



# **FFR and IVUS-guided PCI in patients undergoing heart transplantation**

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# Disclosure

## ▶ Grant support

- Korean Society of Interventional Cardiology
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- Abbott Vascular, Boston Scientific, Biotronik, Biometrics, and Medtronic

## ▶ Consulting Fees/Honoraria

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

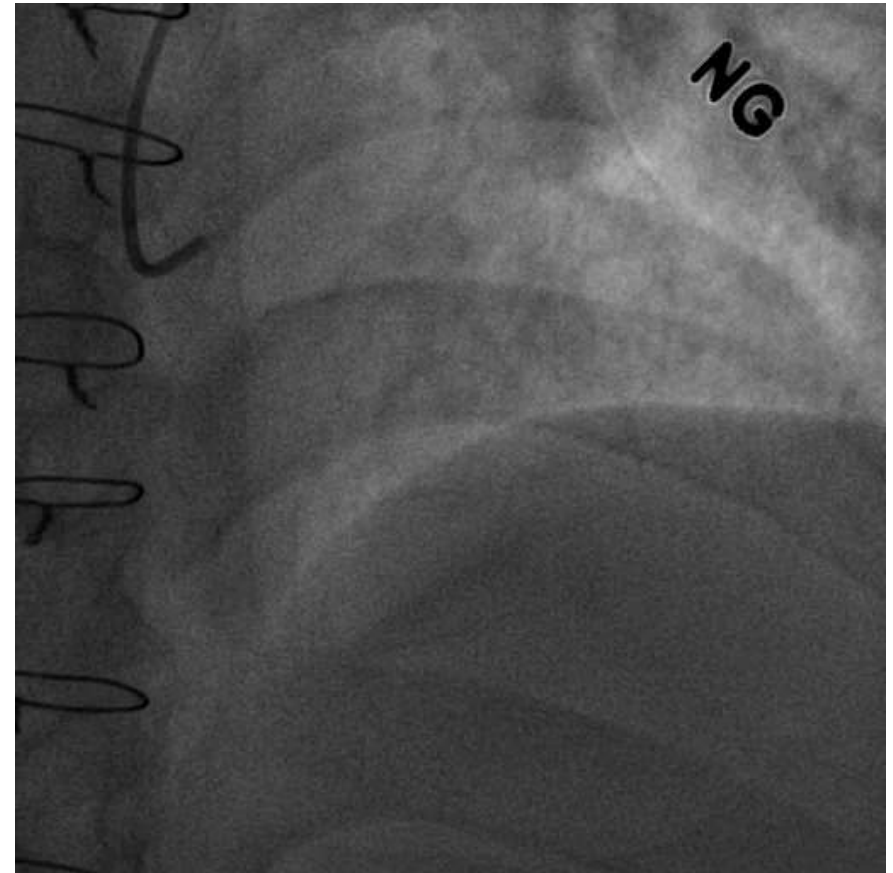
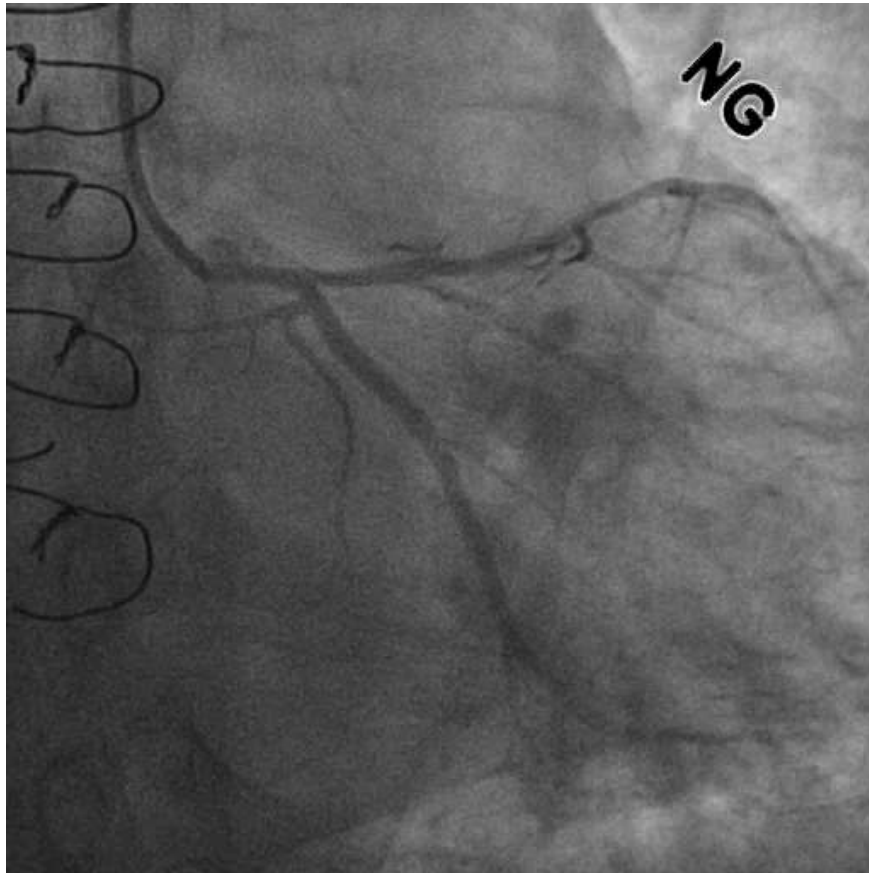


# Case

- ▶ M/37
- ▶ 7YA, heart transplantation was performed.
- ▶ Dyspnea on exertion developed 1 month ago.
- ▶ DM/HTN on medication
- ▶ Echocardiography
  - Normal LV systolic function



# Coronary angiography

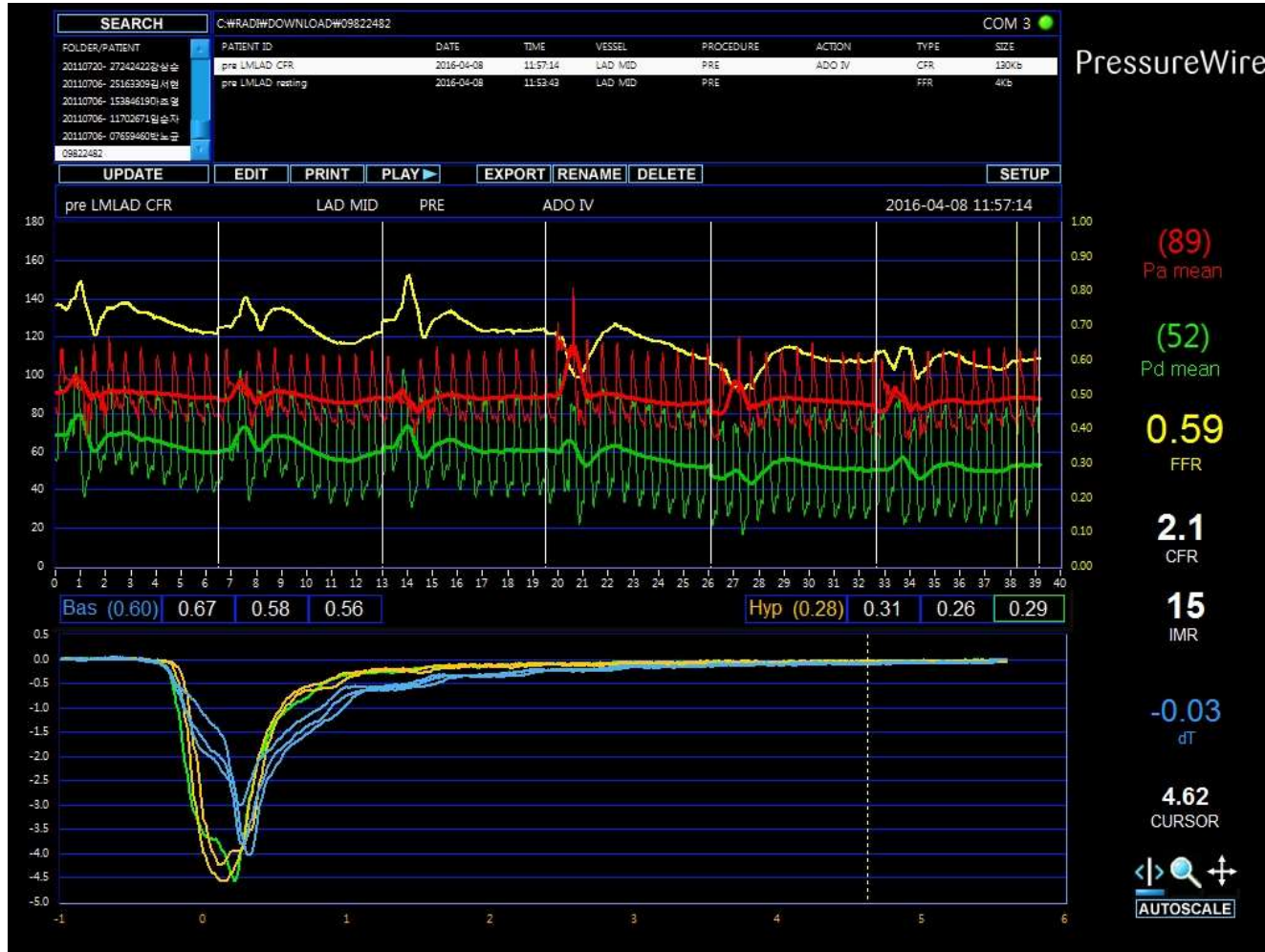




# Physiologic study – FFR

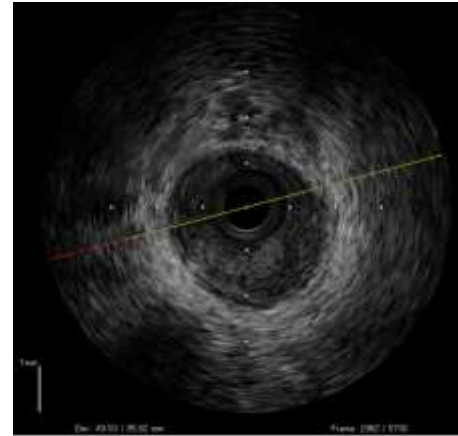
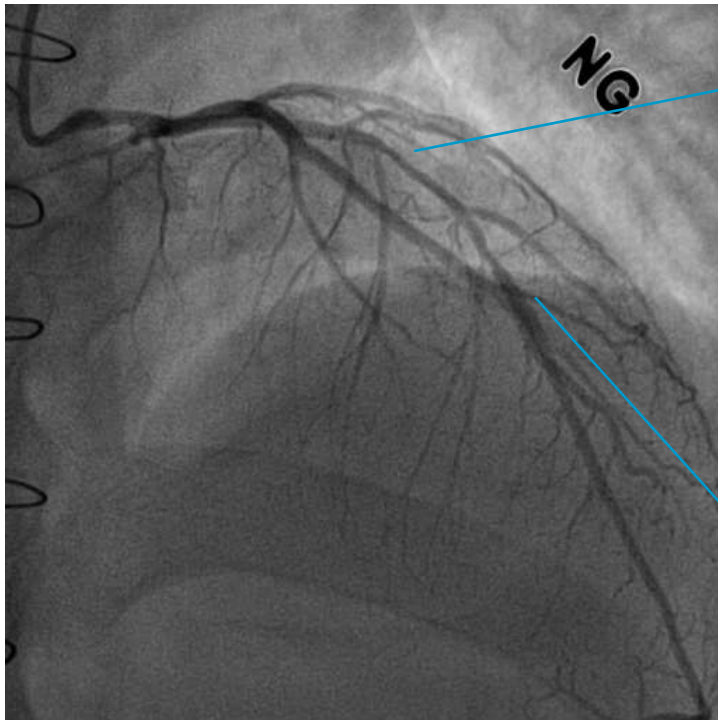


# Physiologic study – CFR & IMR

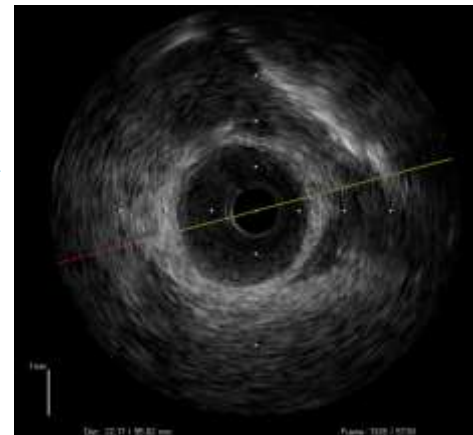




# IVUS

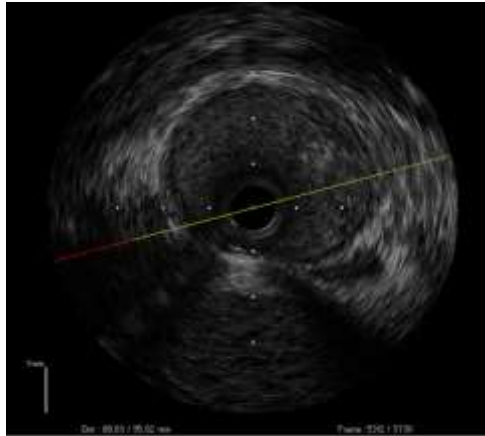


MLA  
1.8 mm<sup>2</sup>

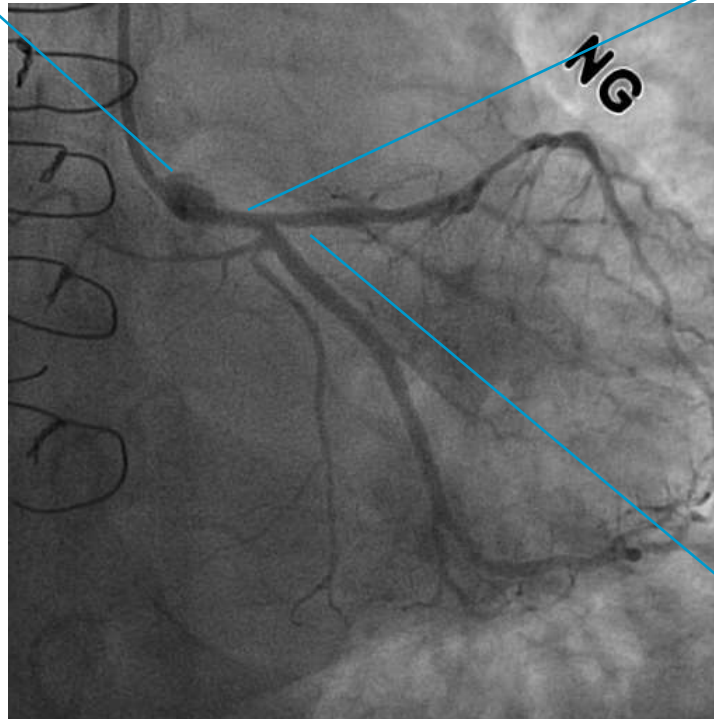
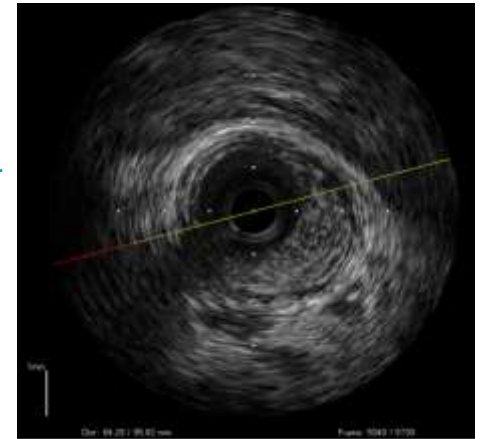




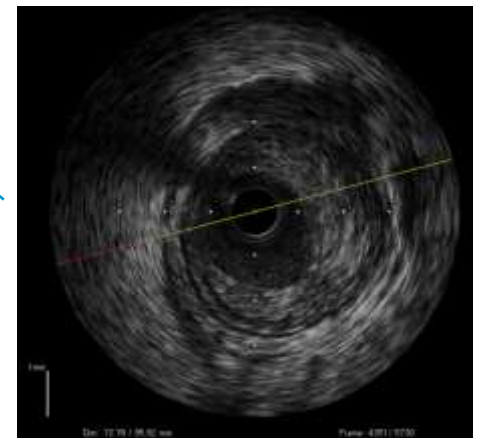
# IVUS



LA 3.9 mm<sup>2</sup>  
PB 66%

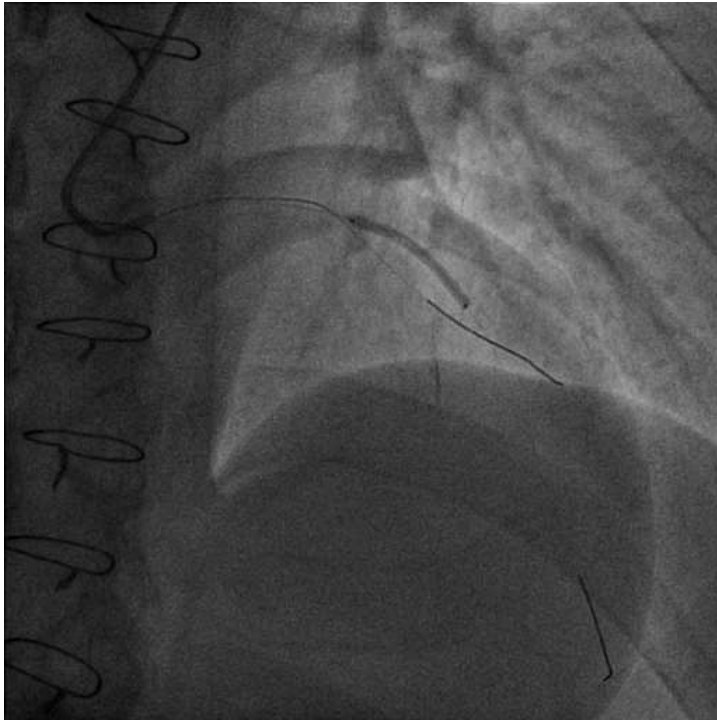


LA 4.9 mm<sup>2</sup>  
PB 69%





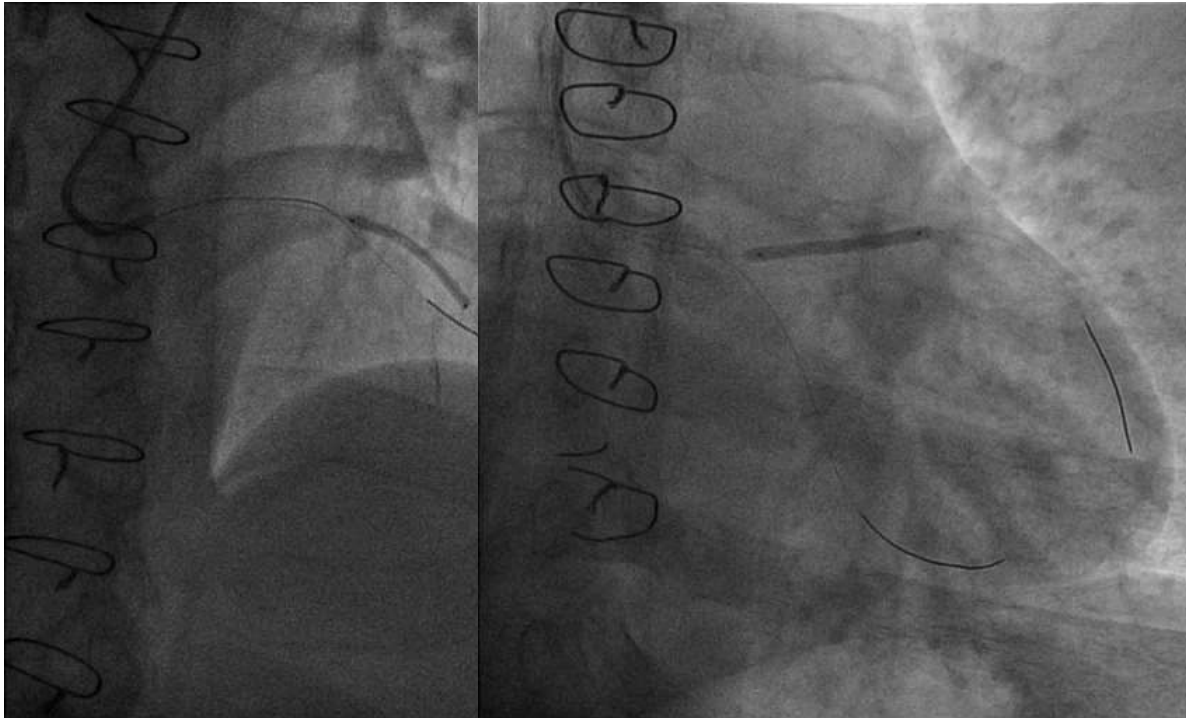
# Ballooning



2.5\*30 mm balloon



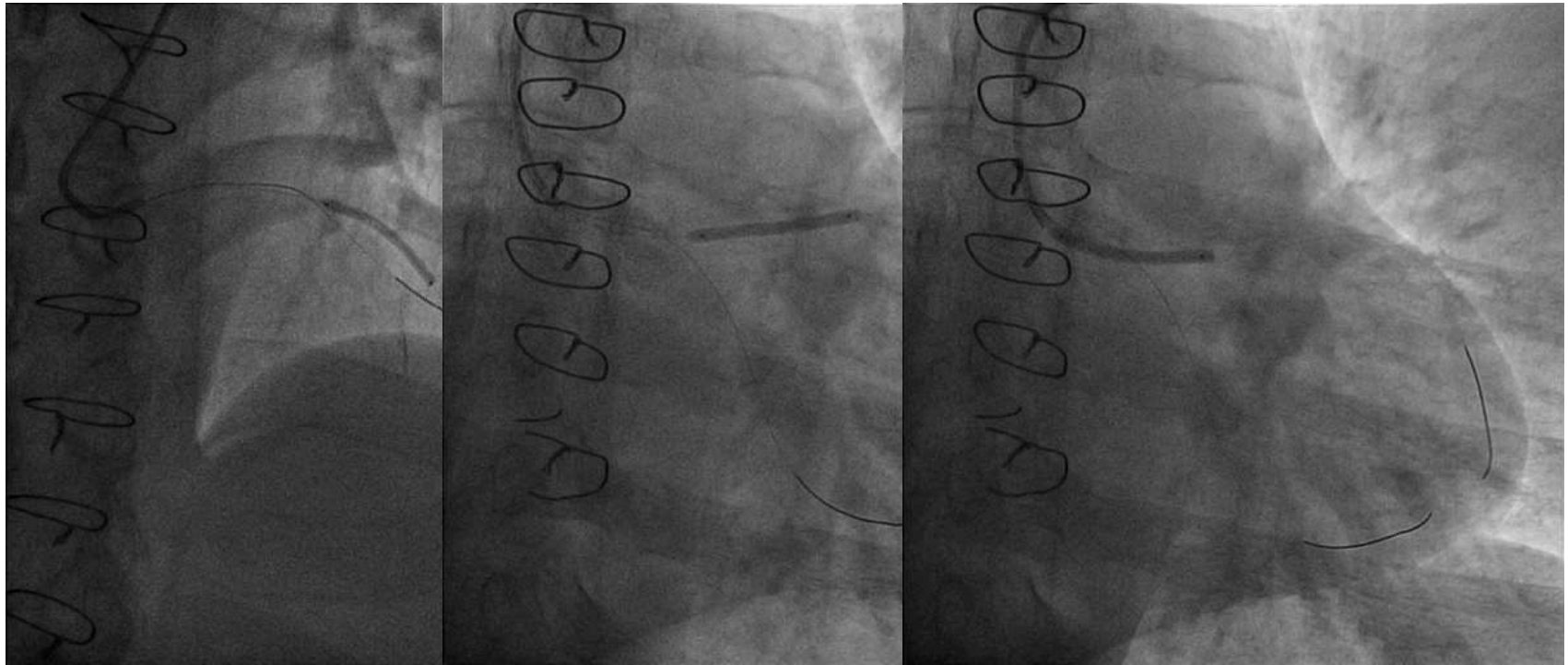
# Ballooning



2.5\*30 mm balloon



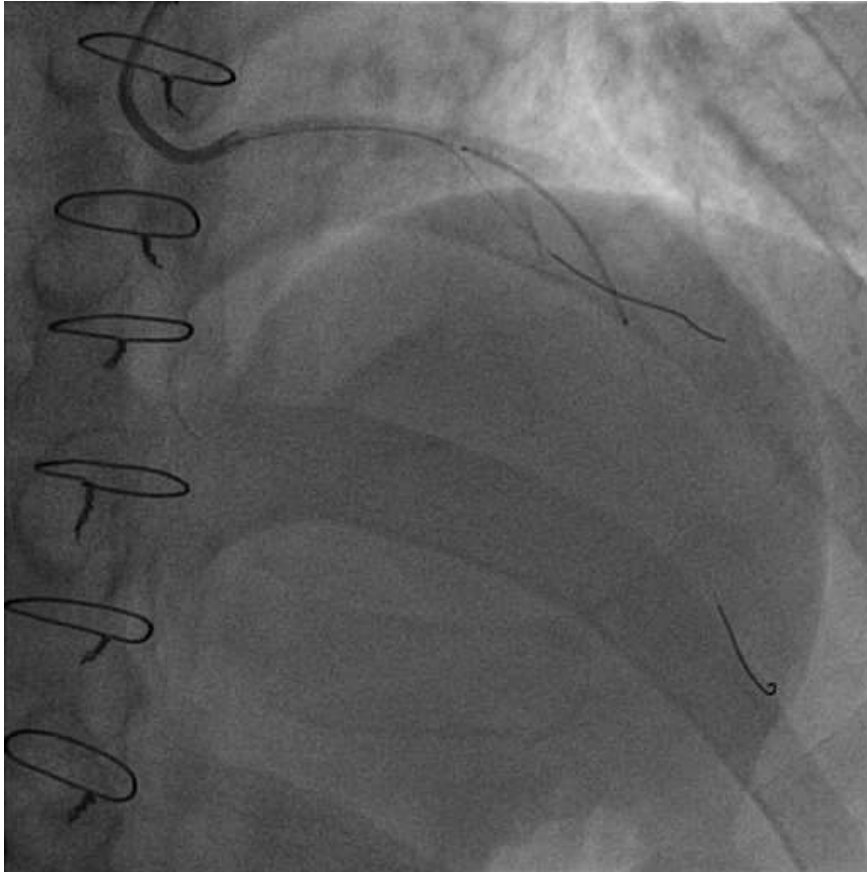
# Ballooning



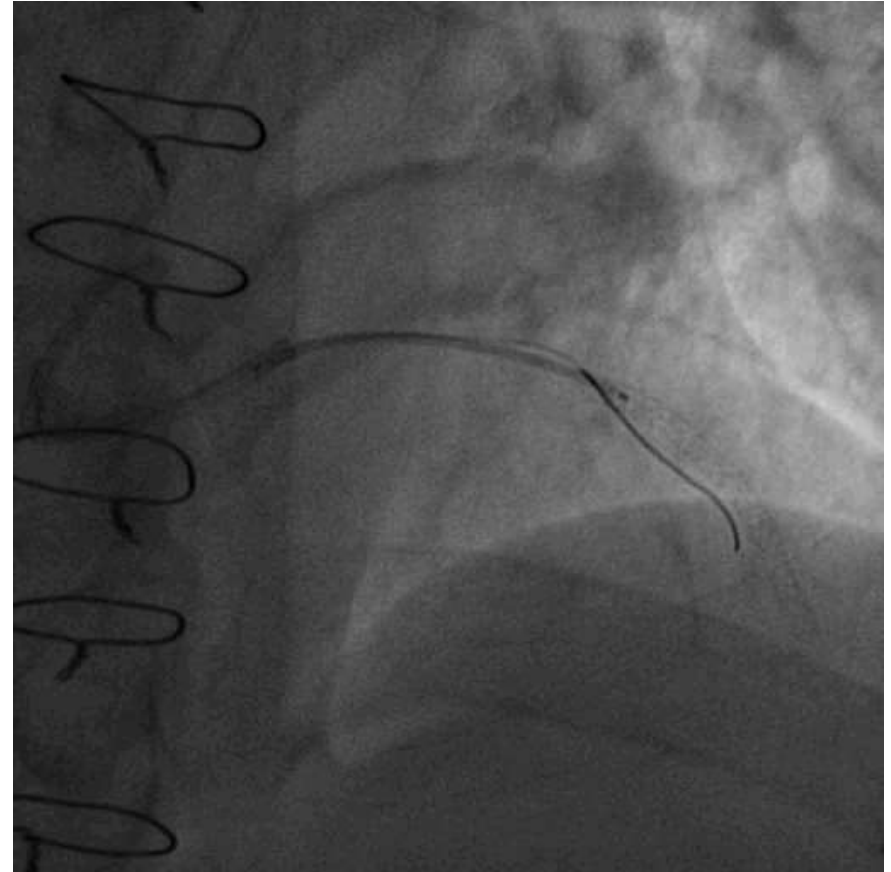
2.5\*30 mm balloon



# Stenting



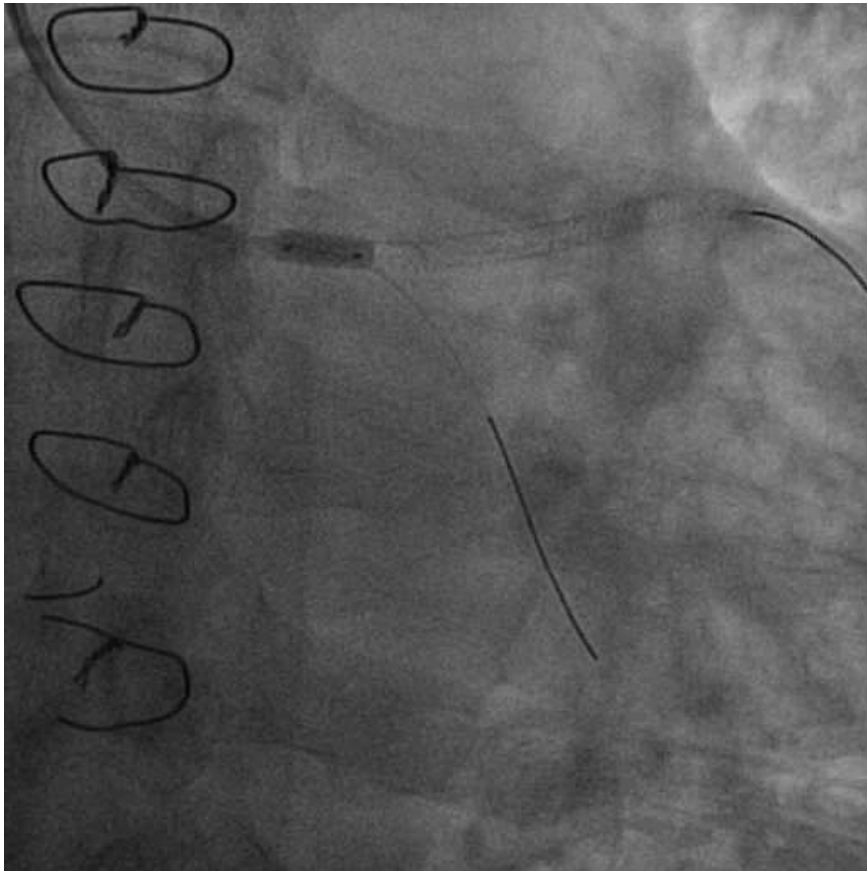
2.5\*38 Onyx stent



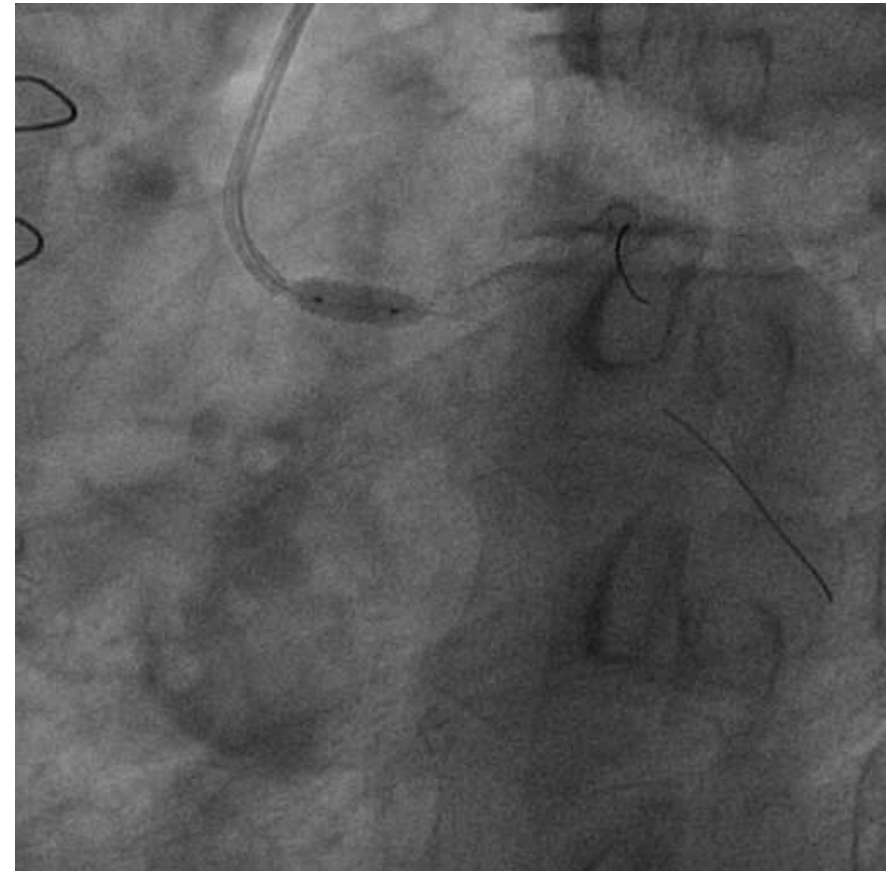
3.5\*38 Onyx stent



# Adjunctive ballooning in LM



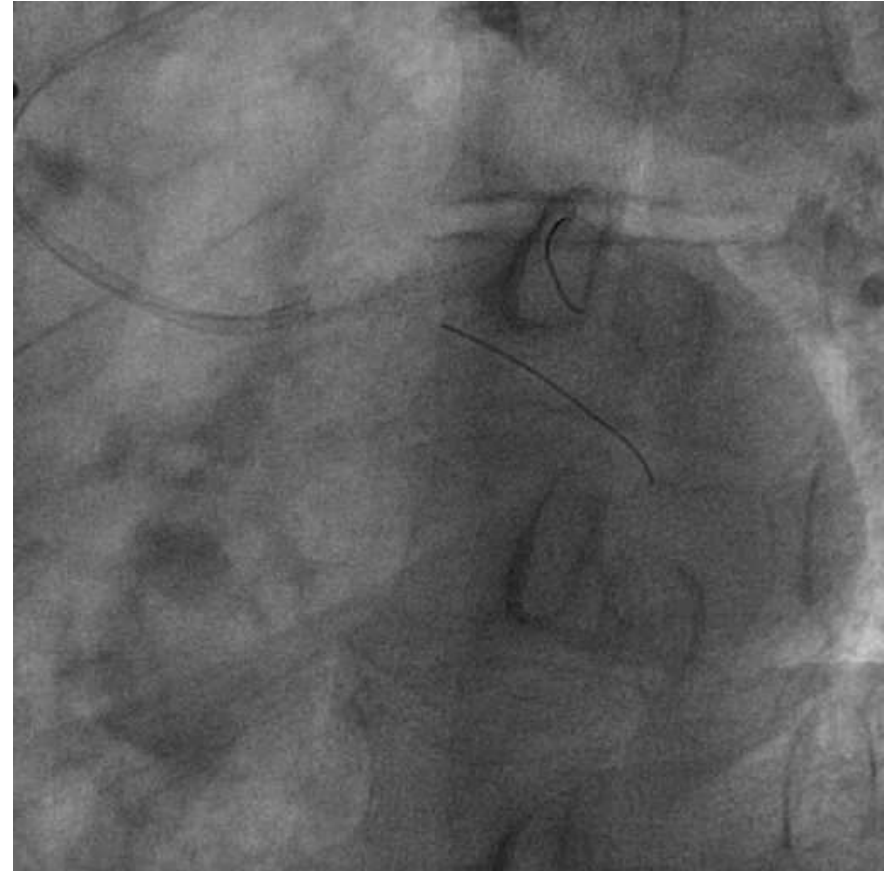
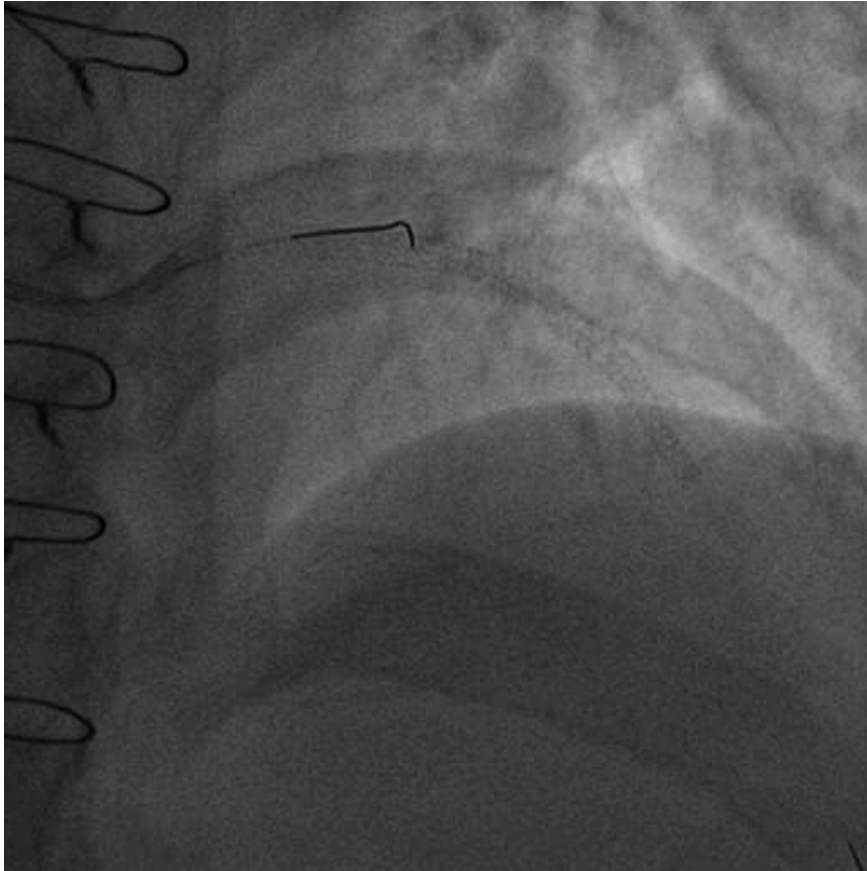
4.0\*10 NC balloon



4.0\*10 NC balloon

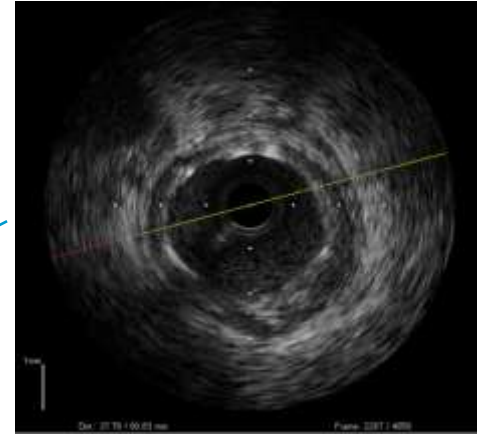
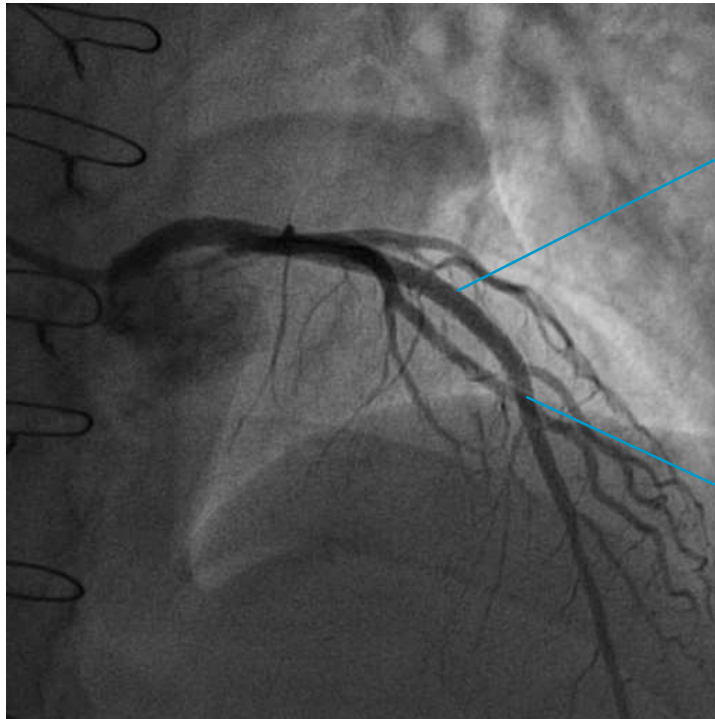


# Post-PCI angiography

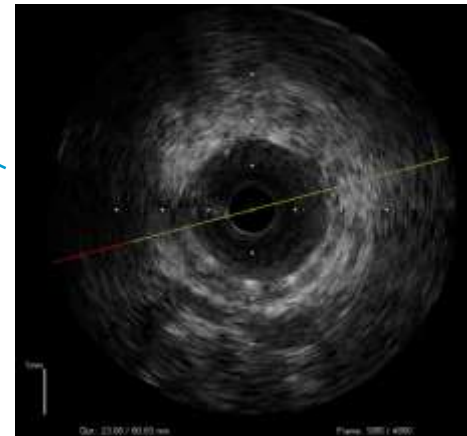




# Post IVUS



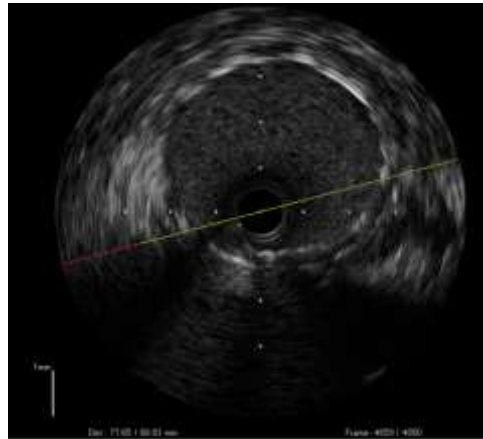
SA  
8.3 mm<sup>2</sup>



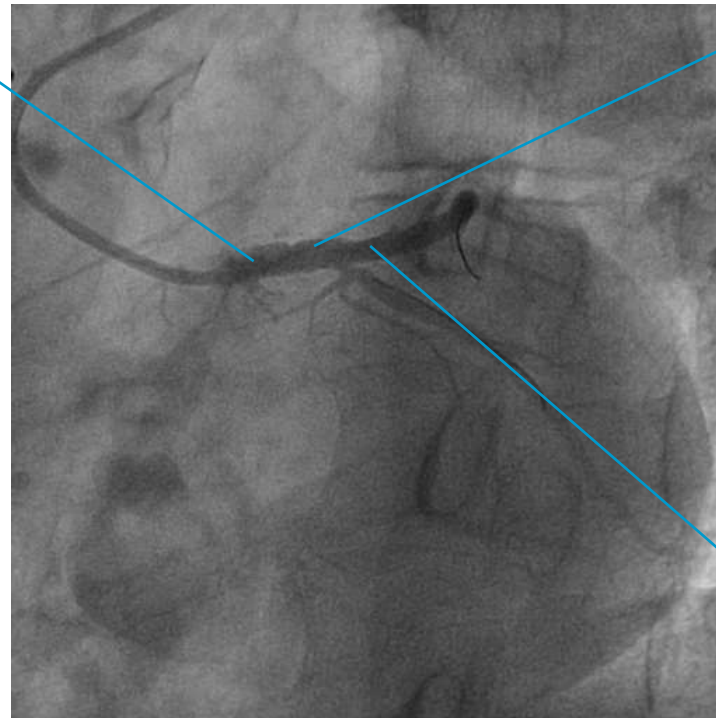
MSA  
6.9 mm<sup>2</sup>



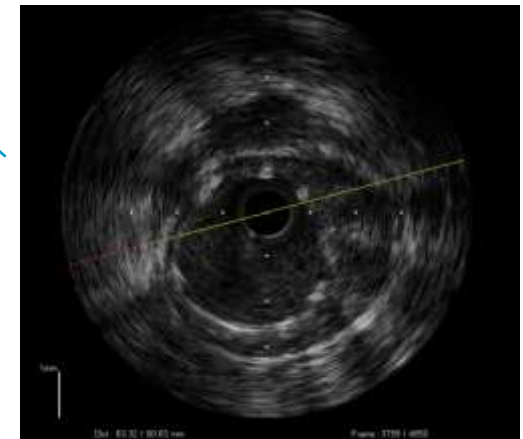
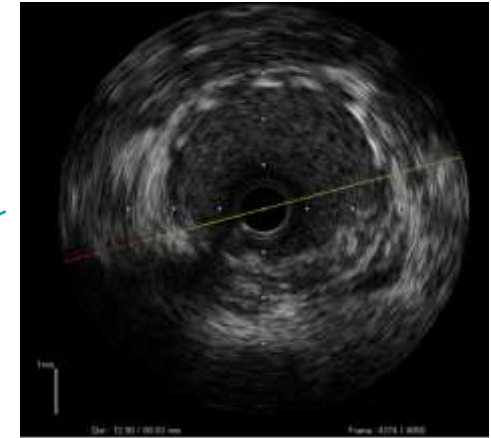
# Post IVUS



SA  
15.8 mm<sup>2</sup>



SA  
12.4 mm<sup>2</sup>



SA  
8.4 mm<sup>2</sup>



# FFR after PCI





# CFR & IMR after PCI





# Summary

- ▶ Patients undergoing cardiac transplantation may have coronary artery disease from diverse causes.
  - Cardiac allograft vasculopathy
  - Progression of atherosclerosis
  
- ▶ Physiologic and imaging studies can guide treatment strategy and help optimization of PCI.
  
- ▶ The efficacy of 2<sup>nd</sup> generation DES may be superior to that of BMS and 1<sup>st</sup> generation DES in patients undergoing cardiac transplantation.

감사합니다.  
Thank you for your attention.

