



Spontaneous Coronary Artery Dissection: Insights from OCT

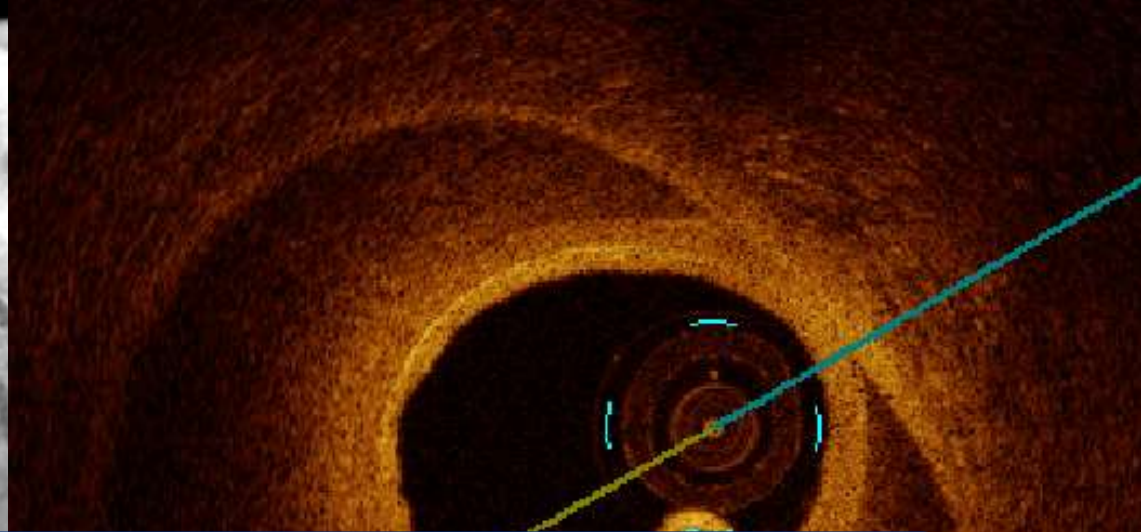
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TCTAP Seoul 2017

Disclosures

- None

Spontaneous Coronary Dissection (and Hematoma)



Intravascular imaging of SCAD

- Recognition
- Insights into pathophysiology
- Why it matters

Spontaneous Coronary Artery Dissection

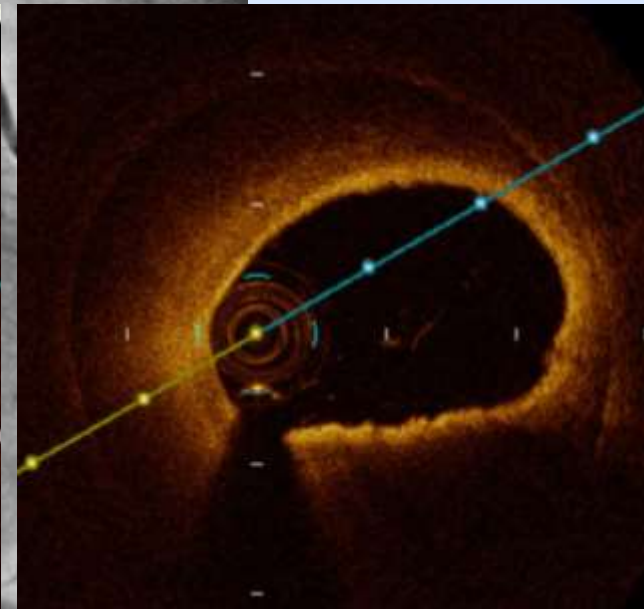
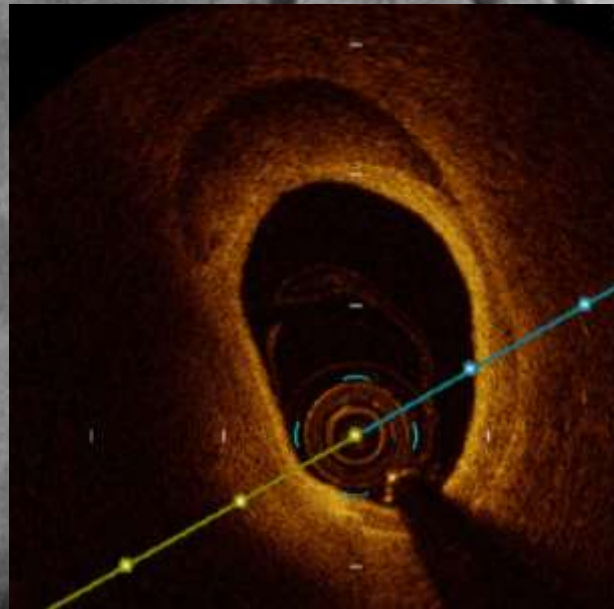
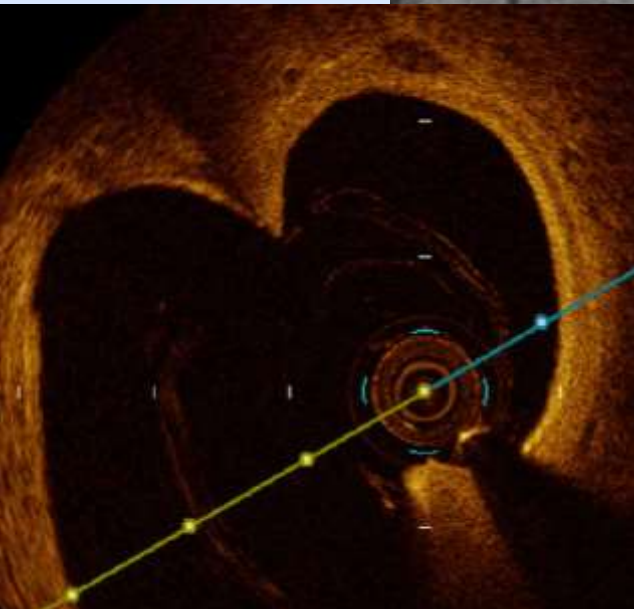
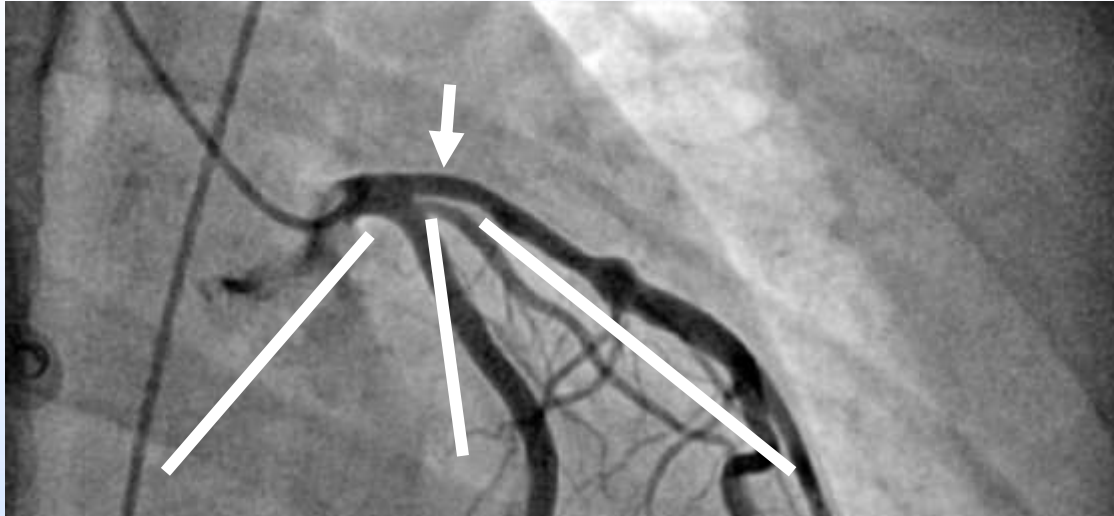
- Increasingly recognized as MI cause in F<60
- Vascular FMD in 60%+
- Coronary tortuosity in 60%+
- Elevated risk of PCI complications
- CTA is insufficiently sensitive for diagnosis

Circulation 2012, Circ Interv 2014, Circ Interv 2015, CAD 2016, EHJ-ACVC 2017

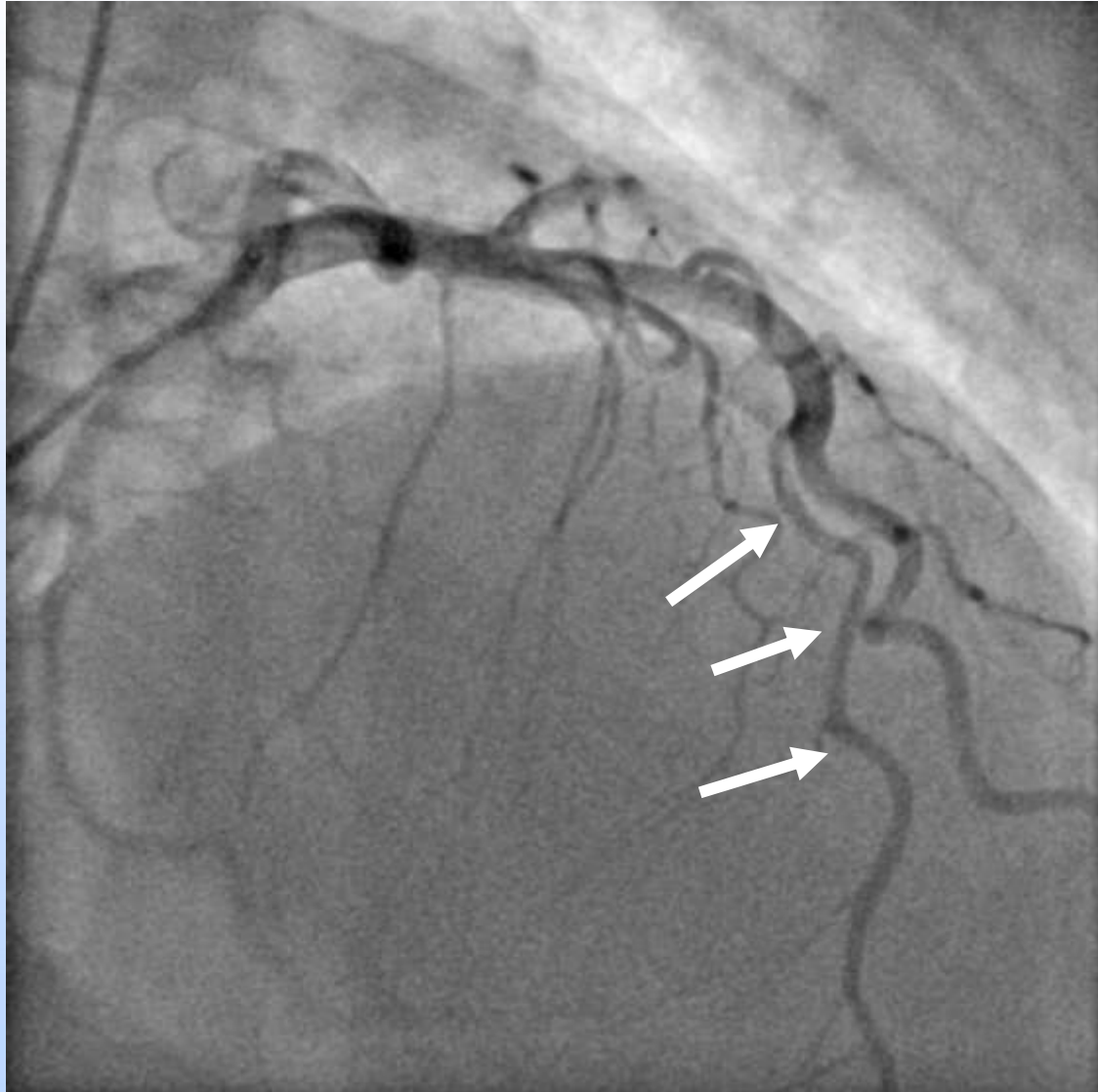
#1 Recognition

In cath lab must not assume
atherosclerosis, spasm or normal

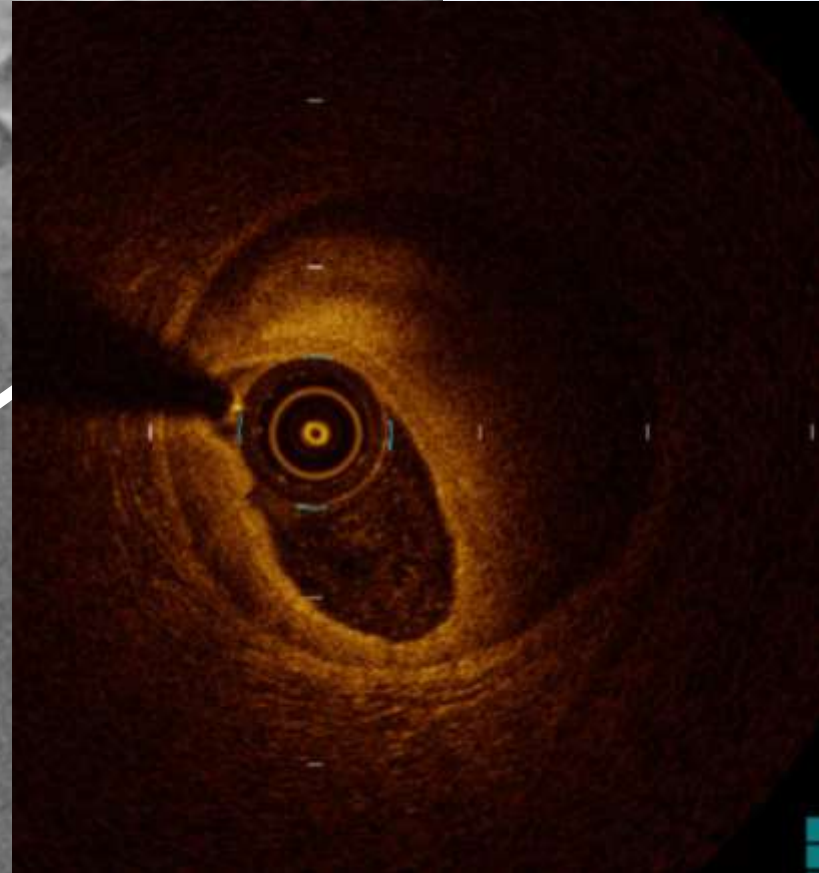
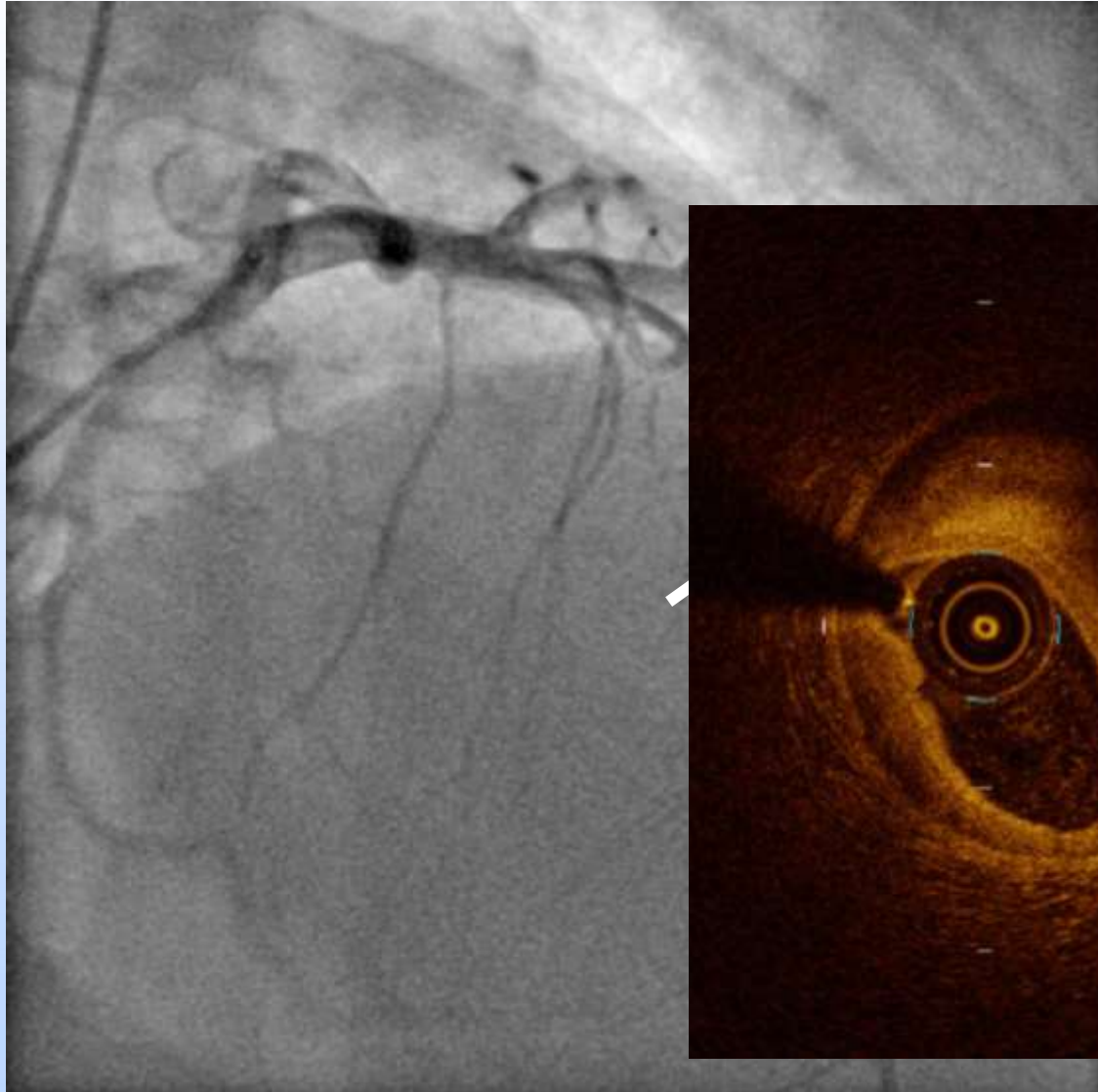
50 yr F with ACS



49 yr F with Torsades transient anterior ST-T changes

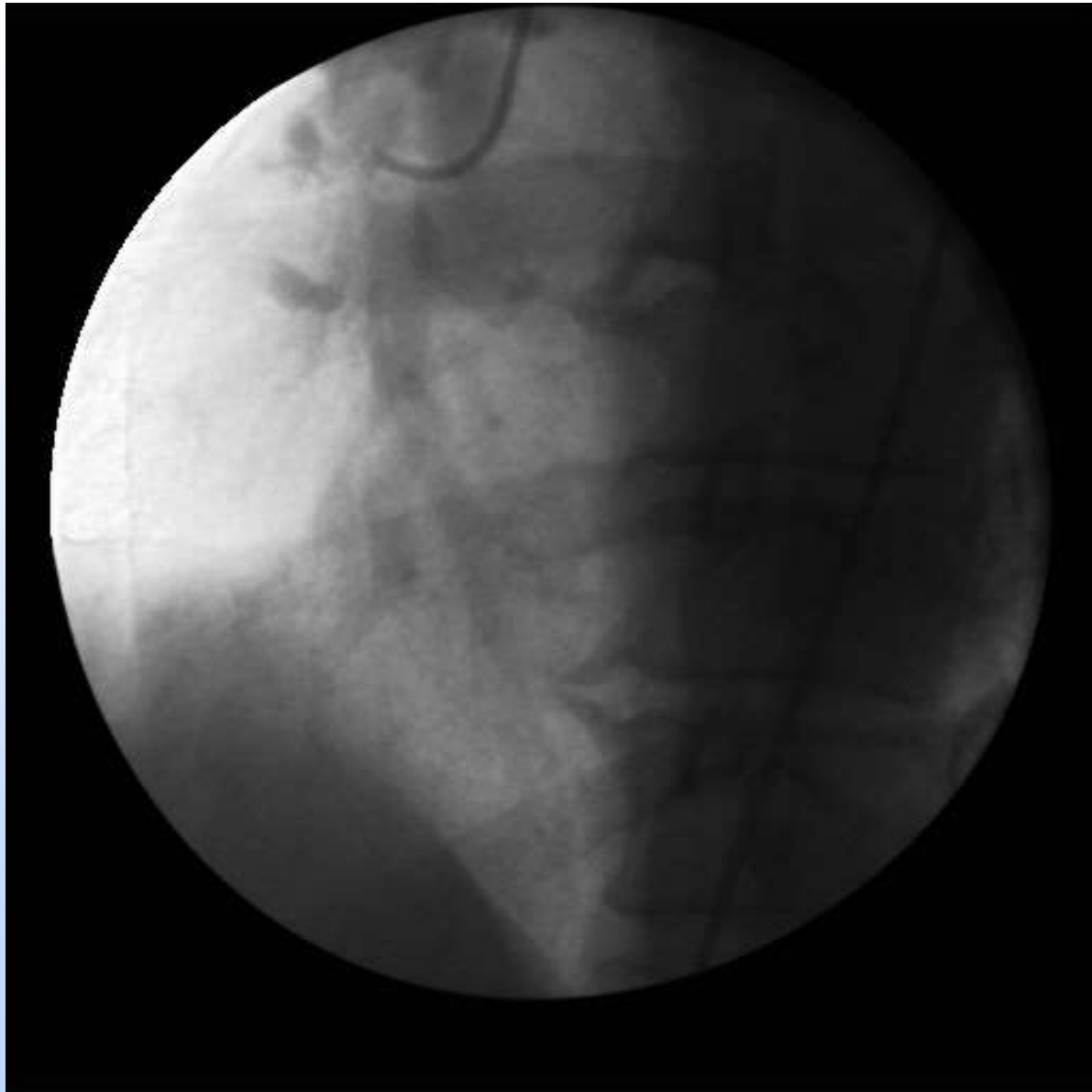


49 yr F with Torsades transient anterior ST-T changes

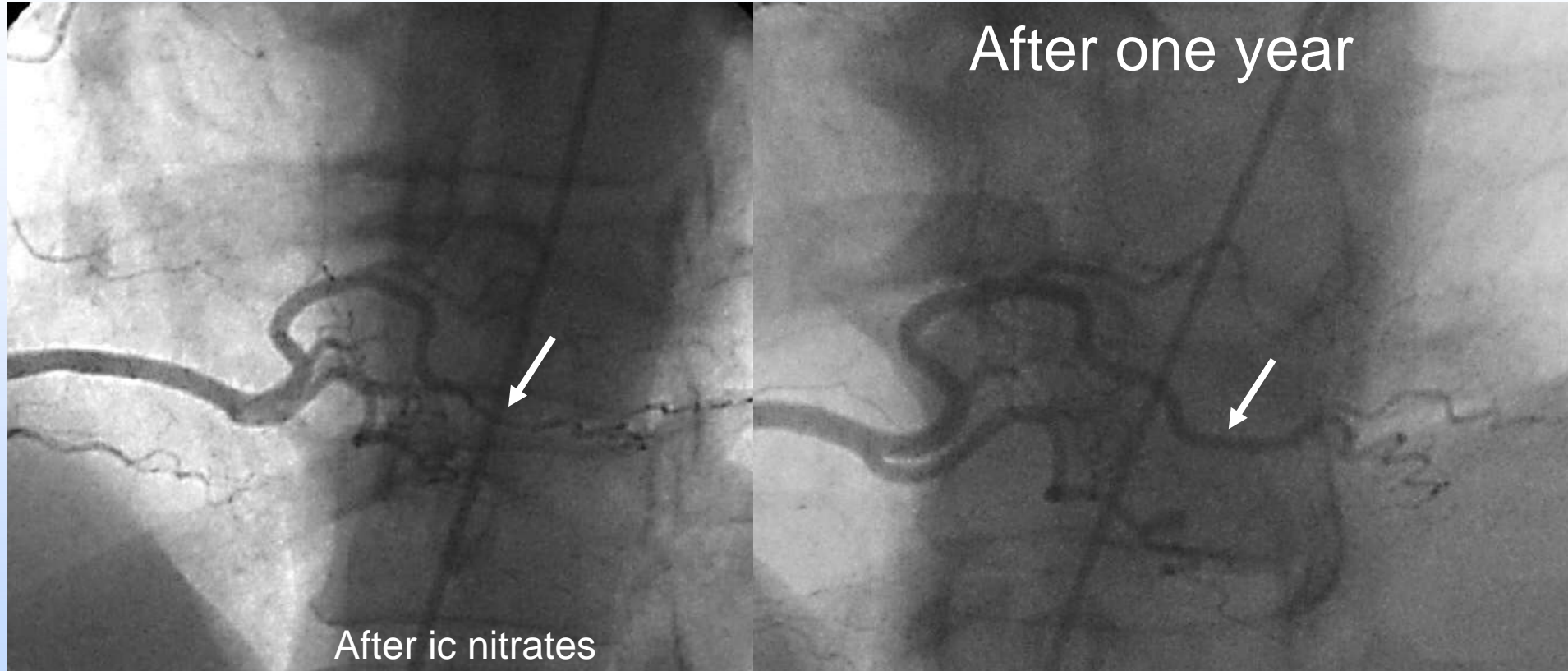


OCT/IVUS not feasible
in >60% SCAD cases

Careful angiographic evaluation is
critical

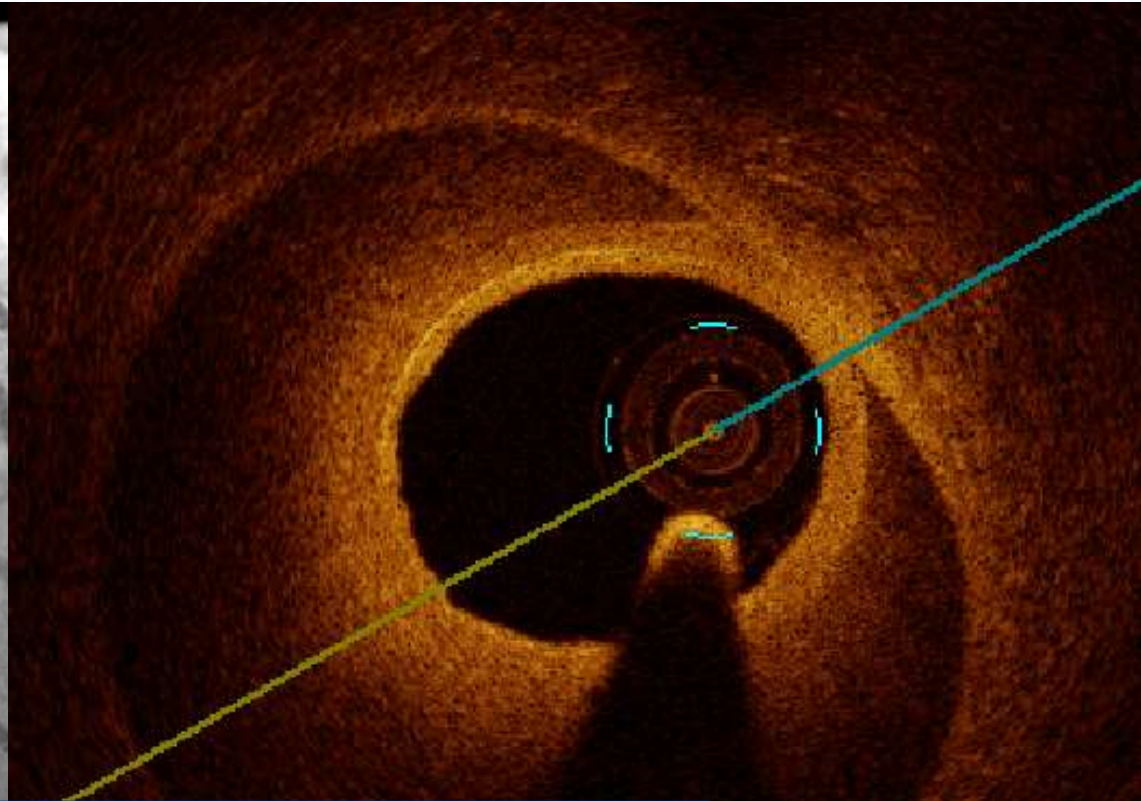


ACS with “normal coronaries”



#2 Mechanistic insight

What initiates SCAD?



Intimal
tear



Medial
hematoma

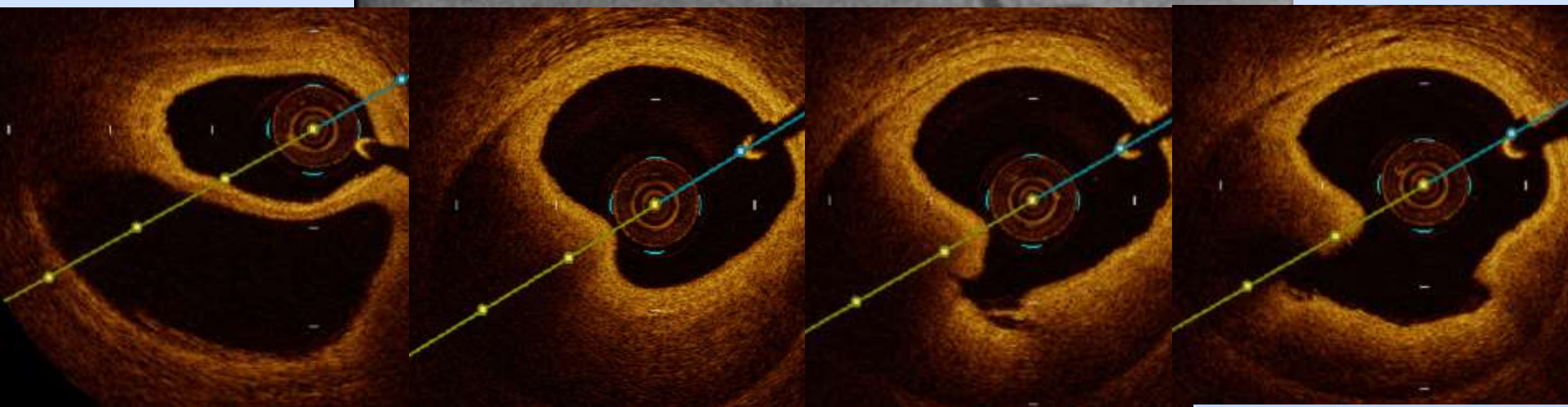
Intimal tear vs medial hematoma

OCT of SCAD n=12

- Hematoma only (no tear) 7/12
- Intimal tear in mid-distal aspect 4/12
- Intimal tear at origin, only 1/12

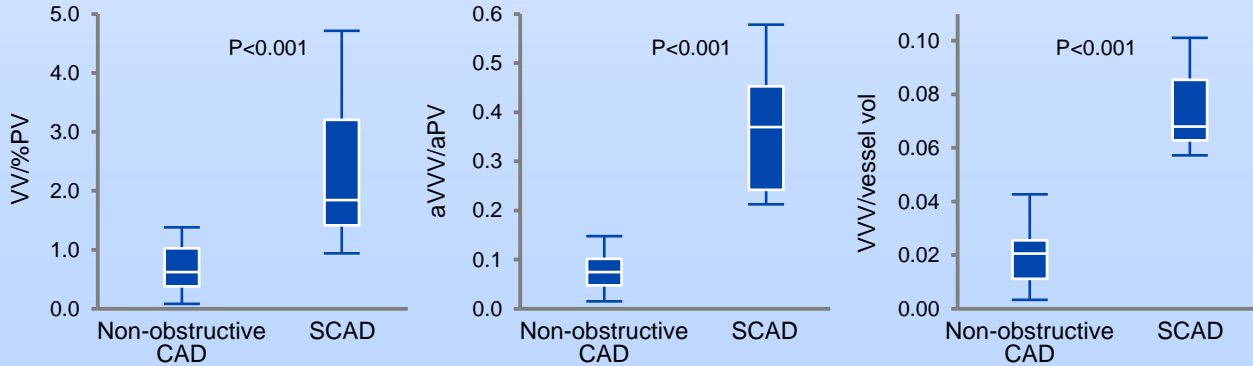
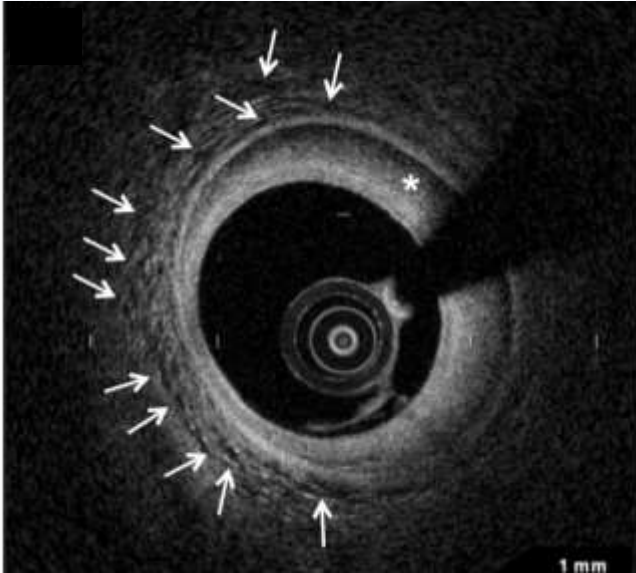
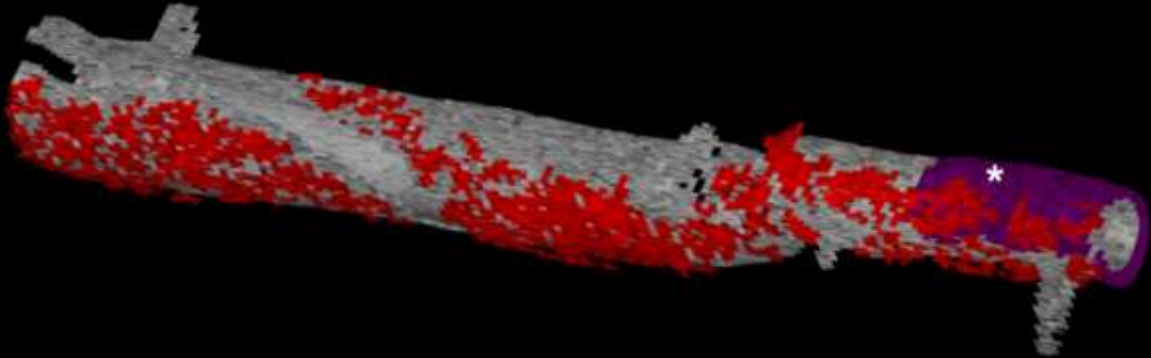
Prelim data

Lends support to “outside-in” hypothesis of SCAD pathophysiology



Adventitial microvessel excess in SCAD

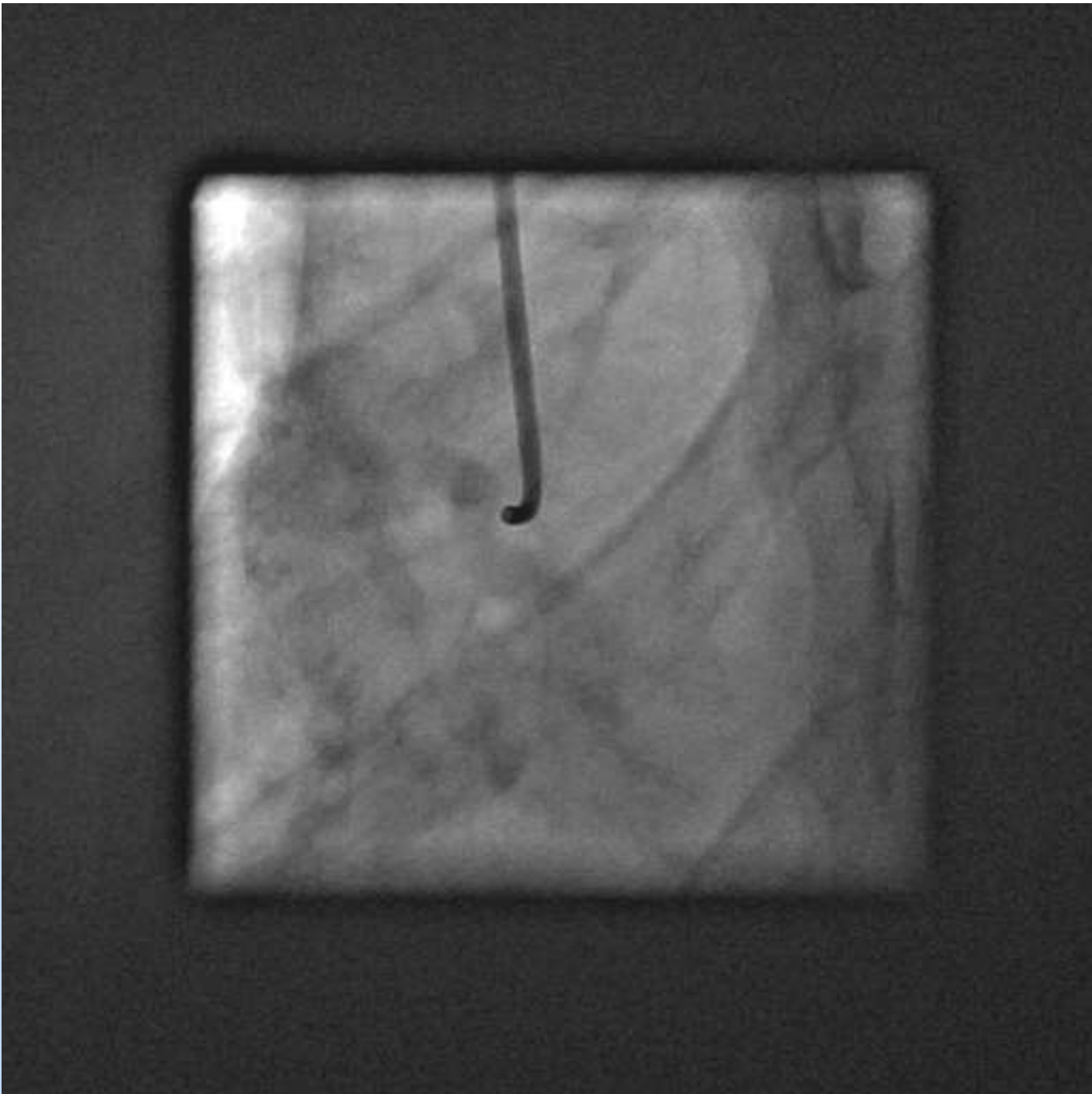
Excess of vasa vasora? Venules?





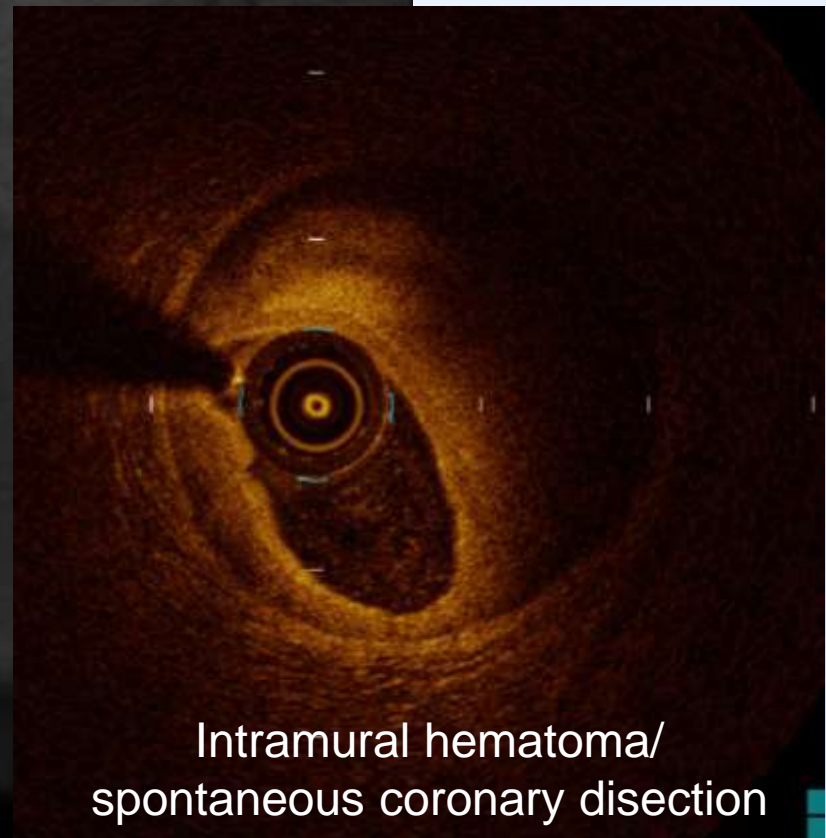
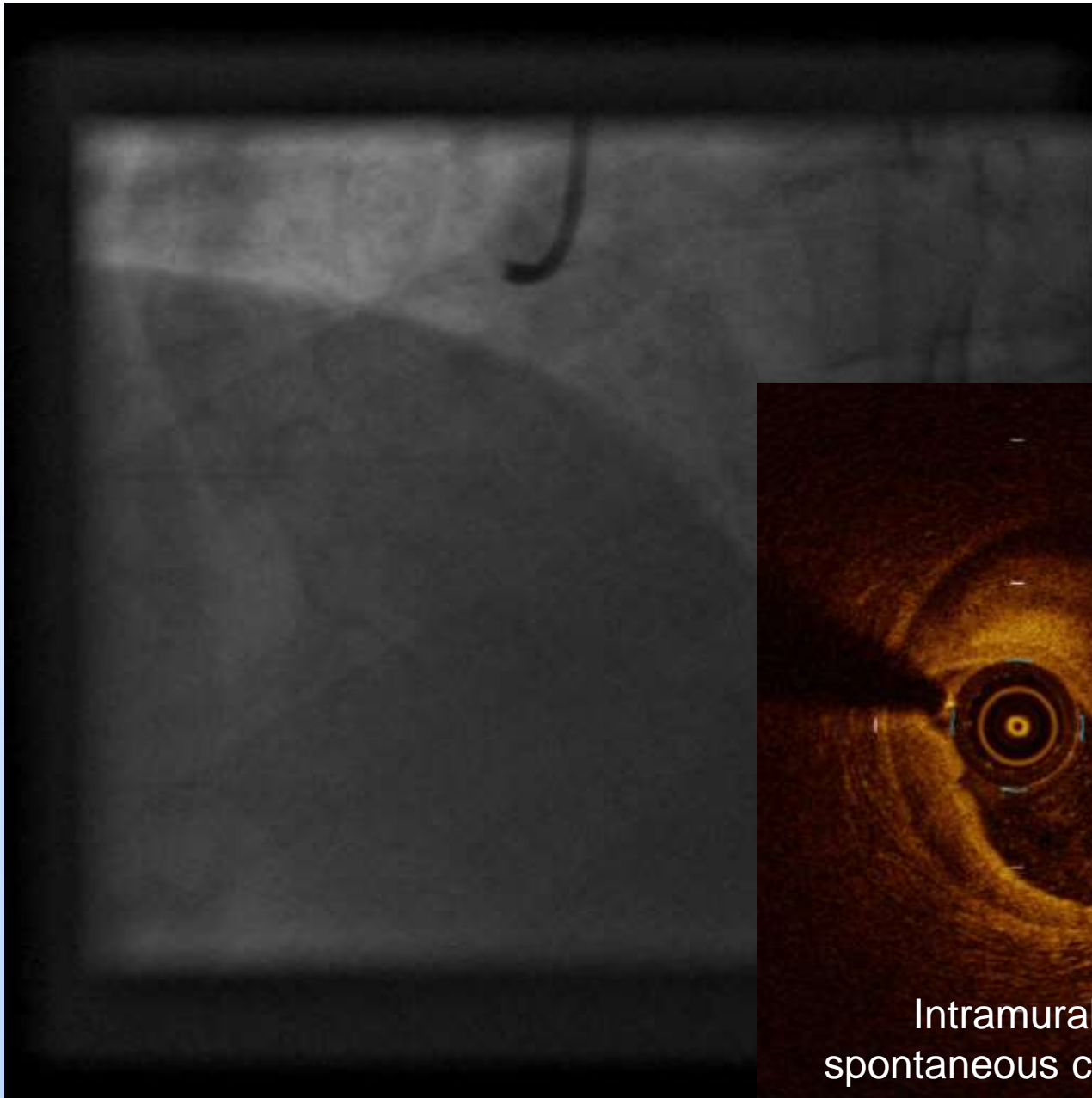
#3 Making the diagnosis

Does it matter?

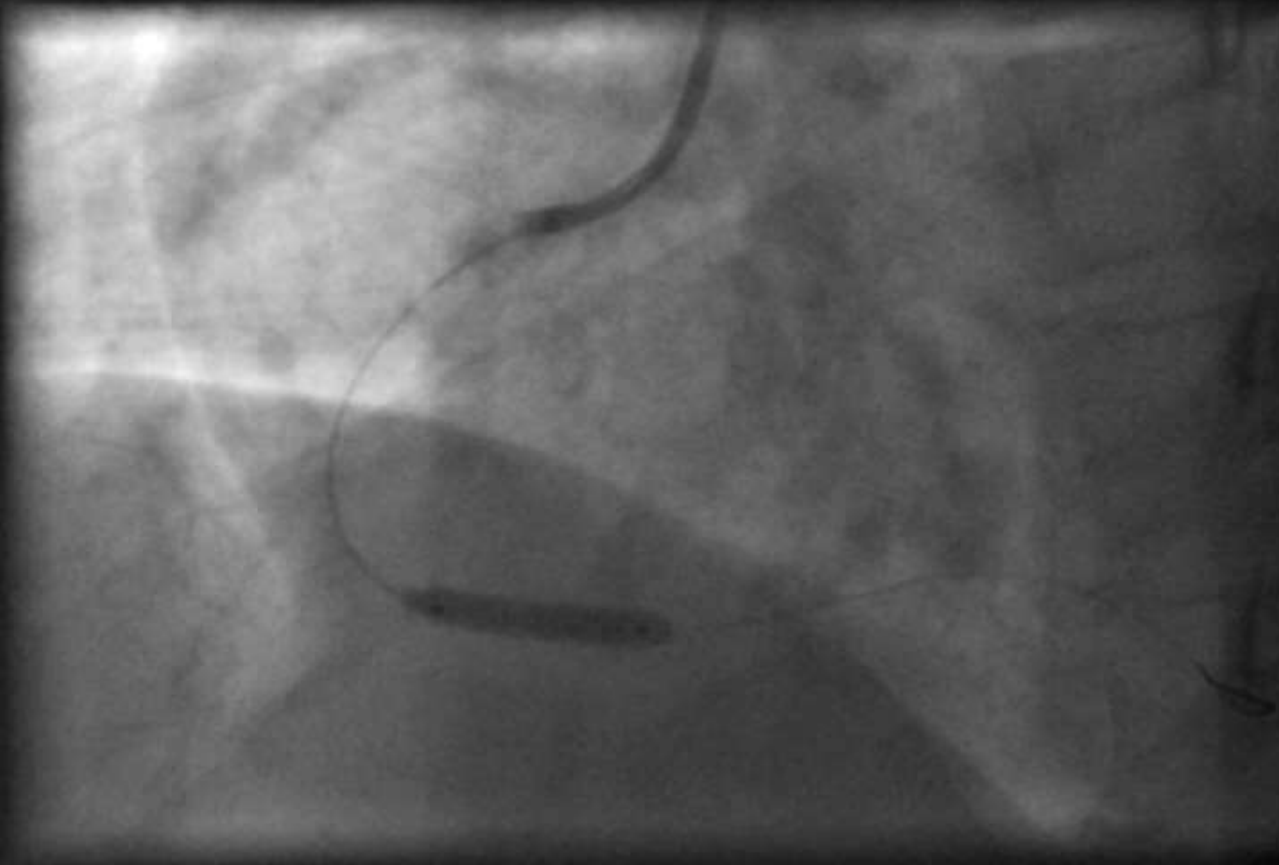


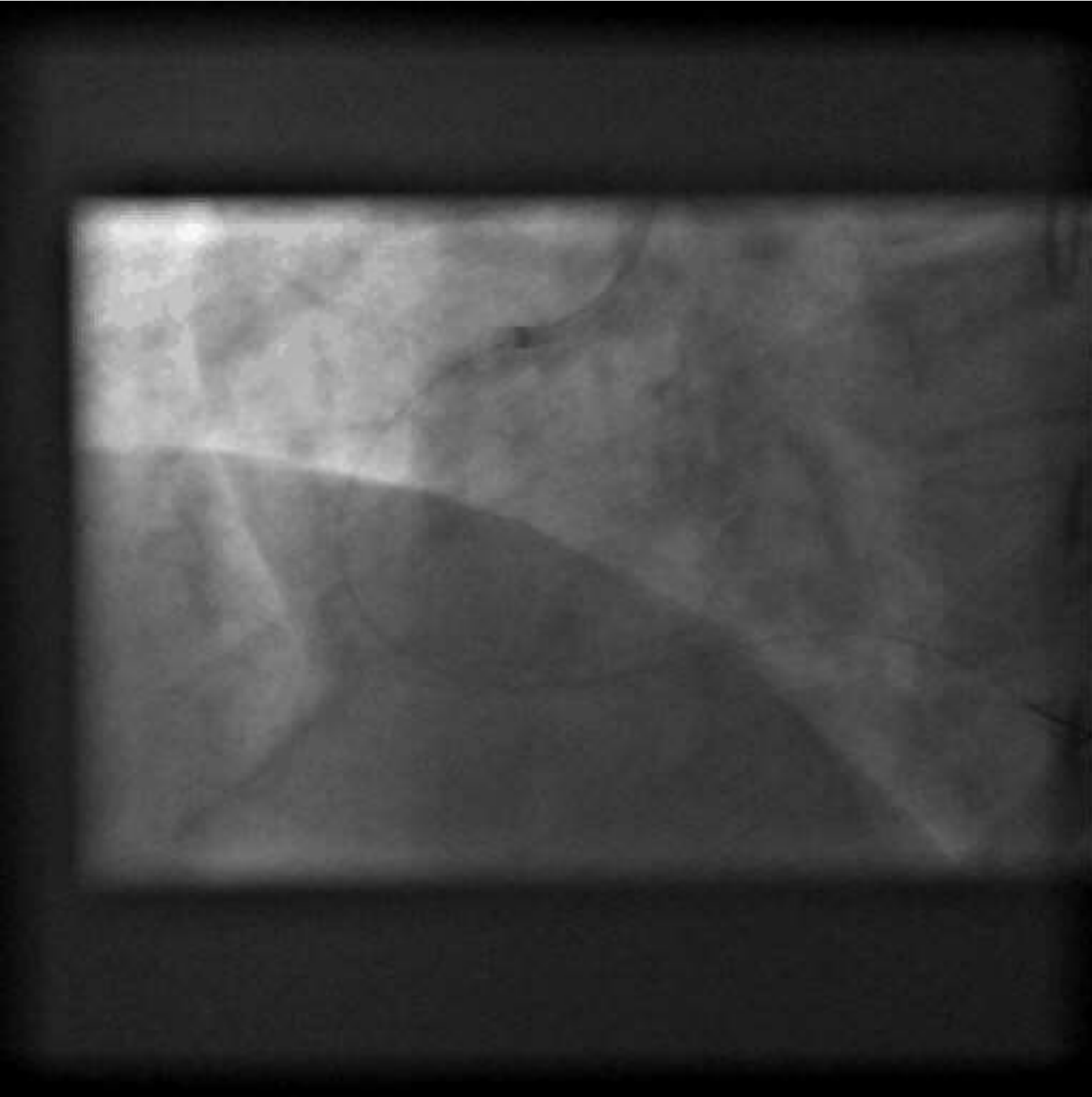


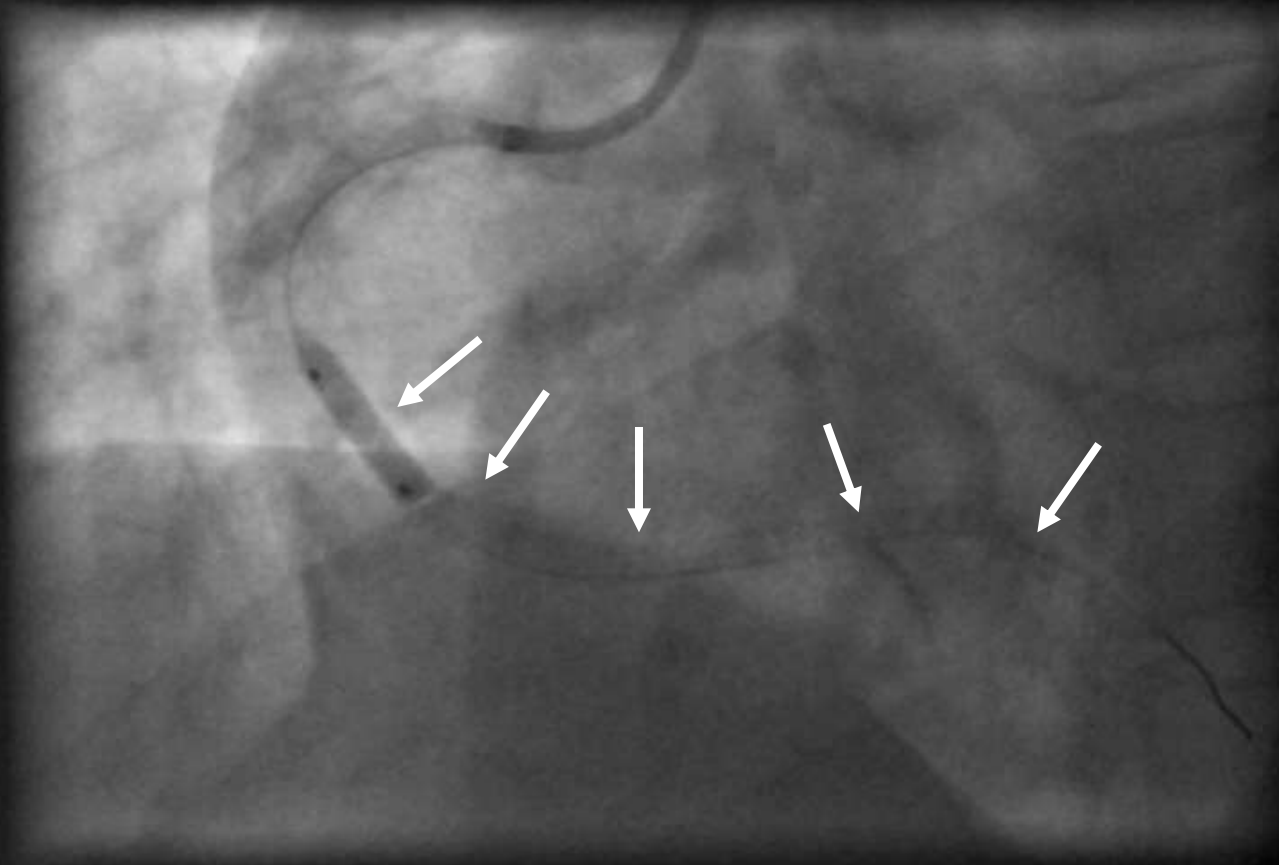




Intramural hematoma/
spontaneous coronary dissection









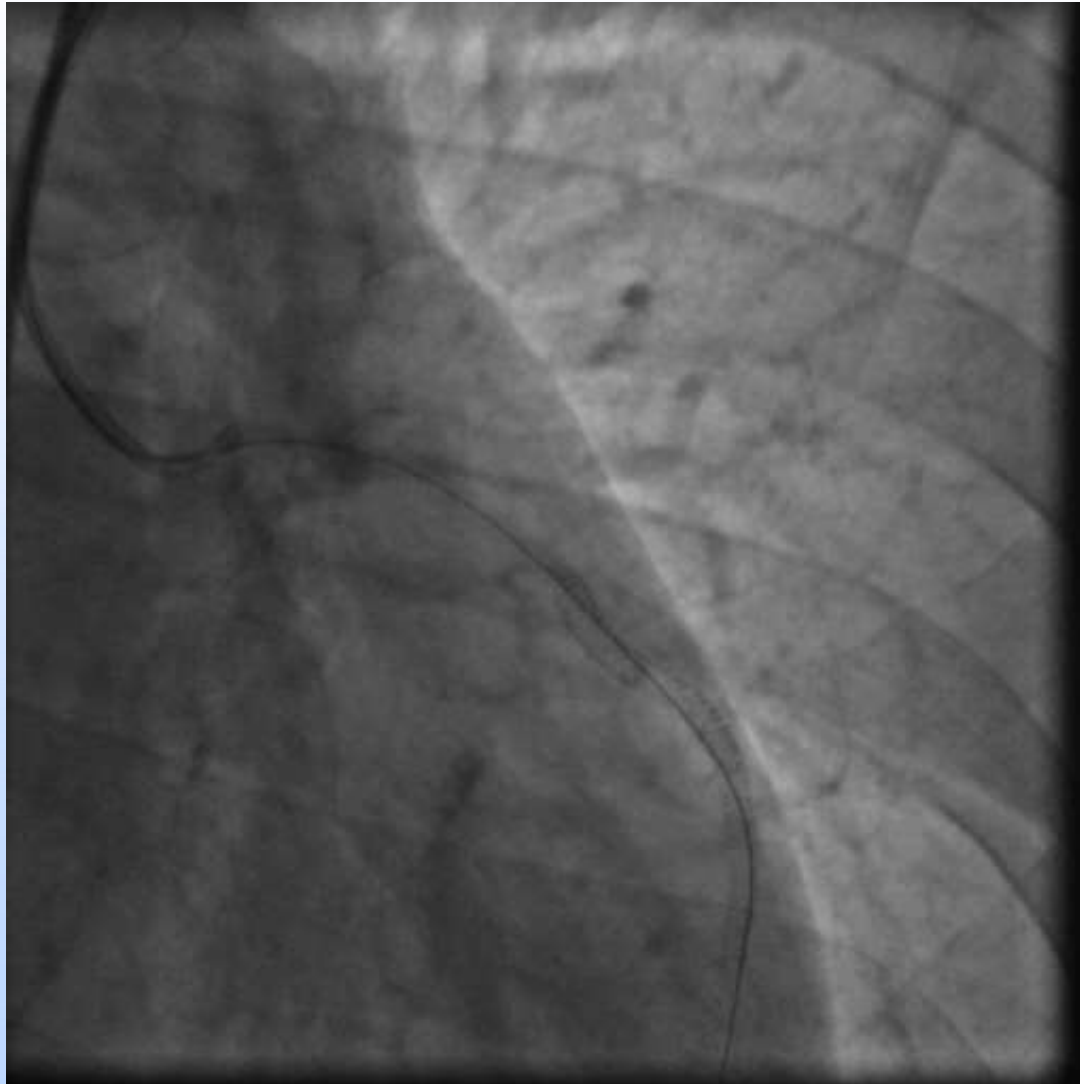


SCAD hematoma

One natural history pathway



Seal the exit → prox IMH accumulation?



Spontaneous Coronary Artery Dissection: Insights from OCT

- OCT (+ IVUS) has driven increased recognition
- Offers pathophysiologic insight
 - Hematoma may precede intimal tear
- Coronary tortuosity, fragility, distal involvement are barriers to performing imaging
 - Careful angiogram is critical



Thank you for your time

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