- Abbott Vascular, Biosensors, Biotronik, Boston Scientific, Daiichi Sankyo, Donga-ST, Hanmi Pharmaceutical, and Medtronic

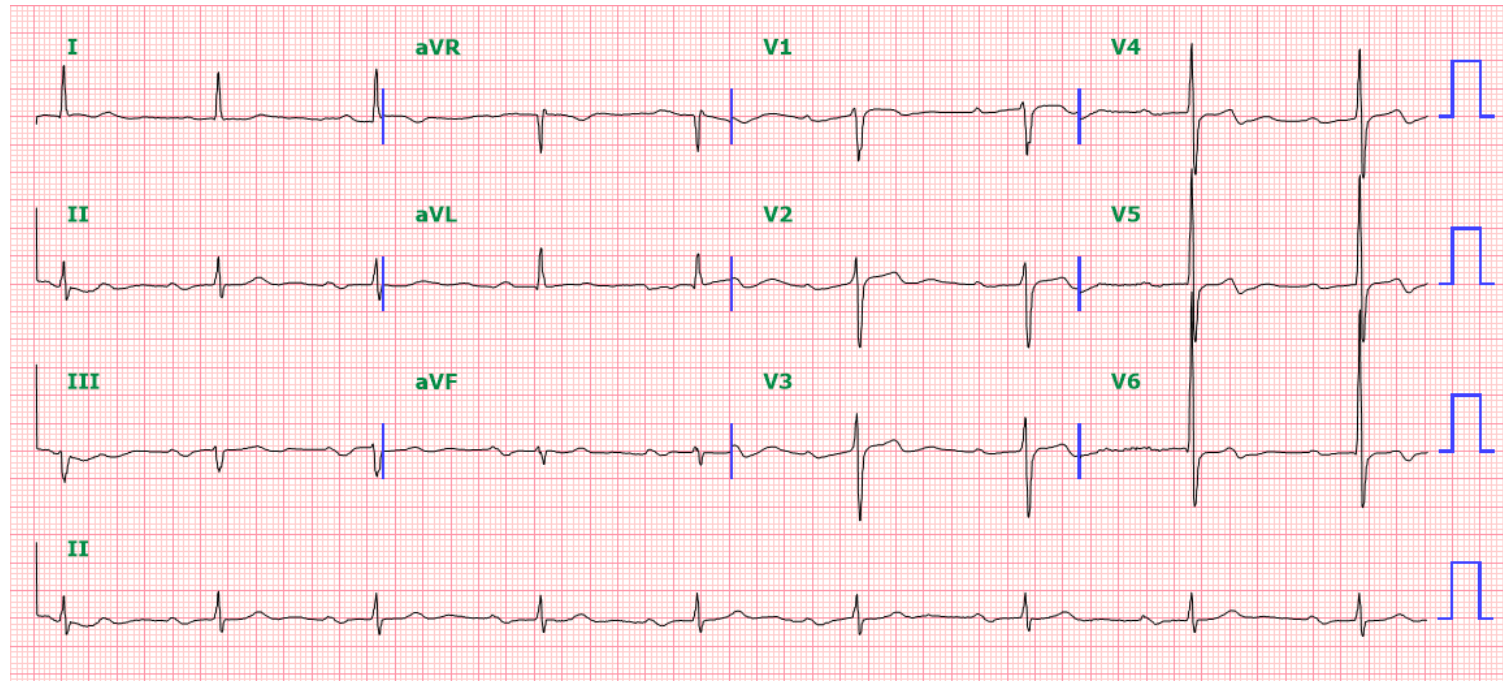
➤ Consulting Fees/Honoraria

- Abbott Vascular, Amgen, Astra Zeneca, Biosensors, Biotronik, Boston Scientific, Daiichi Sankyo, MSD Korea, Novartis, Pfizer, and Sanofi-Aventis



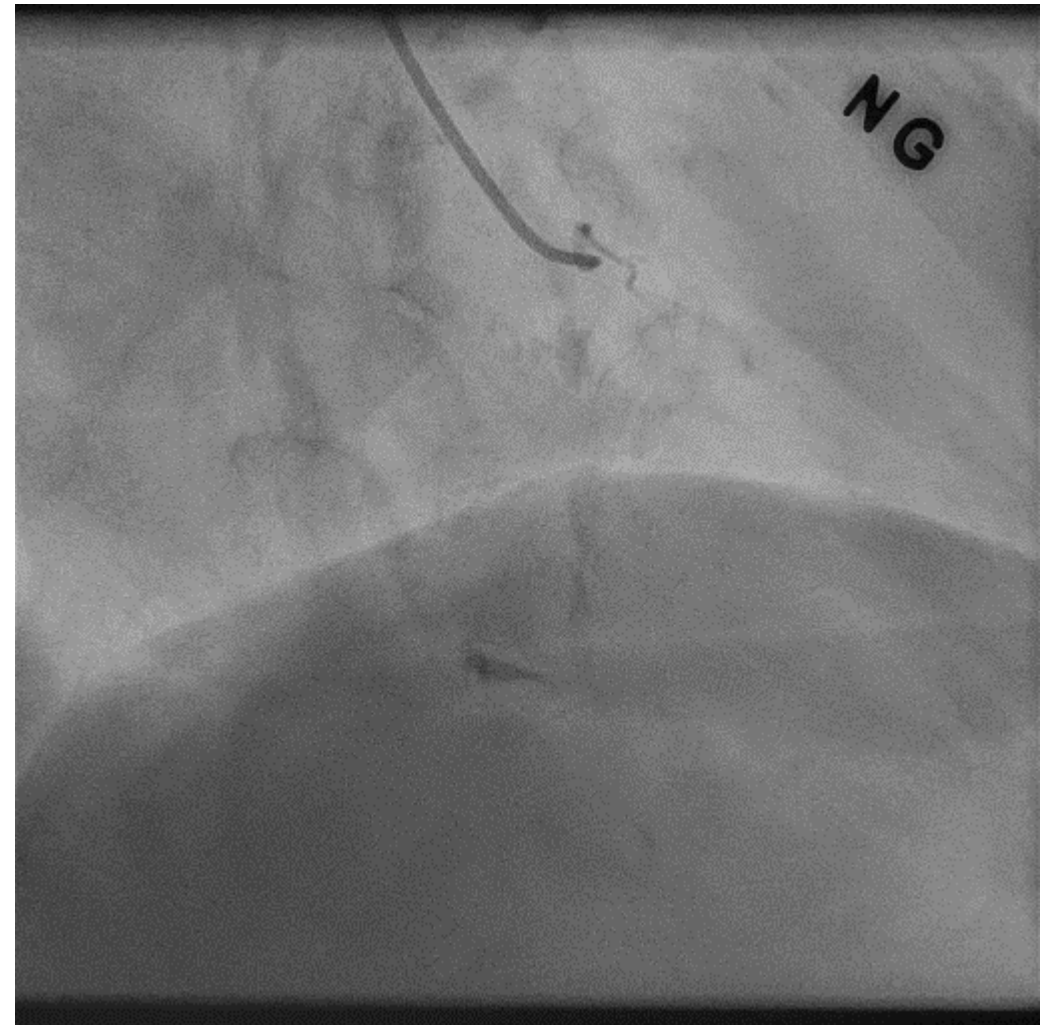
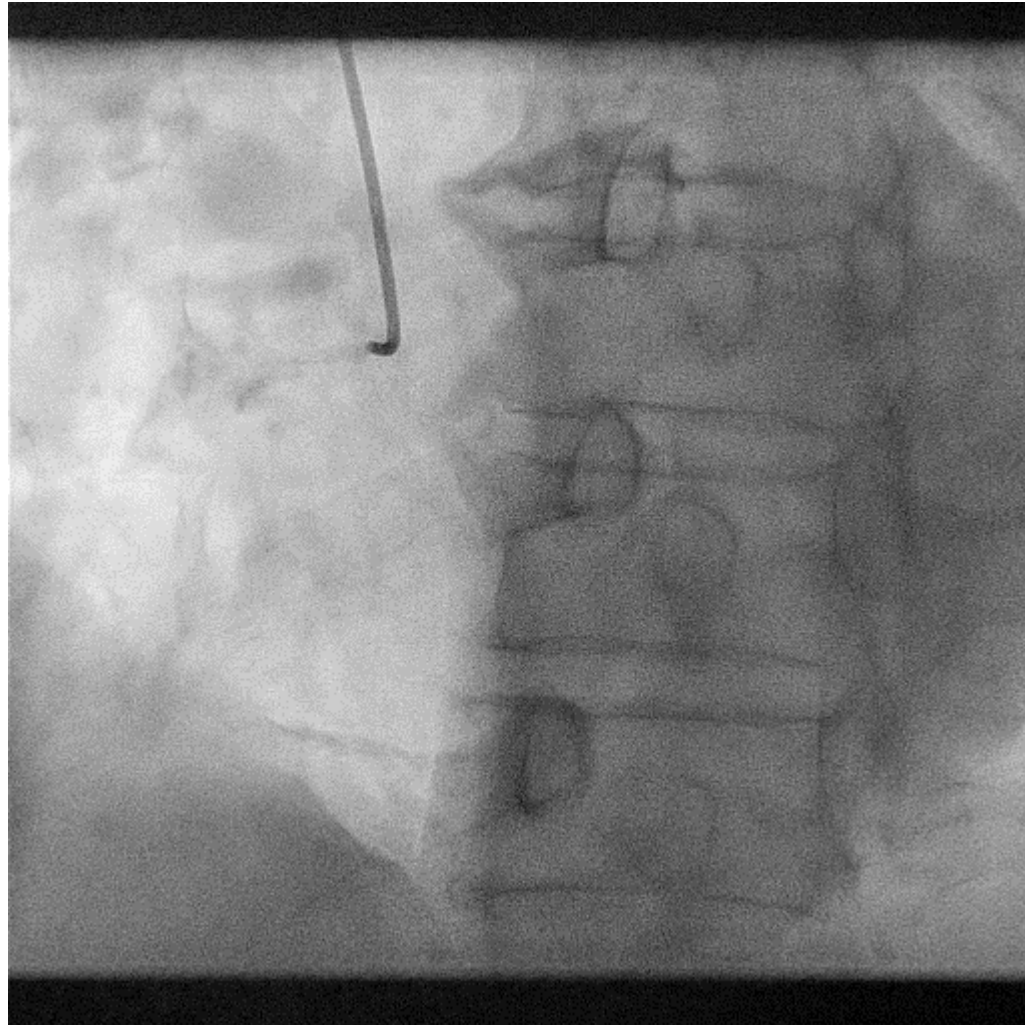
Case

- M/78, NSTEMI
- Dyspnea on exertion, class 3
- Hypertension on medication and renal dysfunction (Cr 1.8 mg/dL)
- Echo: preserved LV EF (45%) with hypokinesia in LAD territory



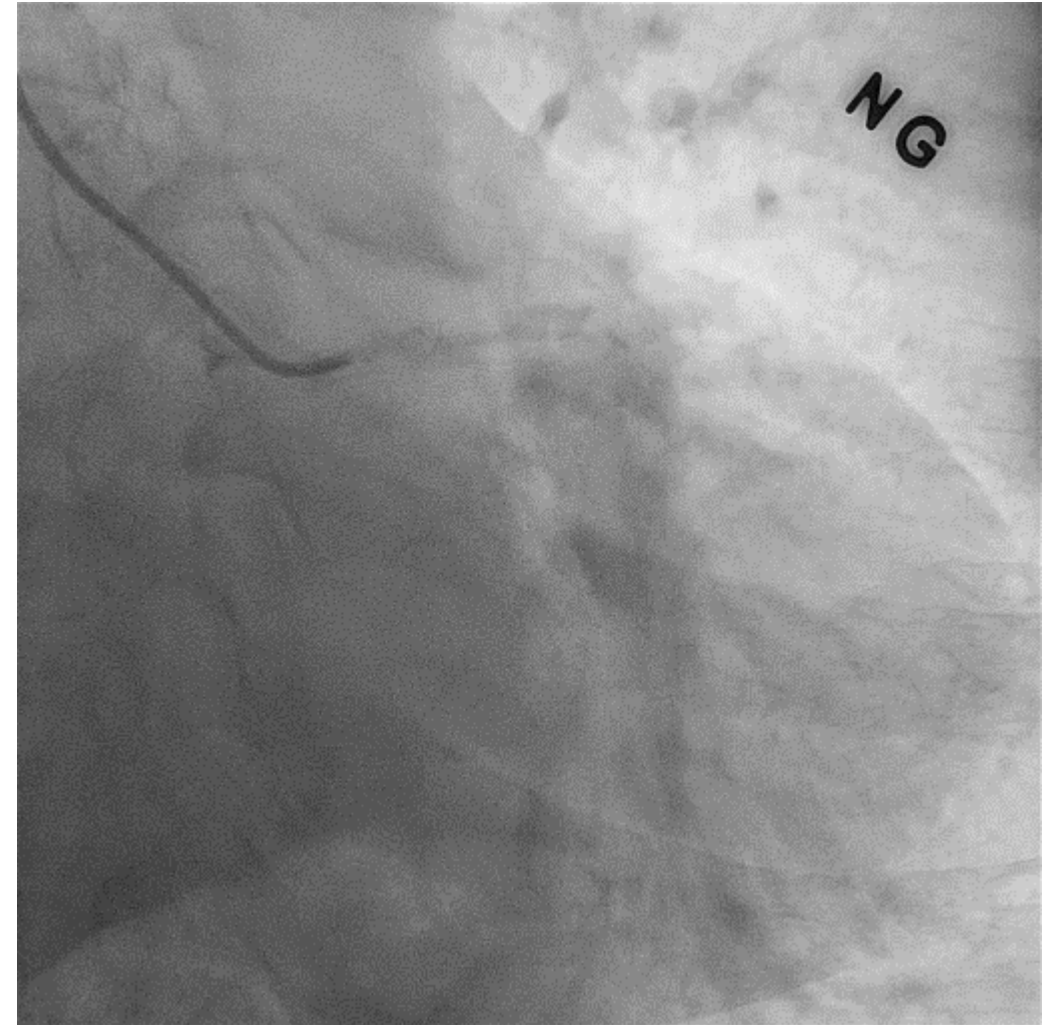
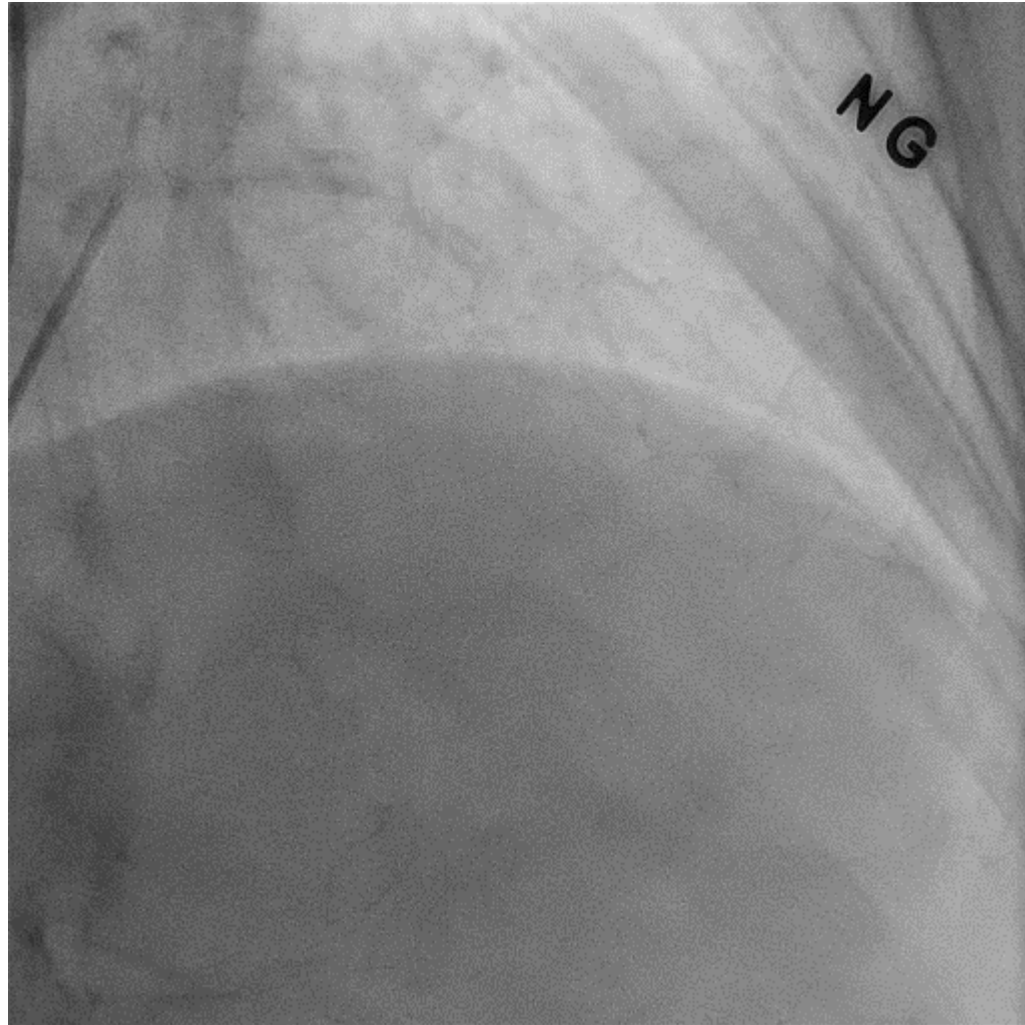


Coronary angiography: RCA



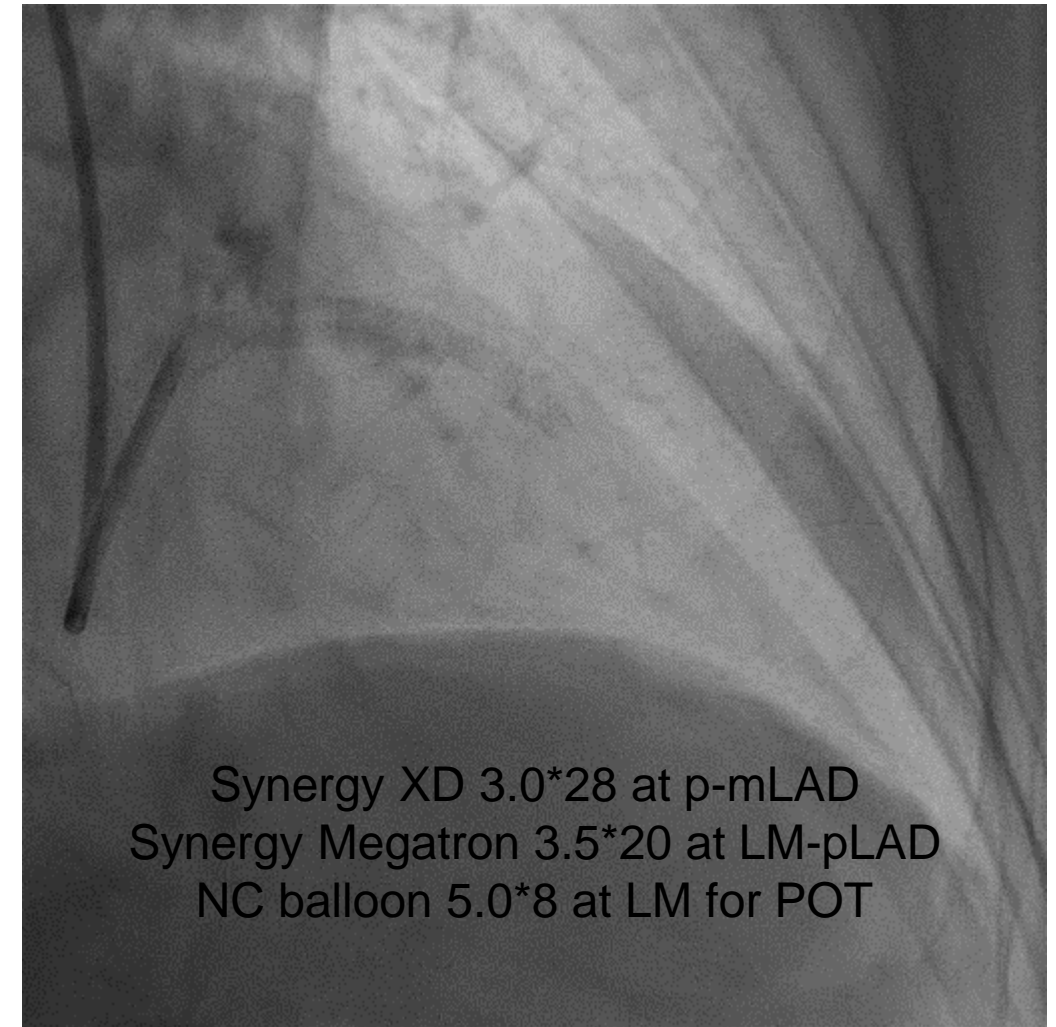
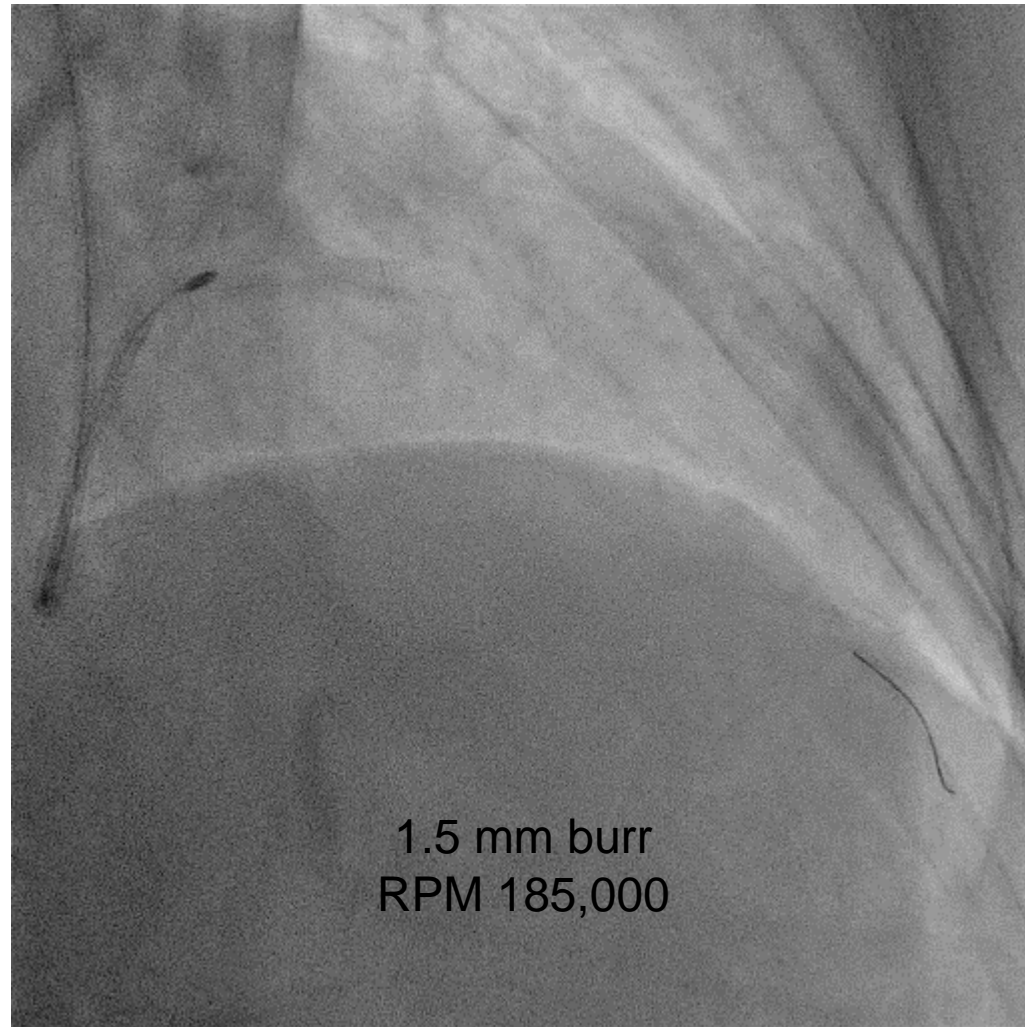


Coronary angiography: LCA



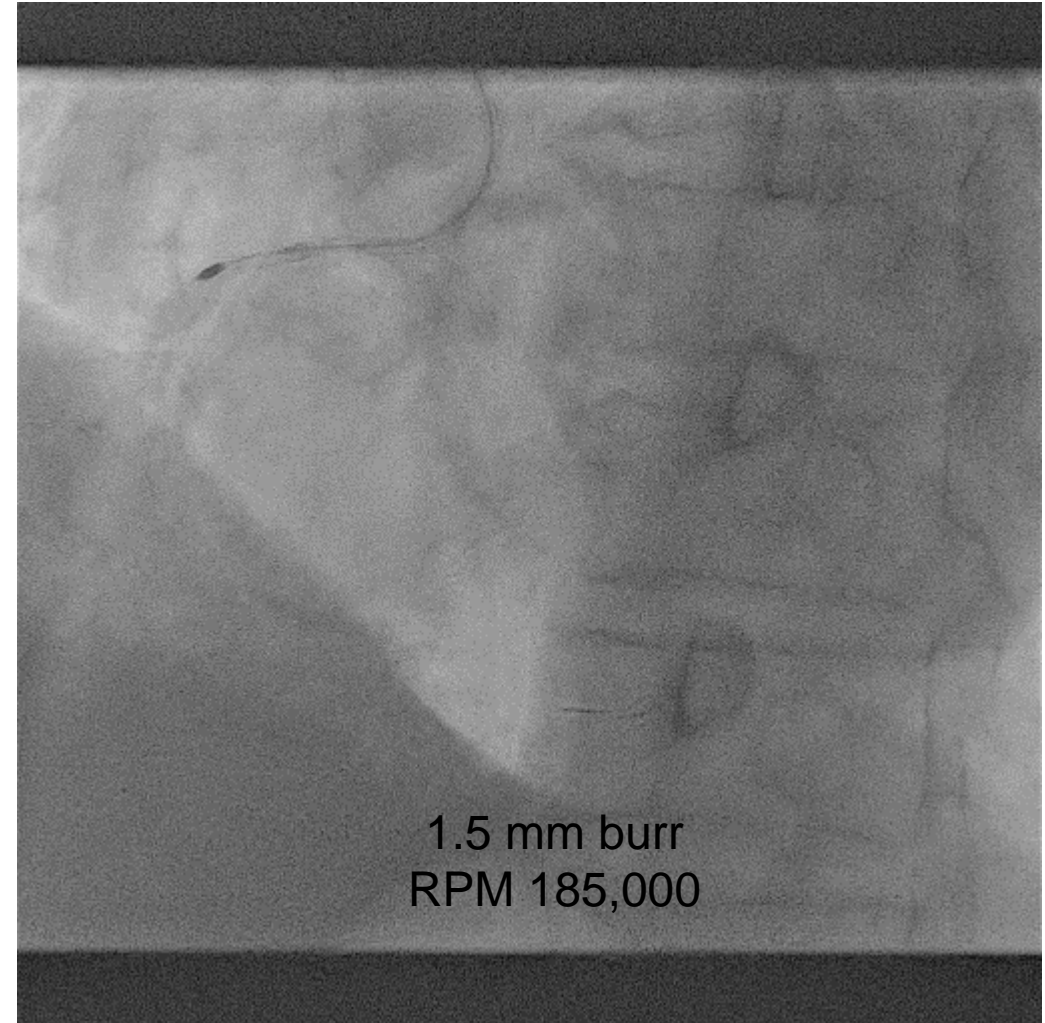
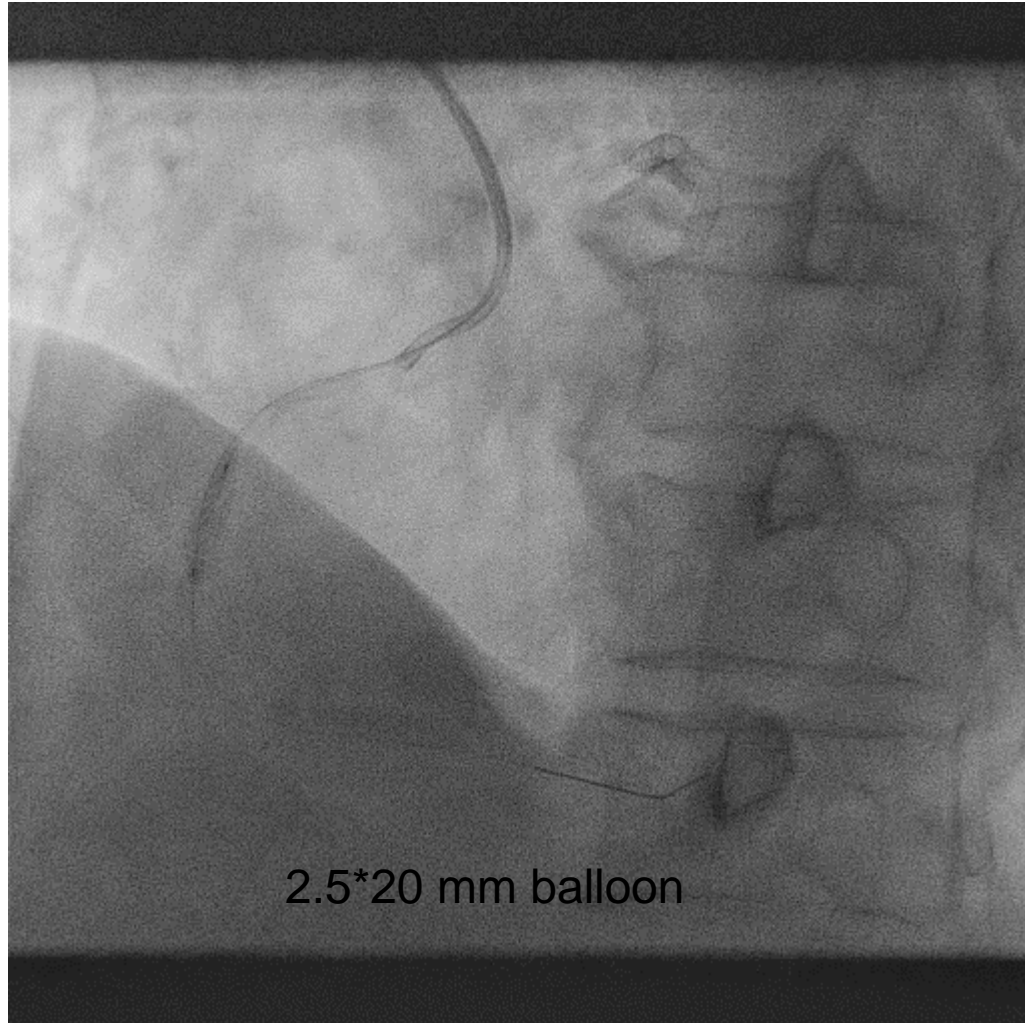


PCI for pLAD lesion



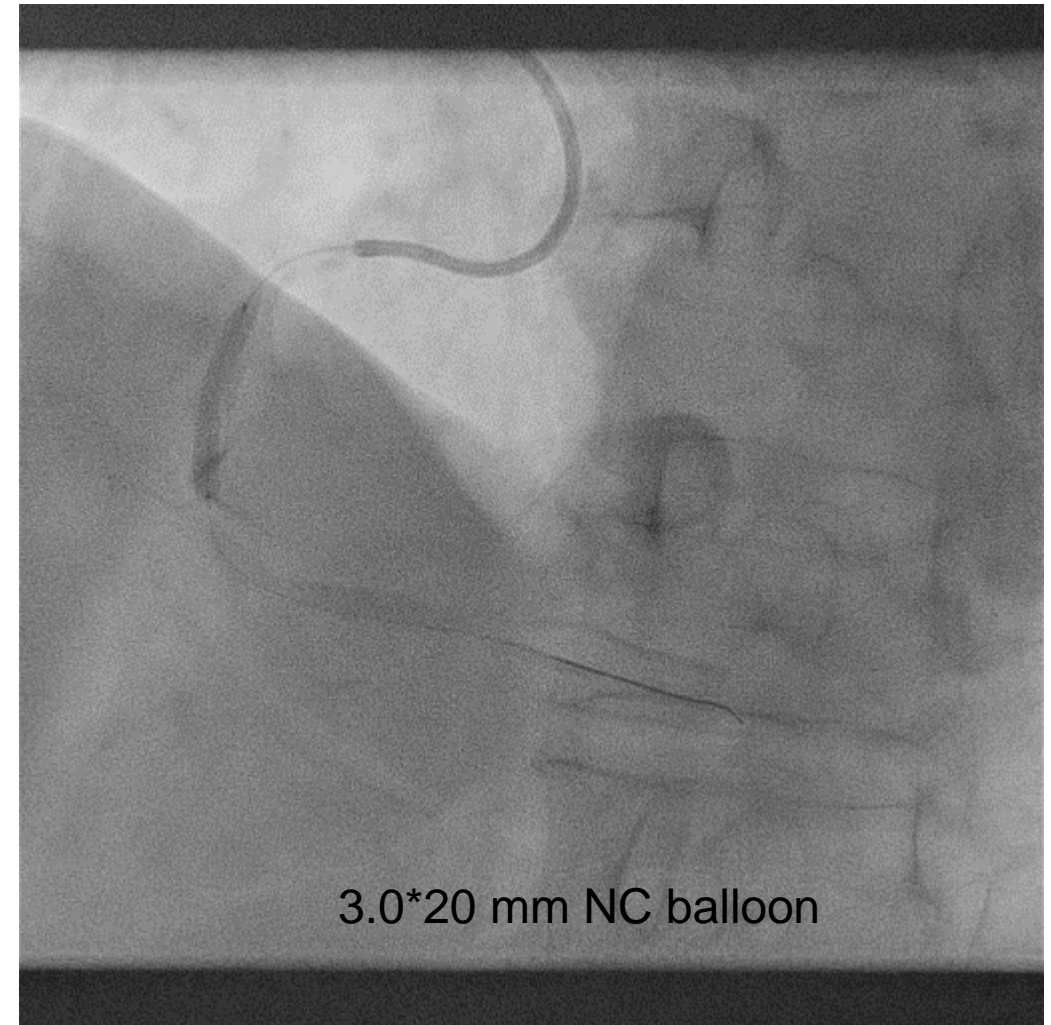
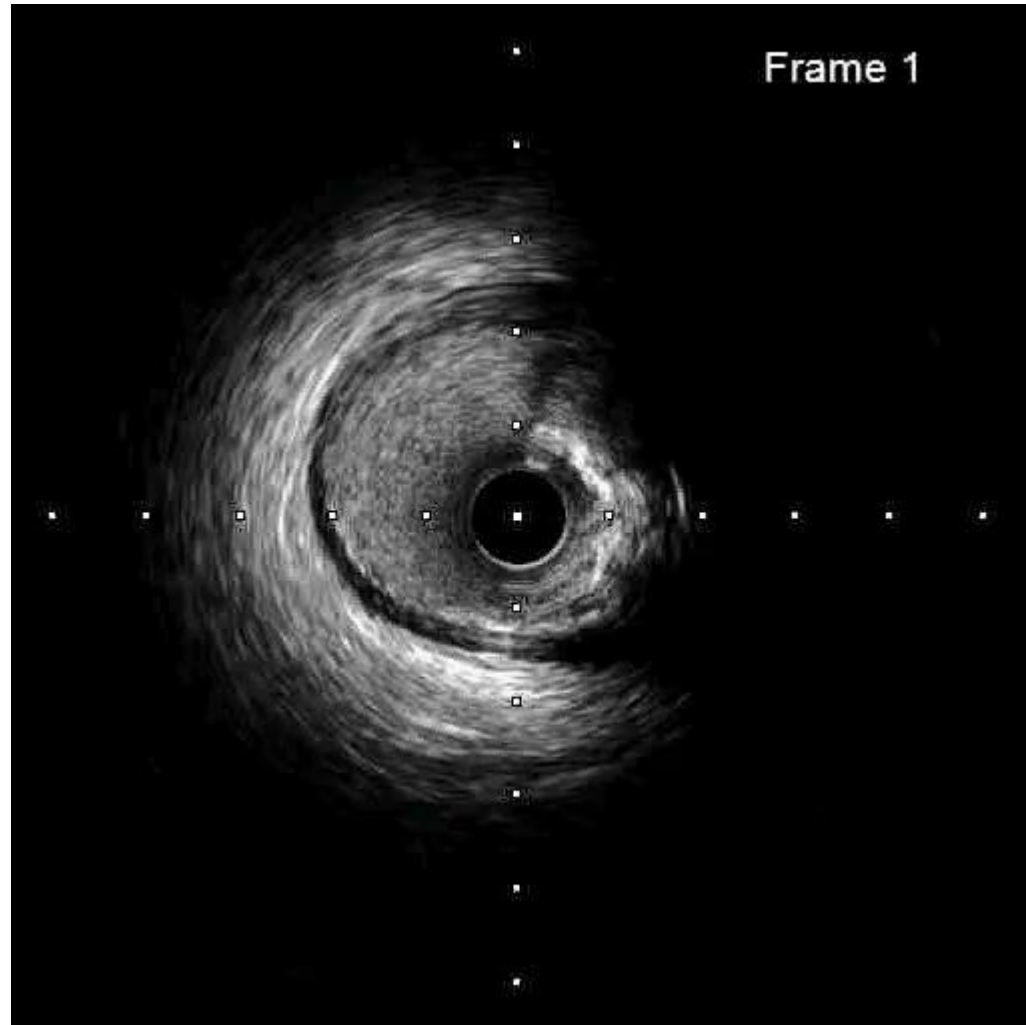


PCI for mRCA lesion



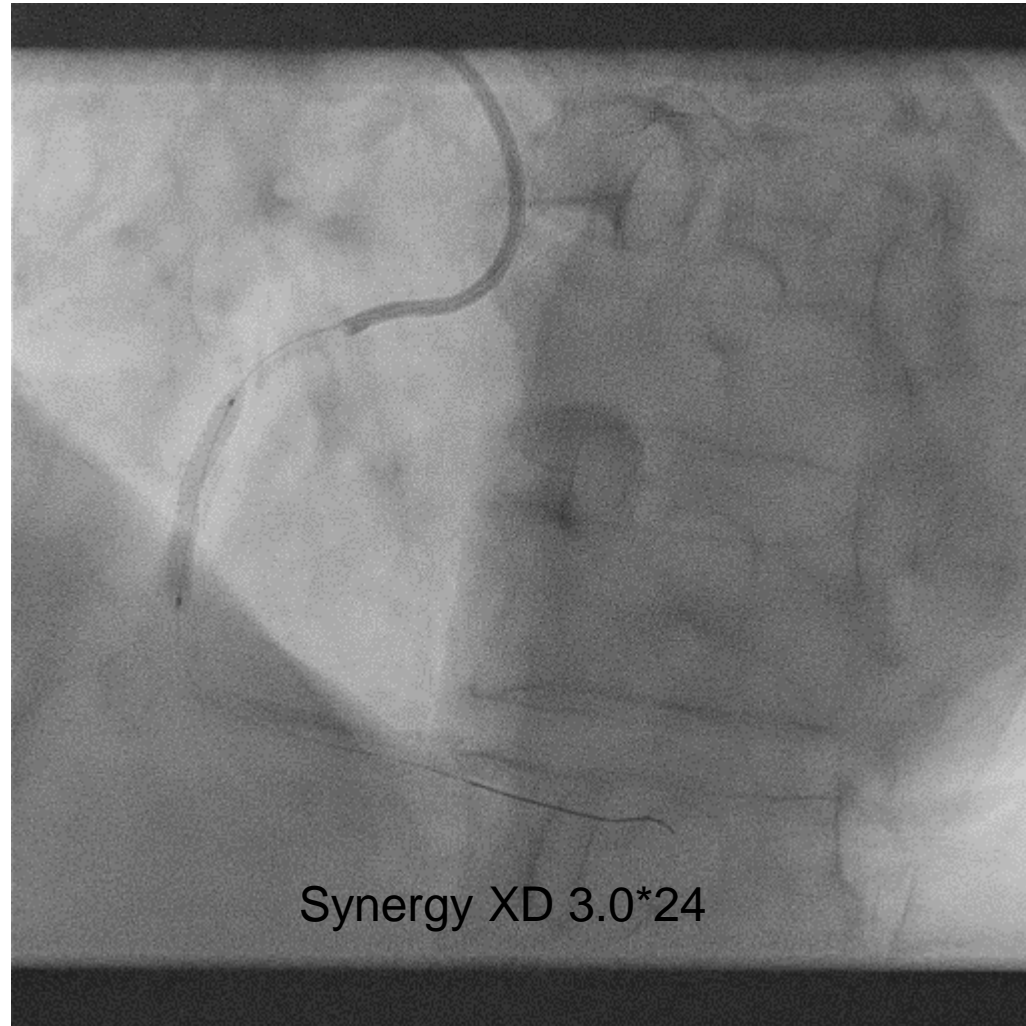


IVUS after rotablation and further predilatation

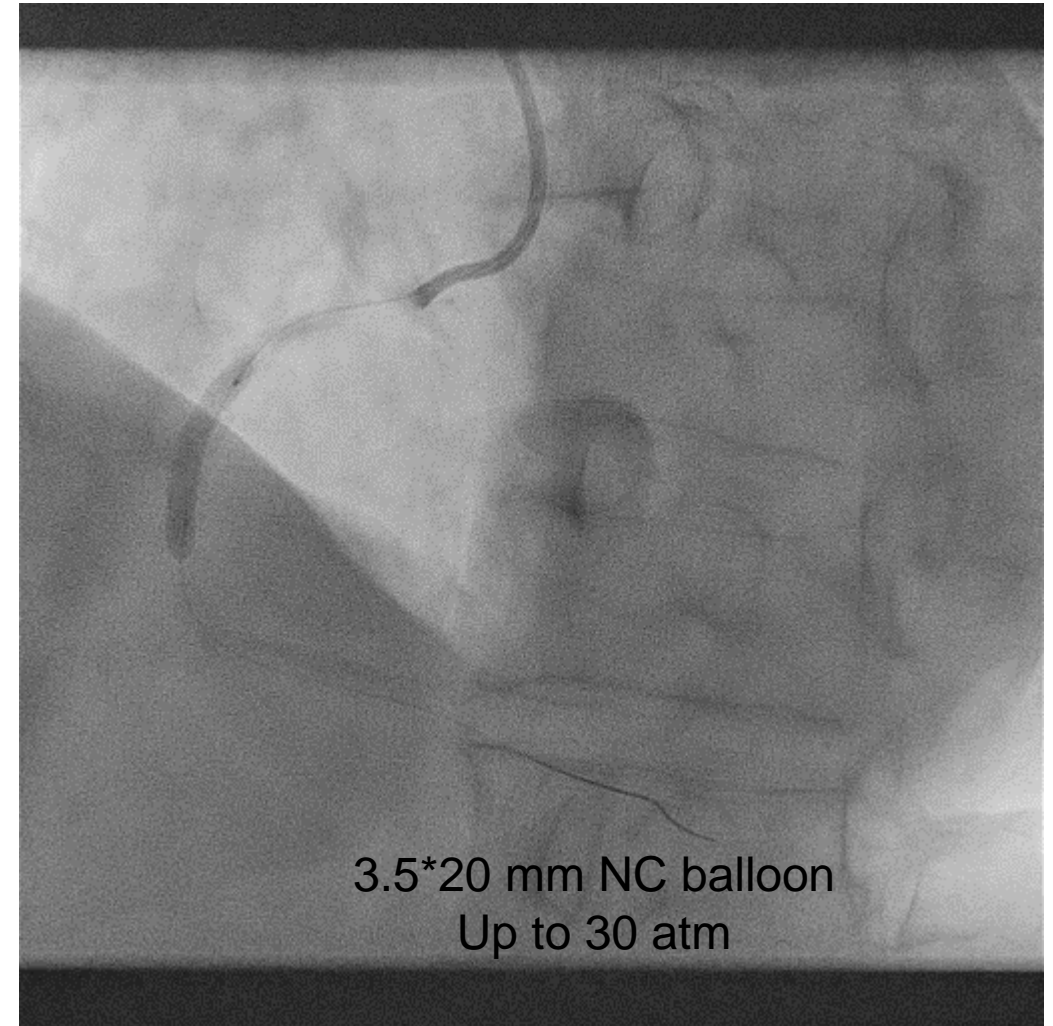




DES implantation and post-dilation



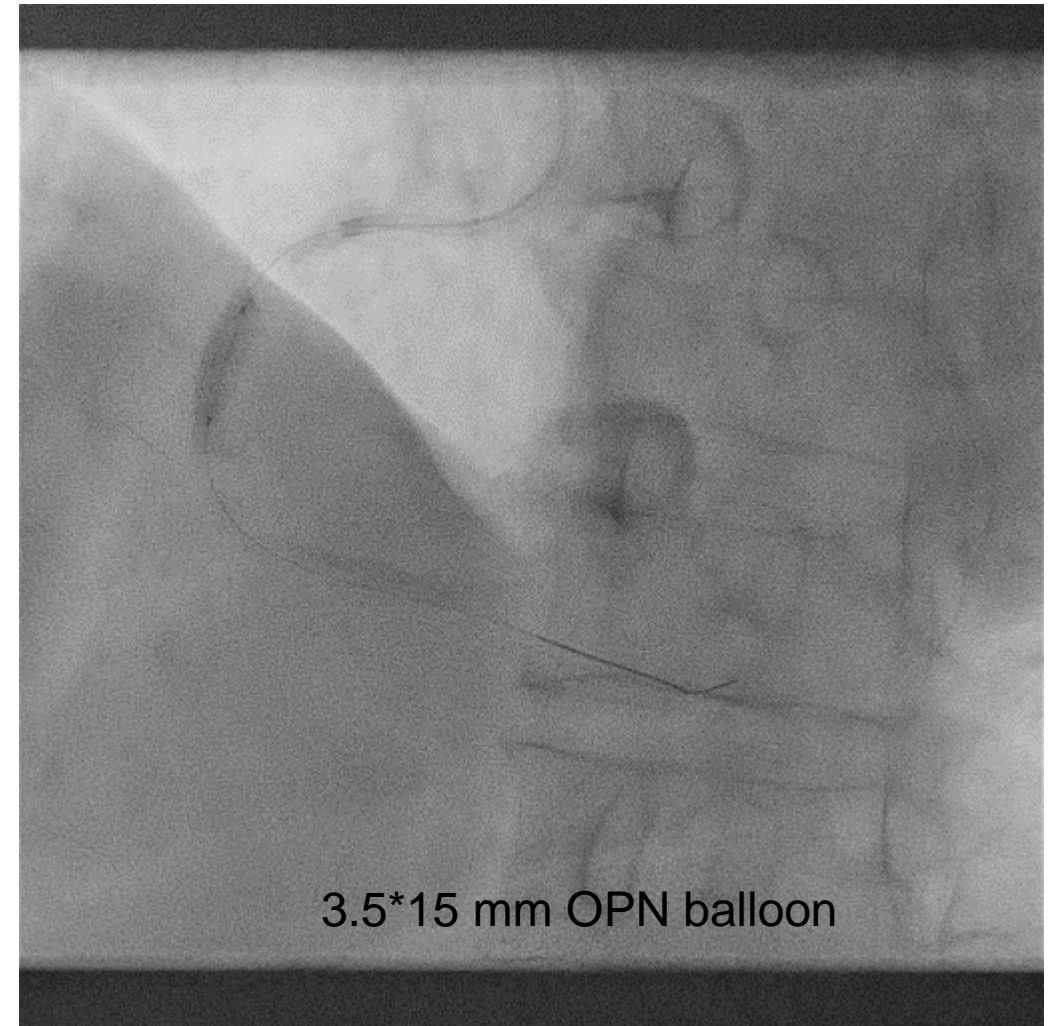
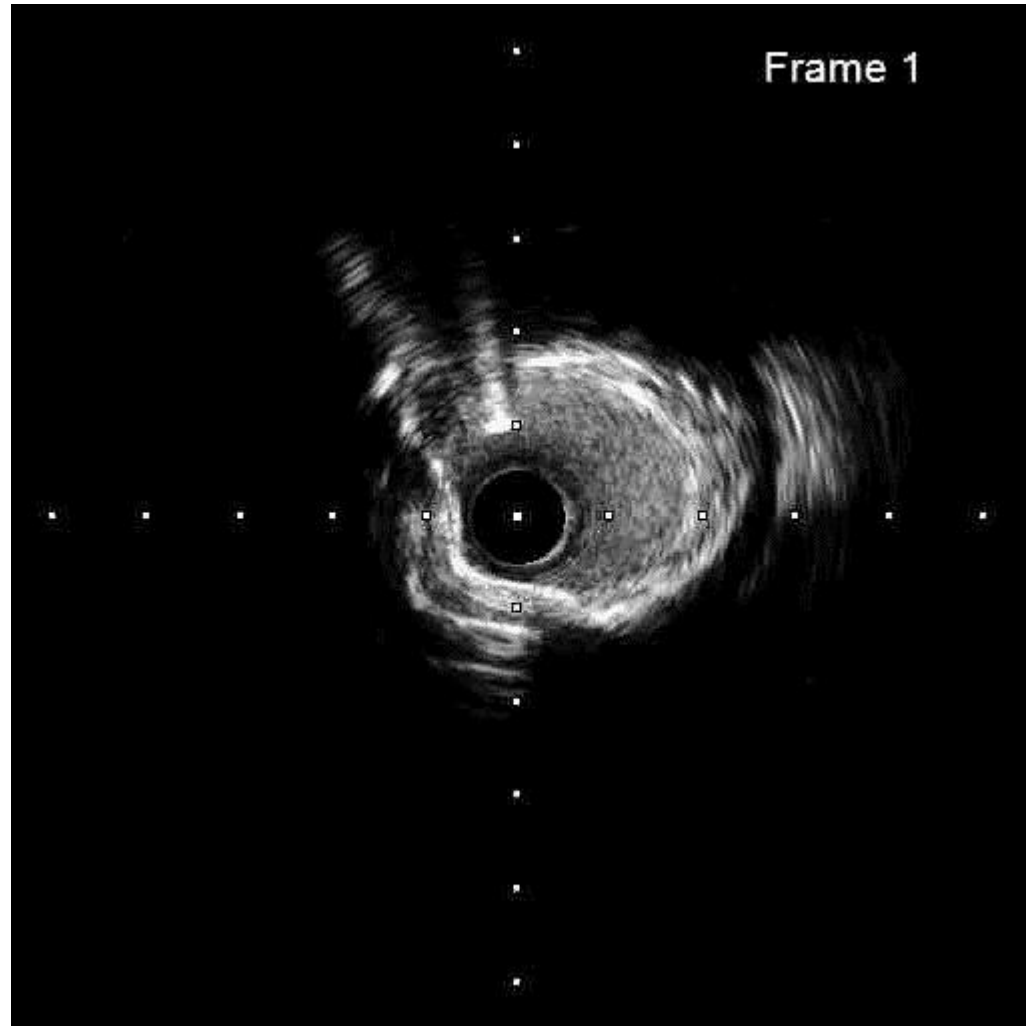
Synergy XD 3.0*24



3.5*20 mm NC balloon
Up to 30 atm

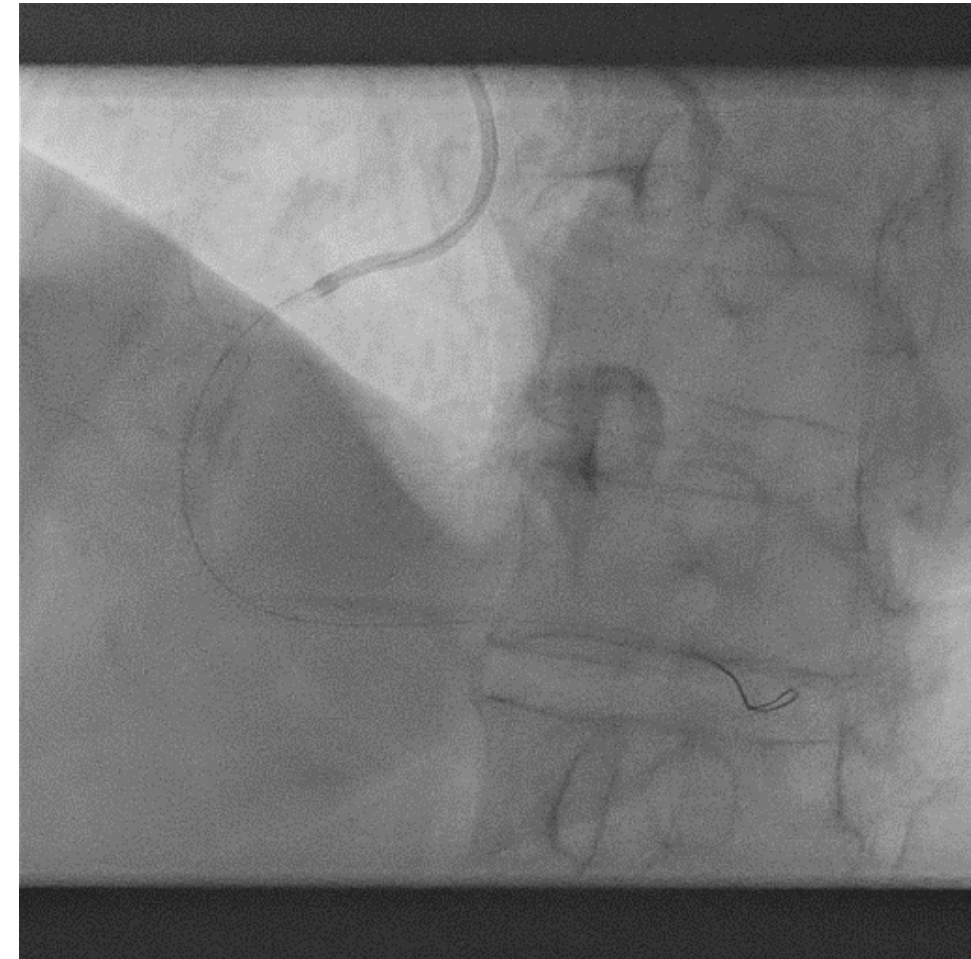
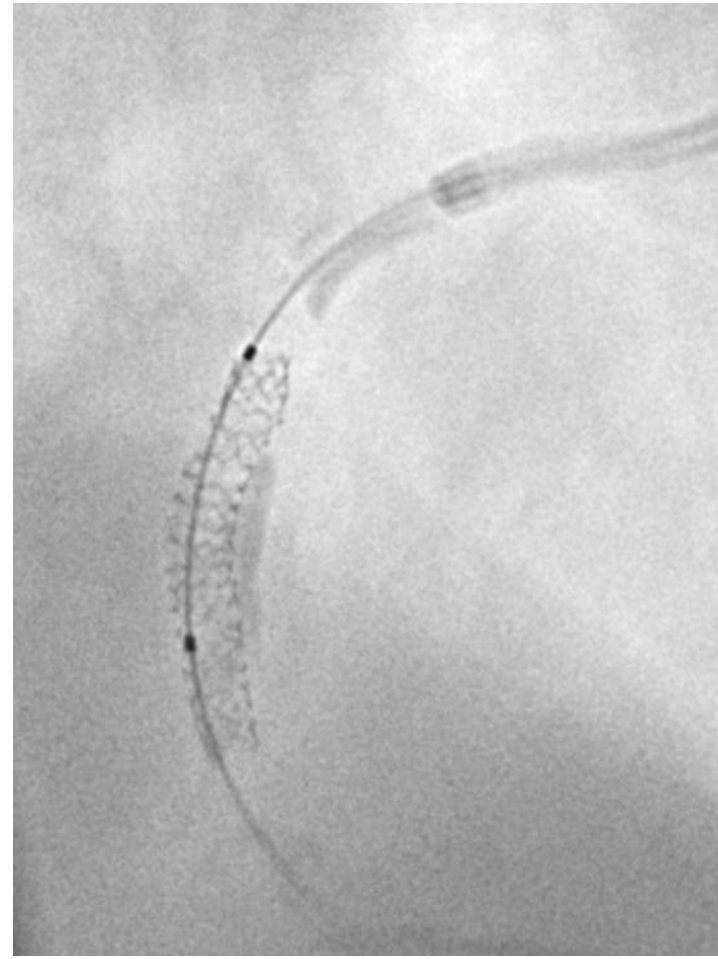


Super high-pressure balloon for adequate stent expansion



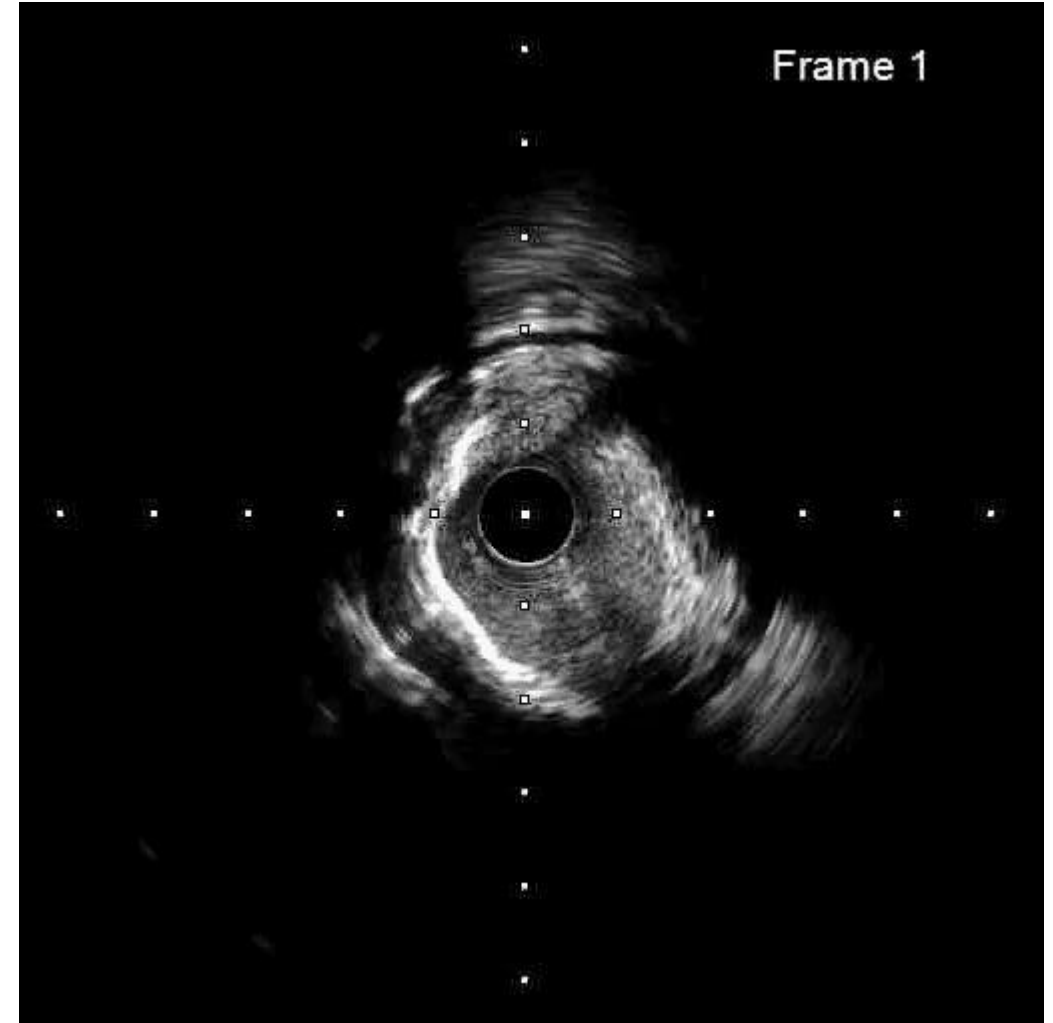
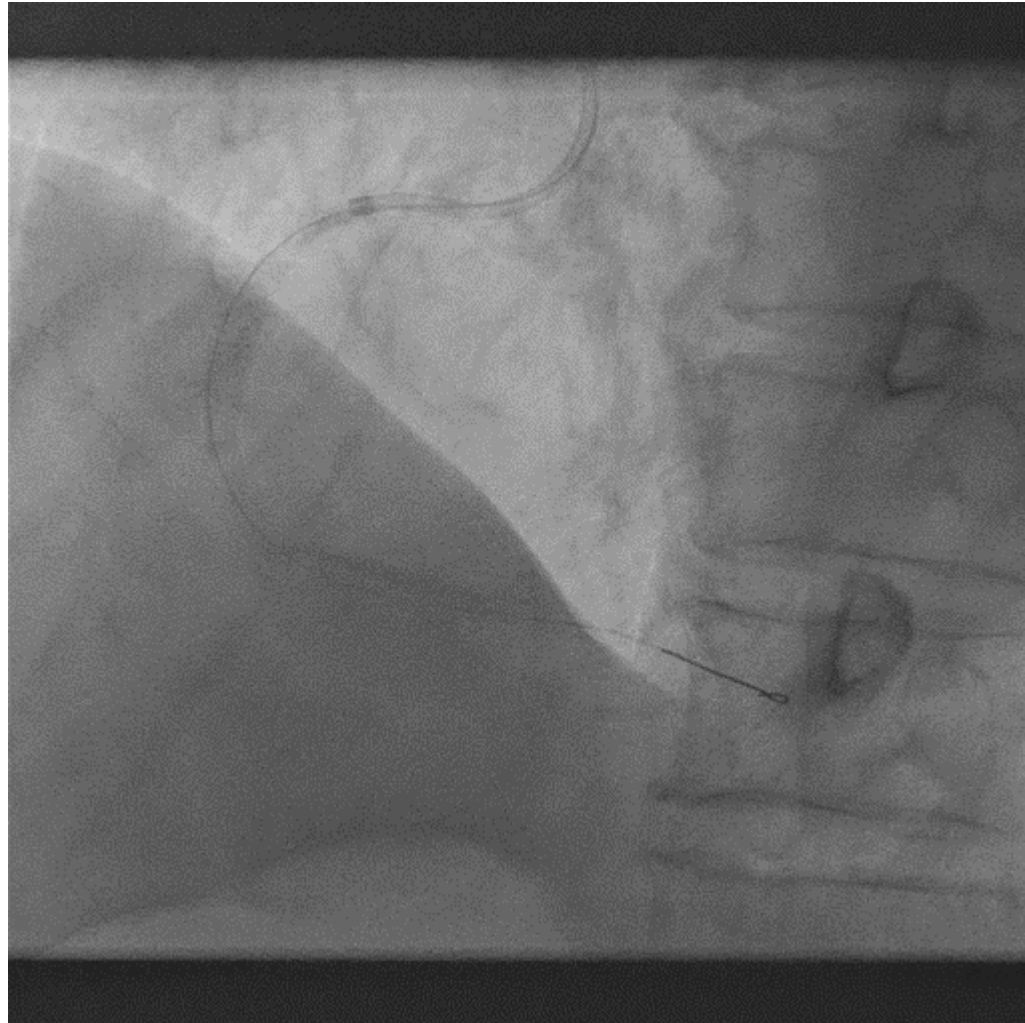


Before and after super high-pressure balloon





Final angiography and IVUS



Super high-pressure dilatation (OPN NC balloon)

Twin layer balloon construction with RBP 35 atm



Specifications:

- Twin layer balloon construction
- RBP 35atm (size increase by ~10%)
- Linear compliance curve up to over 40 atm
- Diameter 1.5 - 4.5mm

- N=91 lesions
failed with conventional NC balloon
- Angiographic success in 84 lesions (92%)
- Conventional NC → OPN NC
 - MLD 1.7 ± 0.8 mm → 2.4 ± 0.9 mm
 - %DS 41 ± 16 % → 20 ± 15 %
- No 30-day MACE



ISAR-CALC trial



74 patients randomised 1:1 at 5 centres

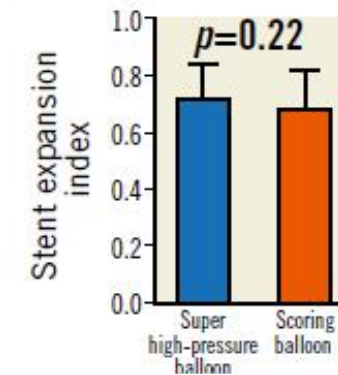
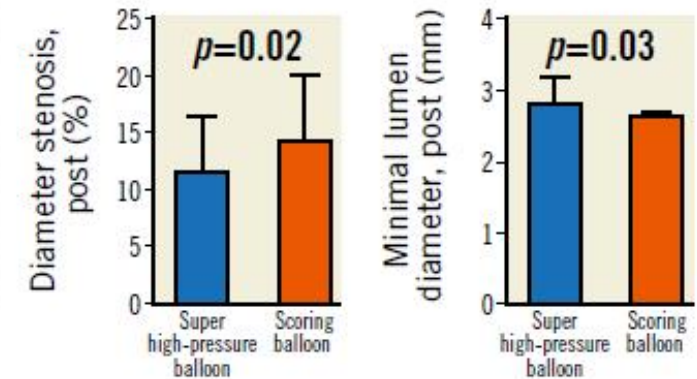
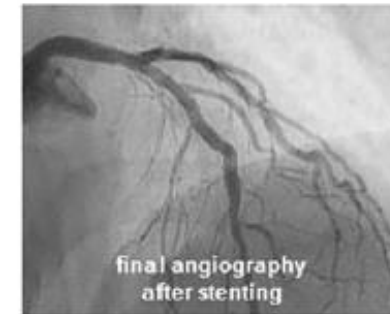


Super high-pressure balloon

Scoring balloon

	Super high-pressure balloon	Scoring balloon
Technology	Twin-layer construction	Nylon scoring elements
Diameter/length, range (mm)	1.5-4.5/10-20	2.0-4.0/13
Rated burst pressure (atm)	35	14

Diameter stenosis, post, %	11.6±4.8	14.4±5.6	0.02
Minimal lumen diameter, post, mm	2.83±0.34	2.65±0.36	0.03





My reflection

- OCT rather than IVUS
 - Renal dysfunction
- Size up of rota burr
 - MLD after rotablation was almost 2.0 mm.
- IVL after rotablation
 - IVL is currently unavailable.

감사합니다.
Thank you for your attention.

