



# OCT guidance for the management of stent thrombosis at coronary bifurcation

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### Patient History

- 59-year-old male
- Current smoker (1 pack/day)

### Co-morbidities

- NSTE-ACS 1 week earlier
  - PCI and 2 DES implantation on mid circumflex and obtuse marginal branch
  - Staged PCI (2 days later) with DES implantation on proximal LAD
- Currently on DAPT with Ticagrelor and Aspirin

### Clinical presentation

- 1 hour presentation of oppressive chest pain at rest
- ECG: ST segment depression on lateral leads (aVL, I and V5-V6)

# Coronary angiogram

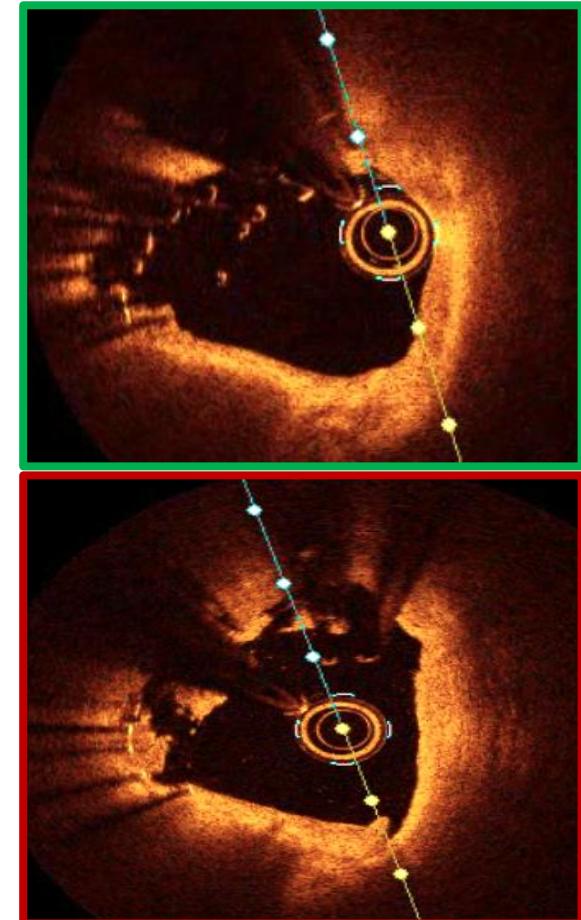
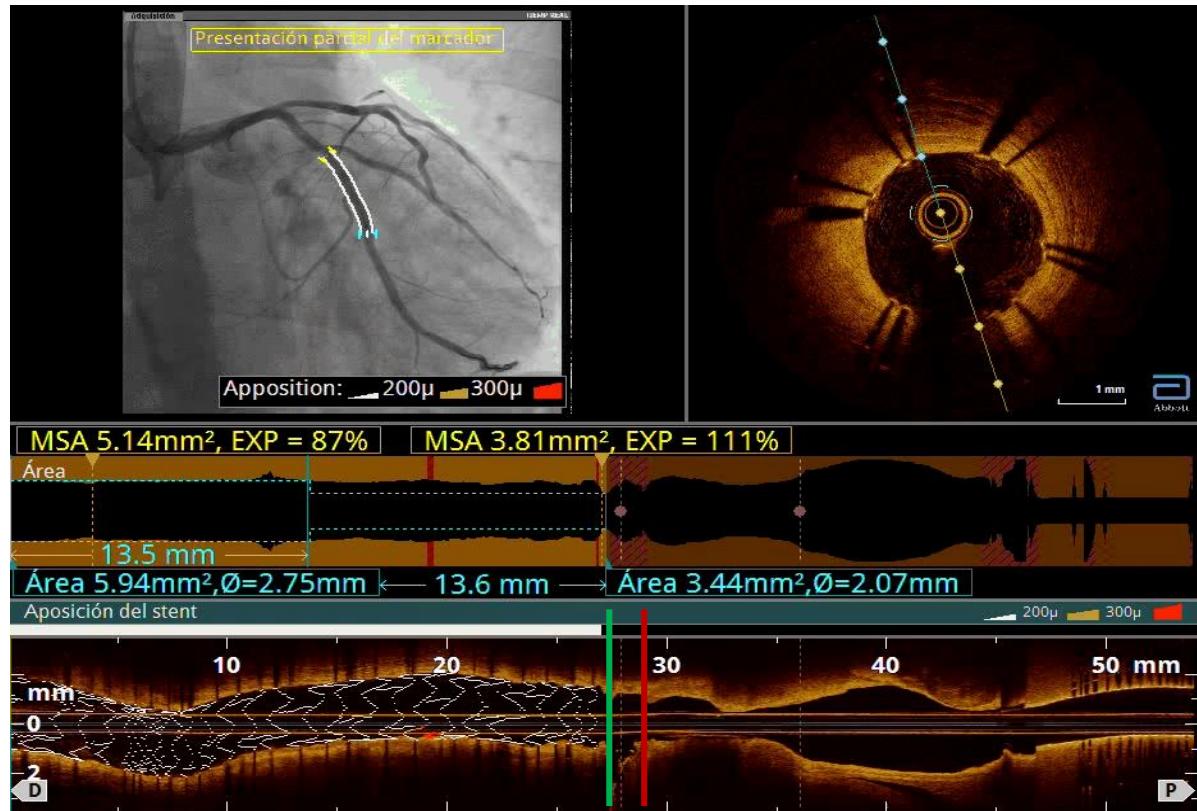


**Early subacute stent thrombosis on first obtuse marginal branch**



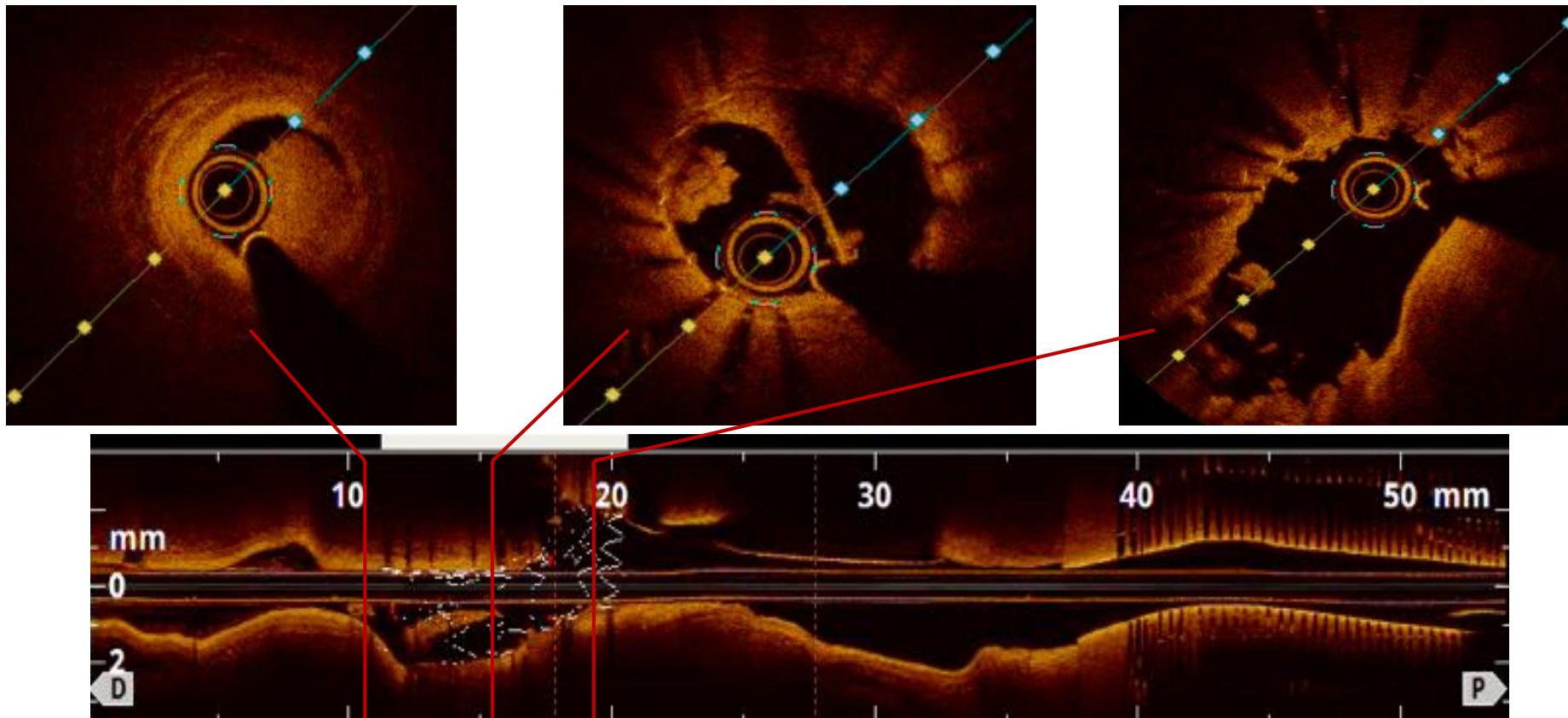
**TIMI II flow**  
**(Right coronary artery with no lesions)**

# OCT findings on left circumflex artery run



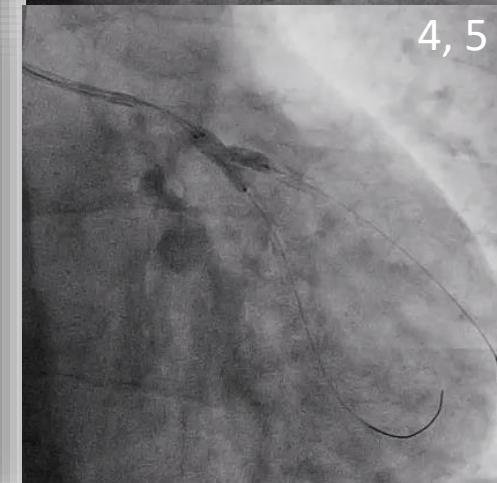
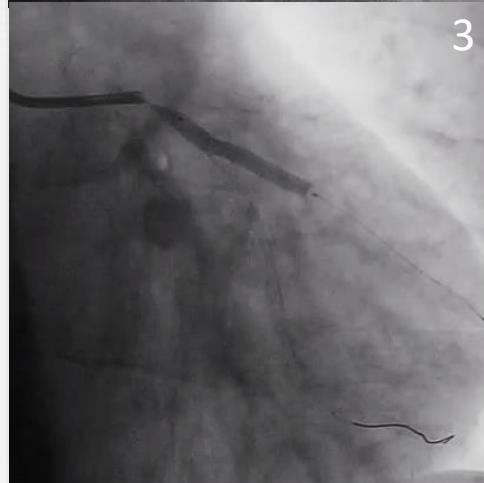
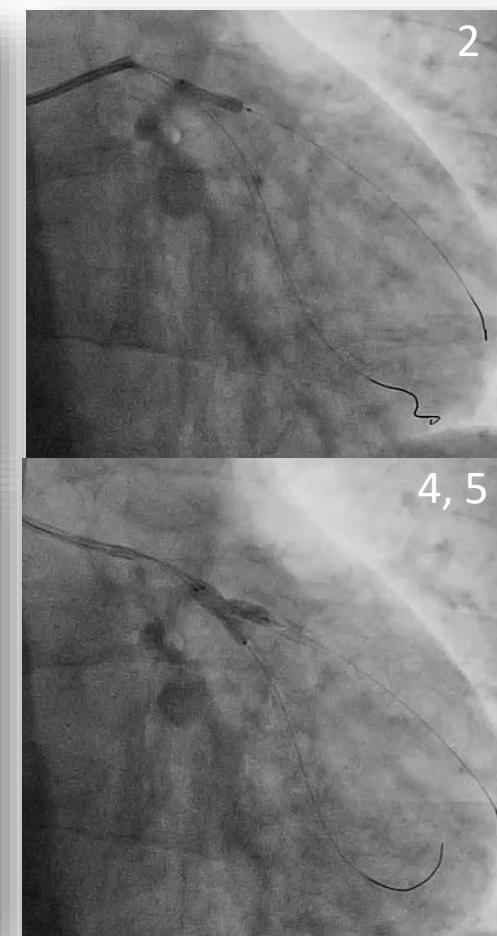
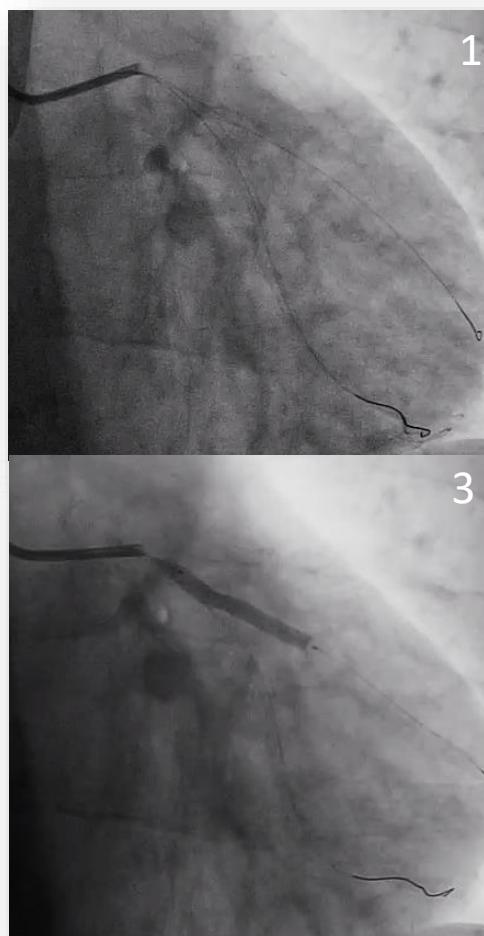
Crushed obtuse marginal stent struts with partial  
protrusion into the circumflex artery

# OCT findings on obtuse marginal branch run

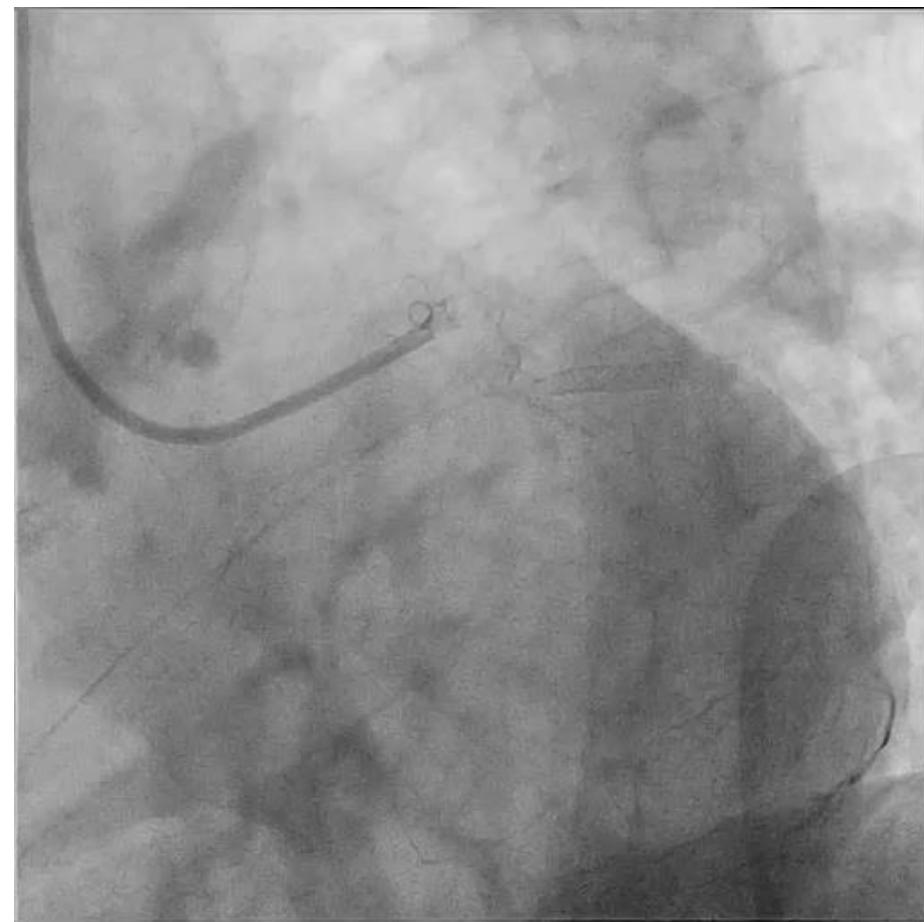
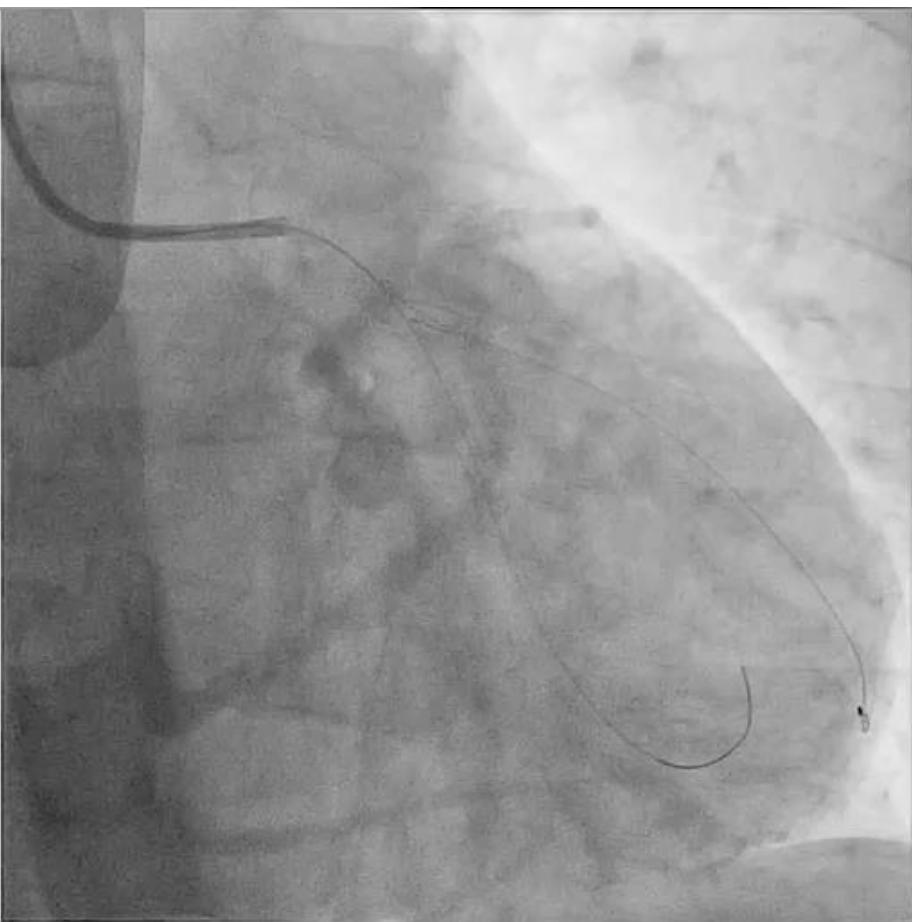


Stent thrombosis with sub-occlusion of the obtuse marginal branch

1. **Wiring of both main branches (marginal and circumflex)**
2. **Obtuse marginal predilation with non-compliant balloon 3.0 X 15 mm**
3. **Stent implantation with inverted provisional stenting technique; circumflex -> obtuse marginal**
  - DES 3.0 X 26 mm
4. **Wire re-crossing to distal circumflex**
5. **Final-kissing balloon**
  - Non-compliant 3.0 X 15 mm (marginal)
  - Non-compliant 3.0 X 15 mm (circumflex)

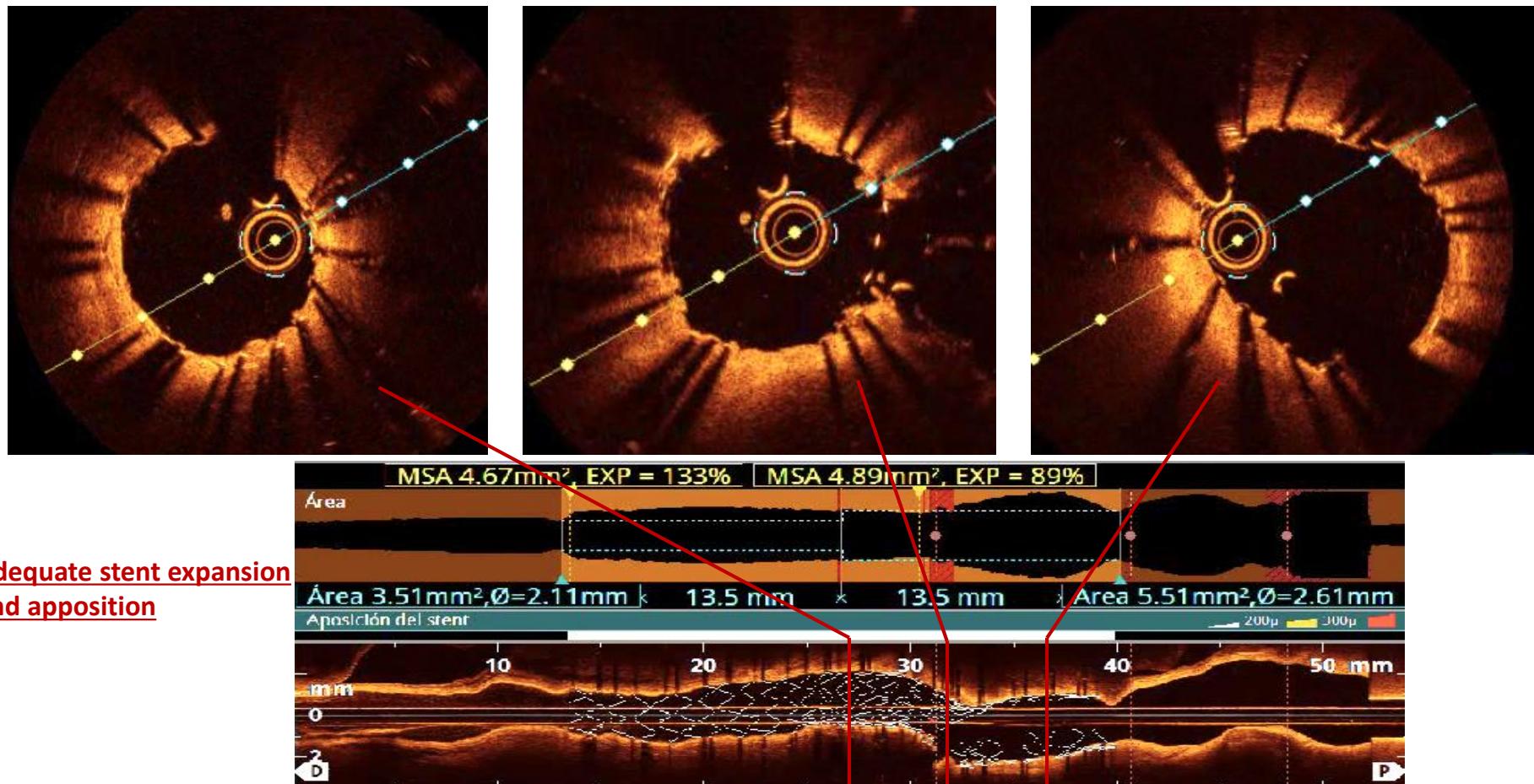


# Final angiographic result



**TIMI III flow restoration**

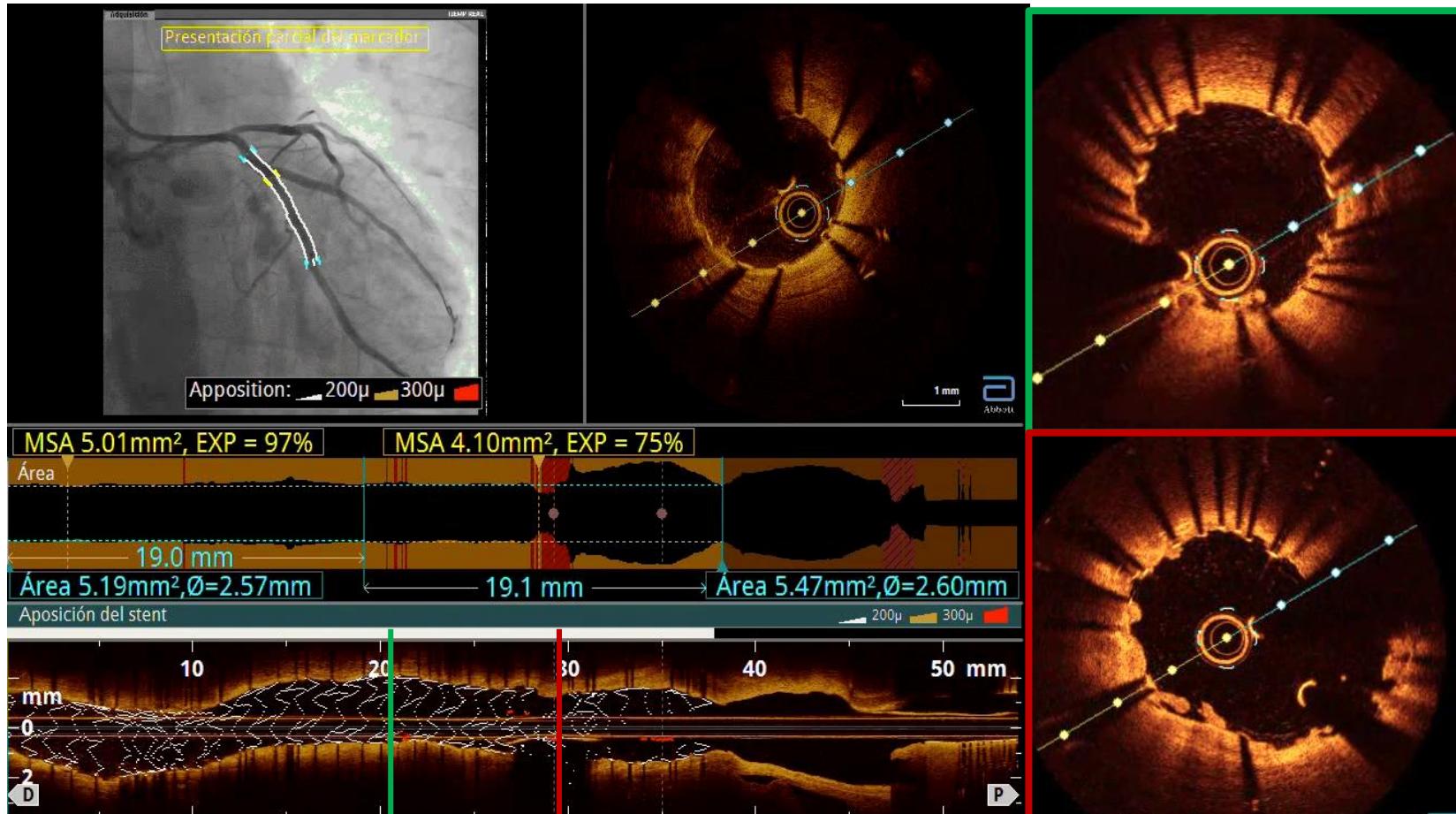
# PCI OCT result, obtuse marginal run



Adequate stent expansion  
and apposition

# PCI OCT result, circumflex artery run

## Co-registration



- *Stent thrombosis represents one of the most serious complication following coronary PCI, where management can be challenging.*
- *The most common mechanisms related to this entity constitute stent underexpansion and malposition, followed by coronary dissection.*
- *Intravascular imaging should be routinely performed in this situations for properly identification of causes and characterization of thrombosis mechanisms.*
- *OCT contributes to the evaluation of results, optimization and adequate management during PCI*