

OCT is a Novel Tool !

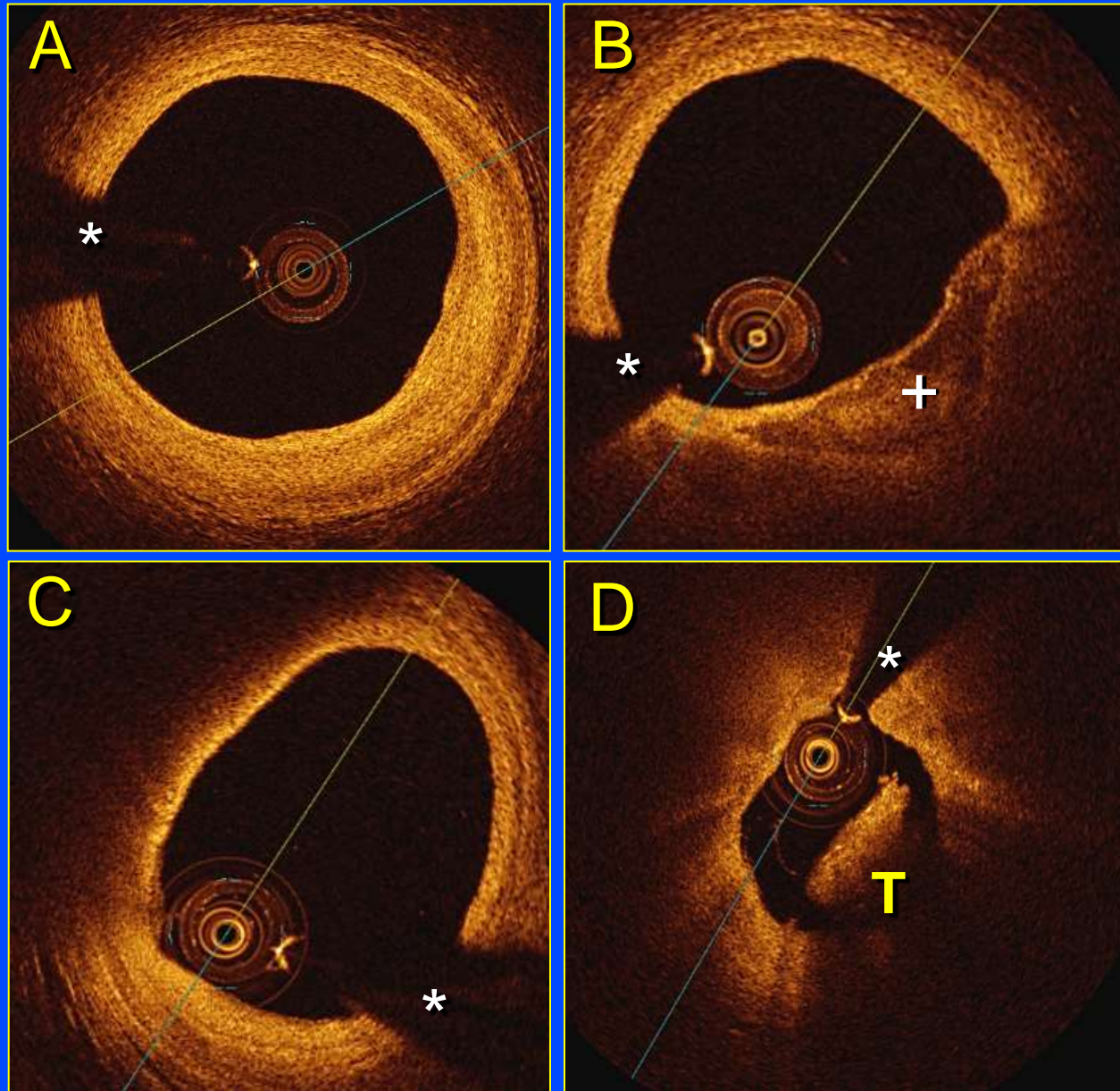
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Hospital Universitario de La Princesa.
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Universidad Autónoma de Madrid.
Madrid. Spain.**

December 5-6, 2014

Grand Intercontinental Seoul Parnas, Seoul, Korea

OCT



OCT, IVUS, AGC in AMI

Assessment of Culprit Lesion

Morphology in Acute Myocardial Infarction

Ability of Optical Coherence Tomography Compared With Intravascular Ultrasound and Coronary Angioscopy

Takashi Kubo, MD, PhD, Toshio Imanishi, MD, PhD, Shigeo Takarada, MD, PhD, Akio Kuroi, MD, Satoshi Ueno, MD, Takashi Yamano, MD, Takashi Tanimoto, MD, Yoshiki Matsuo, MD, PhD, Takashi Masho, MD, Hironori Kitabata, MD, Kazushi Tsuda, MD, PhD, Yoshiaki Tomobuchi, MD, PhD, Takashi Akasaka, MD, PhD

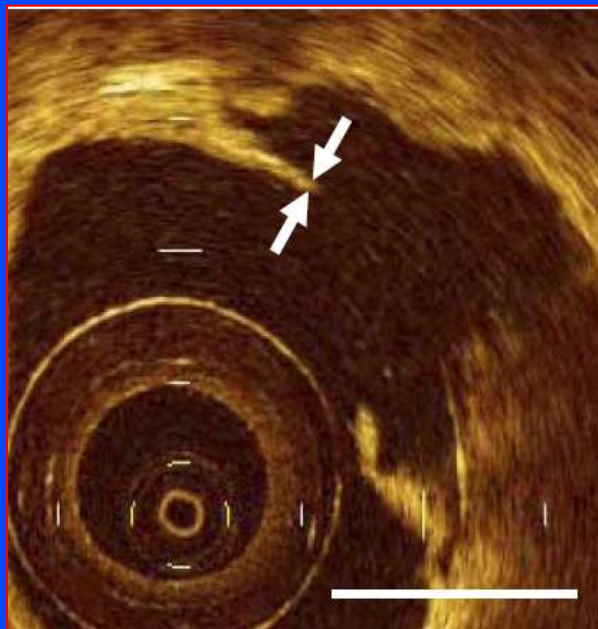
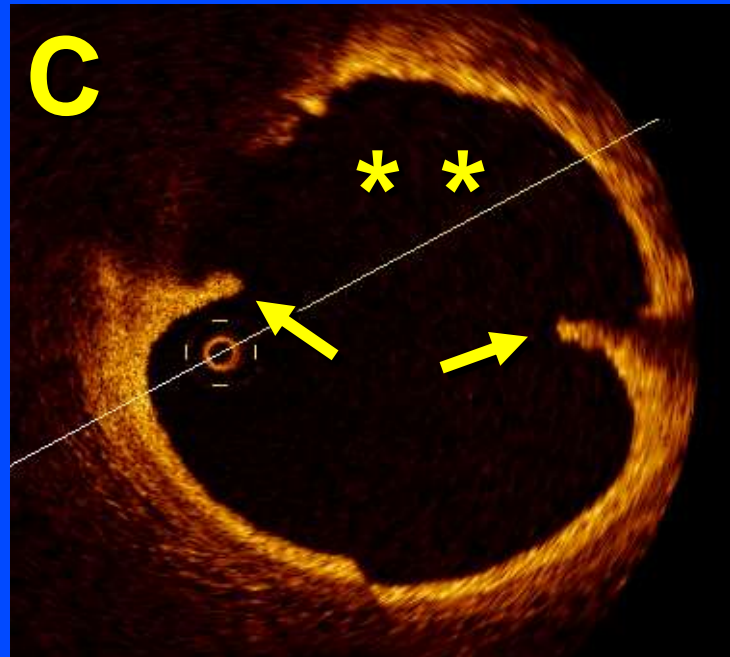
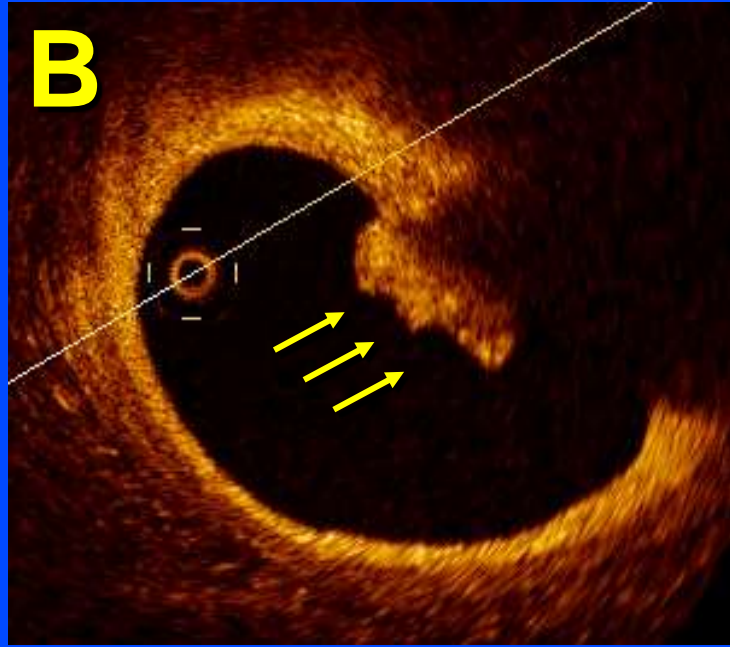
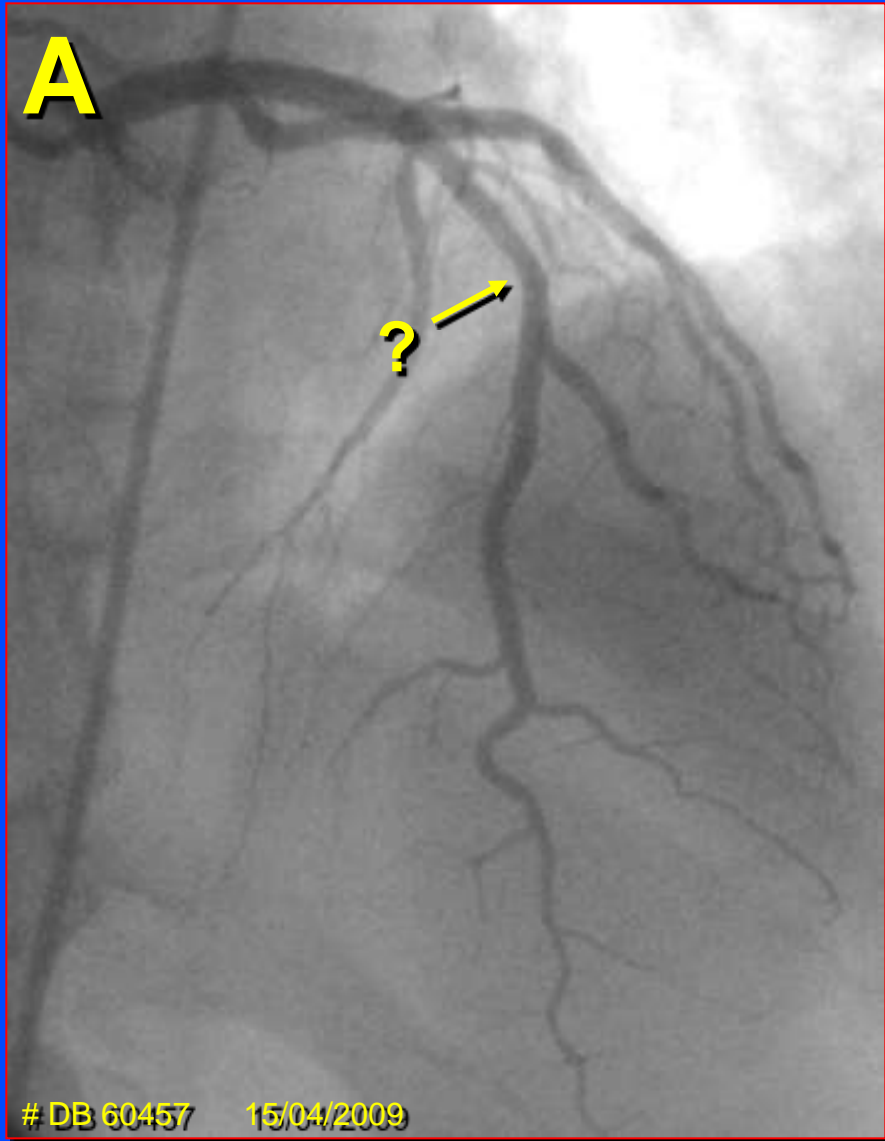


Table 2

OCT, CAS, and IVUS Findings for Corresponding Images

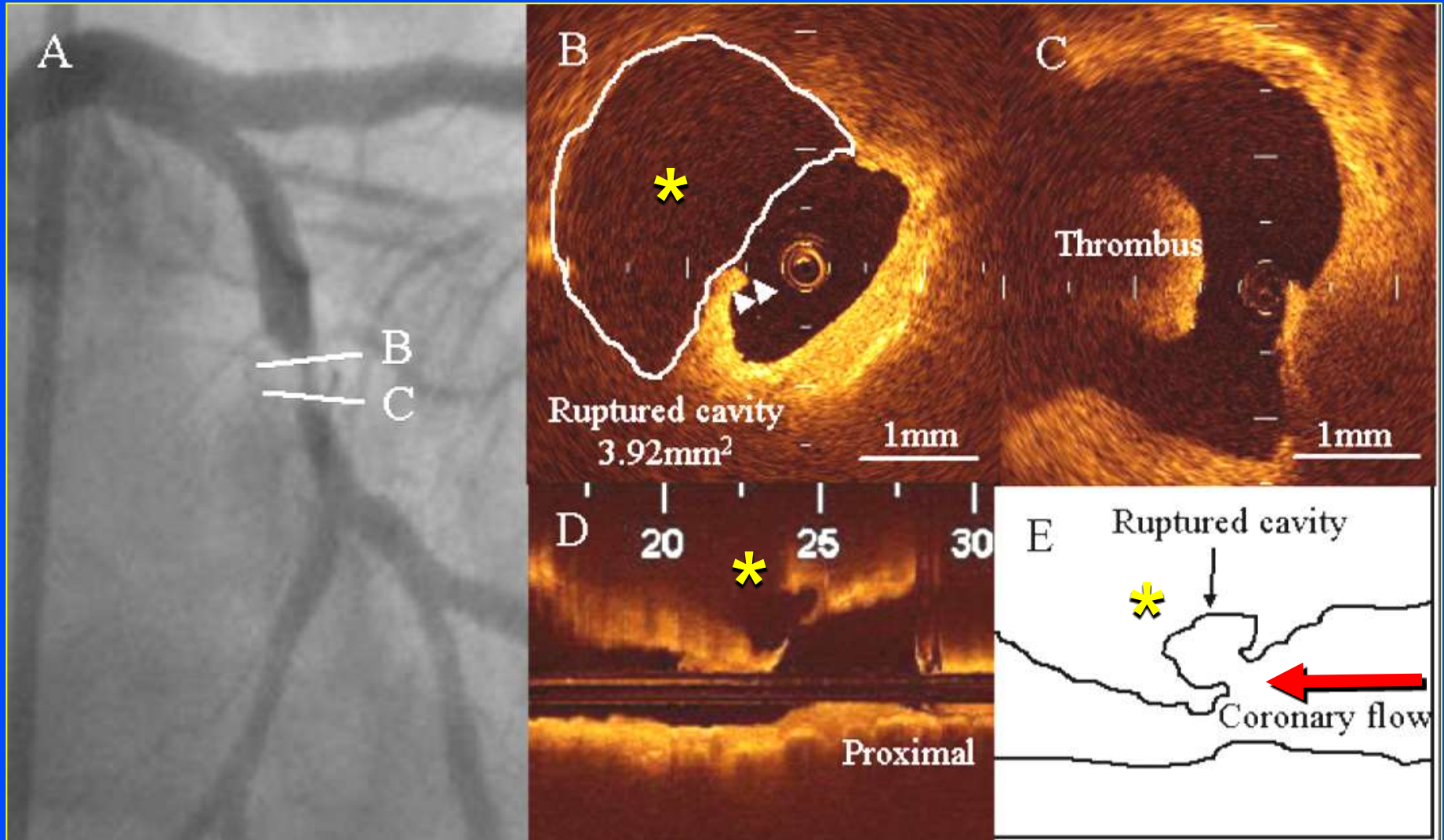
Finding	OCT (n = 30)	CAS (n = 30)	IVUS (n = 30)	p Value
Fibrous cap disruption	22 (73)*†	14 (47)	12 (40)	0.021
Fibrous cap erosion	7 (23)*†	1 (3)	0 (0)	0.003
Thrombus	30 (100)†	30 (100)‡	10 (33)	<0.001



Alfonso F, et al. *Minerva Med.* 2012 Dec;103(6):441-64. (Figure 3)

Underlying Pathological Substrate: STEMI vs NSTEMI

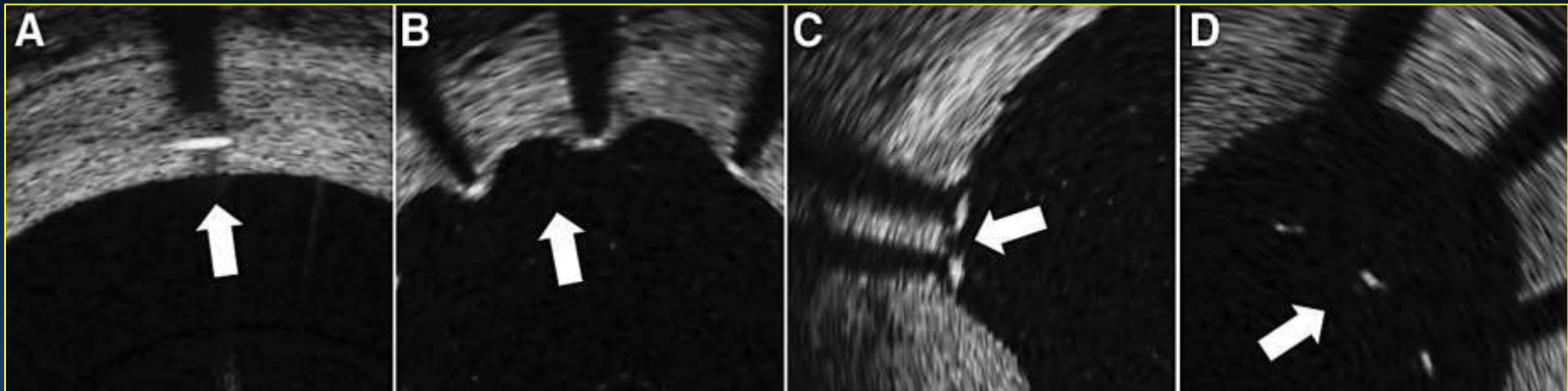
STEMI



HORIZONS-AMI

In patients with STEMI undergoing primary PCI at FU
PES as compared with BMS significantly:

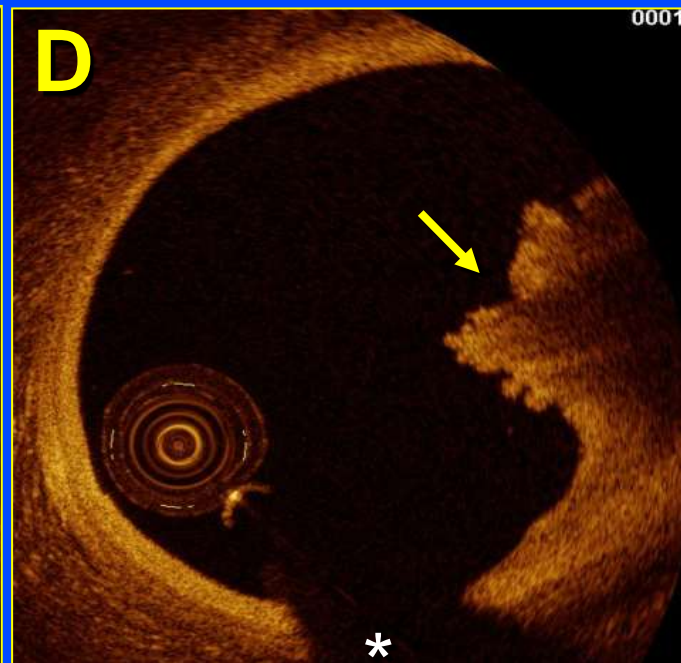
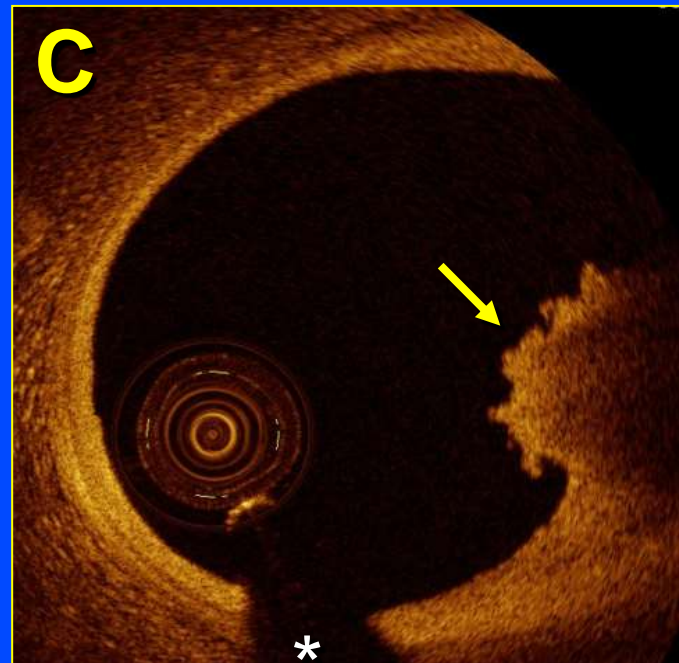
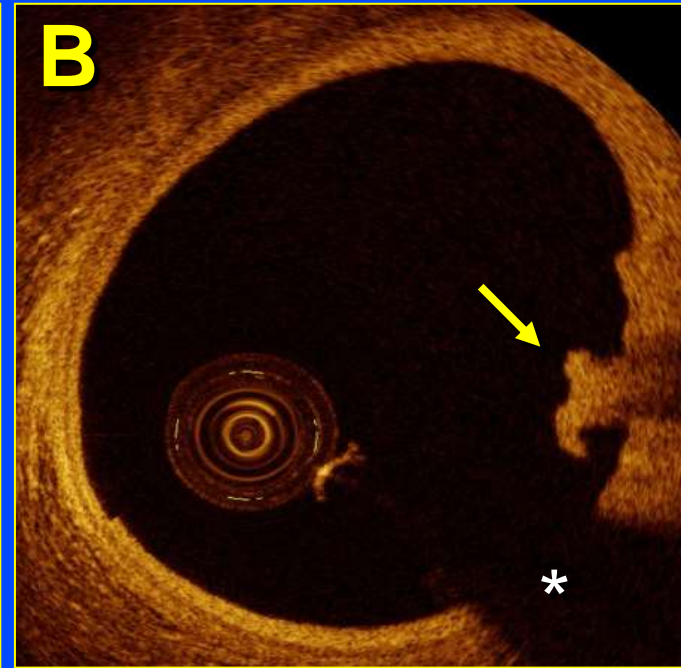
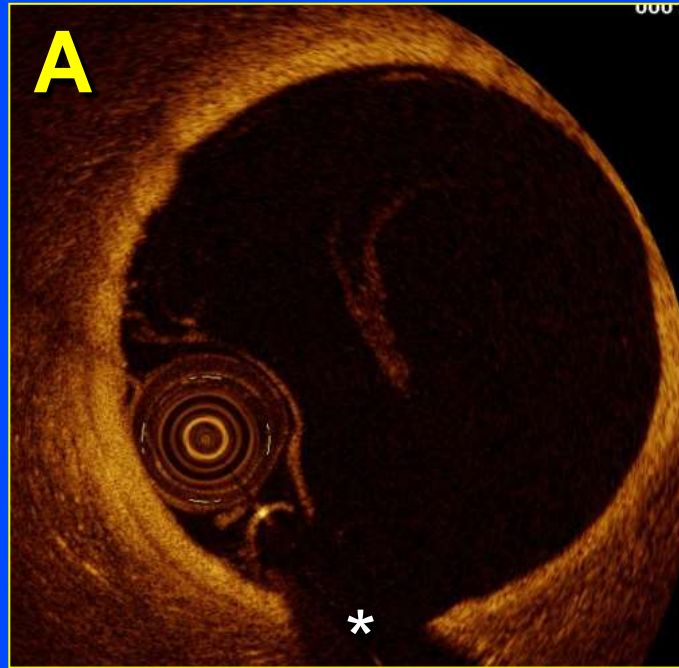
- Reduce neointimal hyperplasia
- Increase rates of uncovered and malapposed stent struts



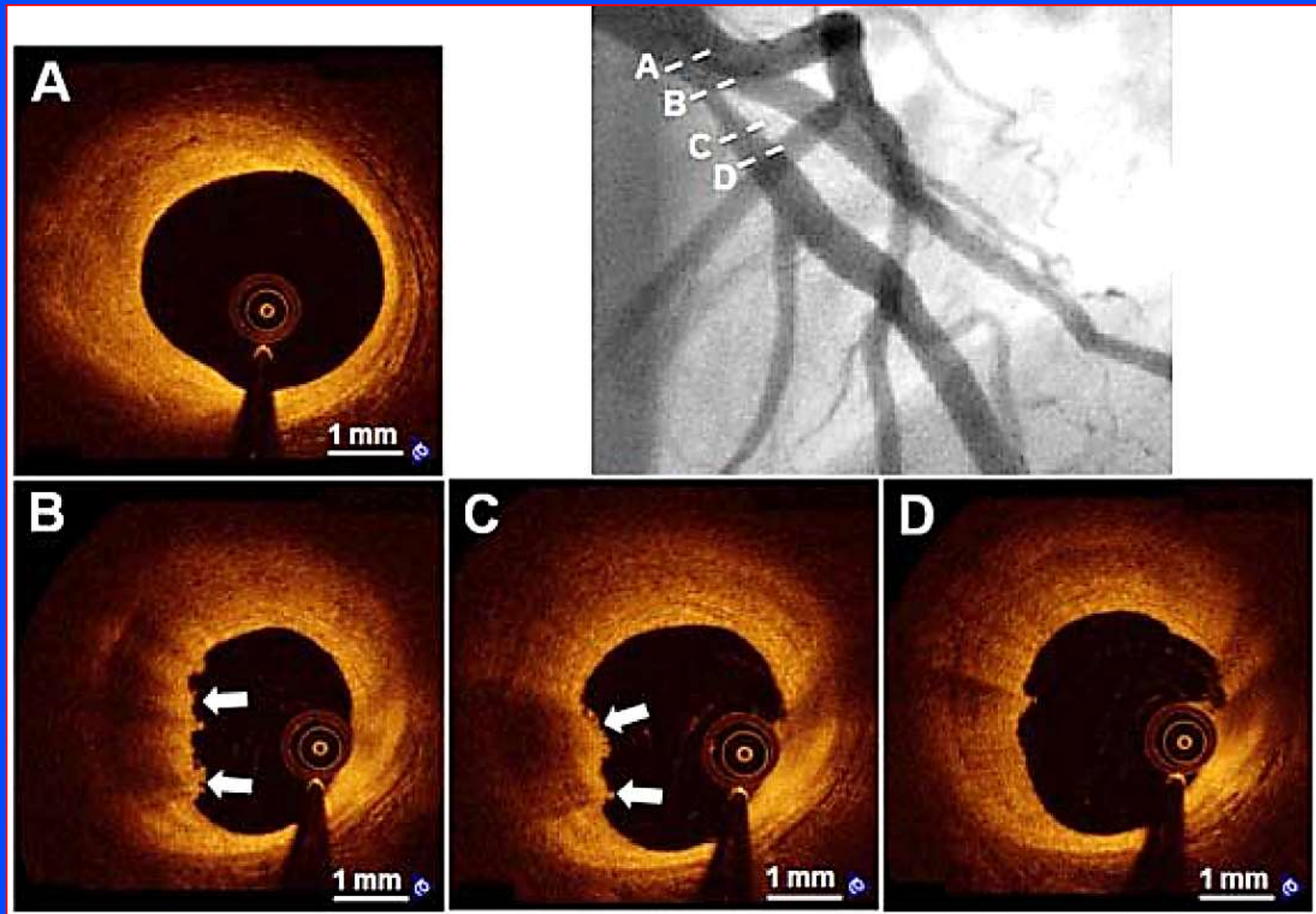
Stent struts classified as embedded covered struts (A), protruding covered struts (B), uncovered apposed struts (C), and uncovered and malapposed struts (D).

Guagliumi G, et al. Circulation. 2011;123:274-281.)

**38-year-old female
"transient" STEACS**

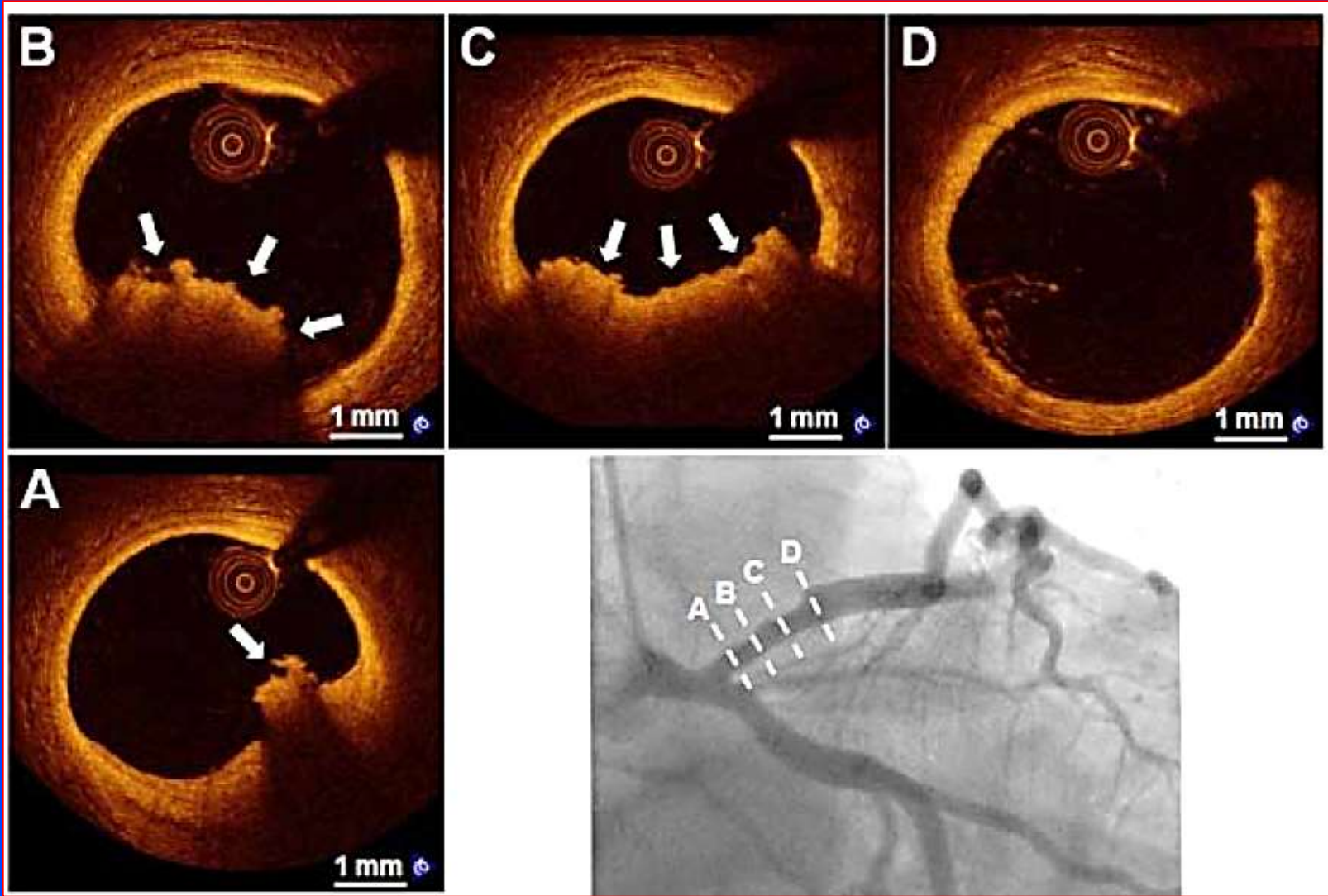


Representative Case of “Definite OCT-Erosion”



Irregular lumen surface with attached mural thrombus (arrows) overlying a fibrous plaque with no rupture

Representative Case of “Probable OCT-Erosion”



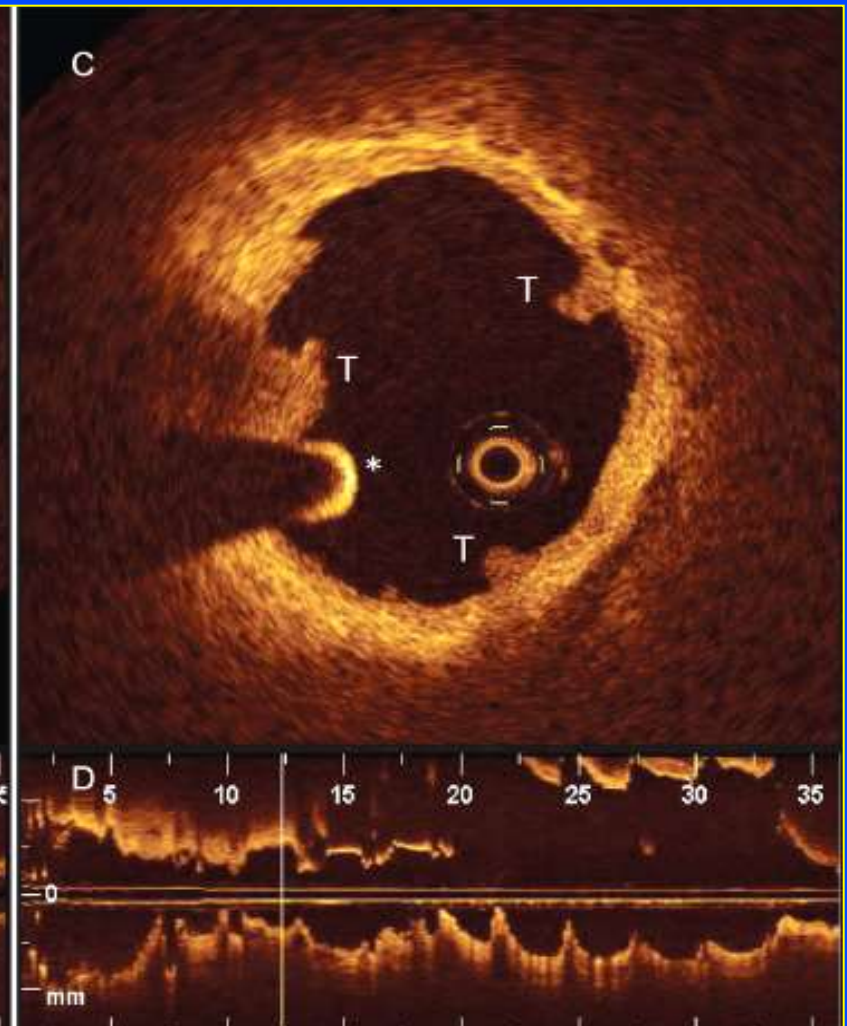
Absence of detectable rupture. Underlying plaque morphology is not well visualized due to the presence of residual red thrombus

Inflammation & Pathological Substrate

Plaque Rupture



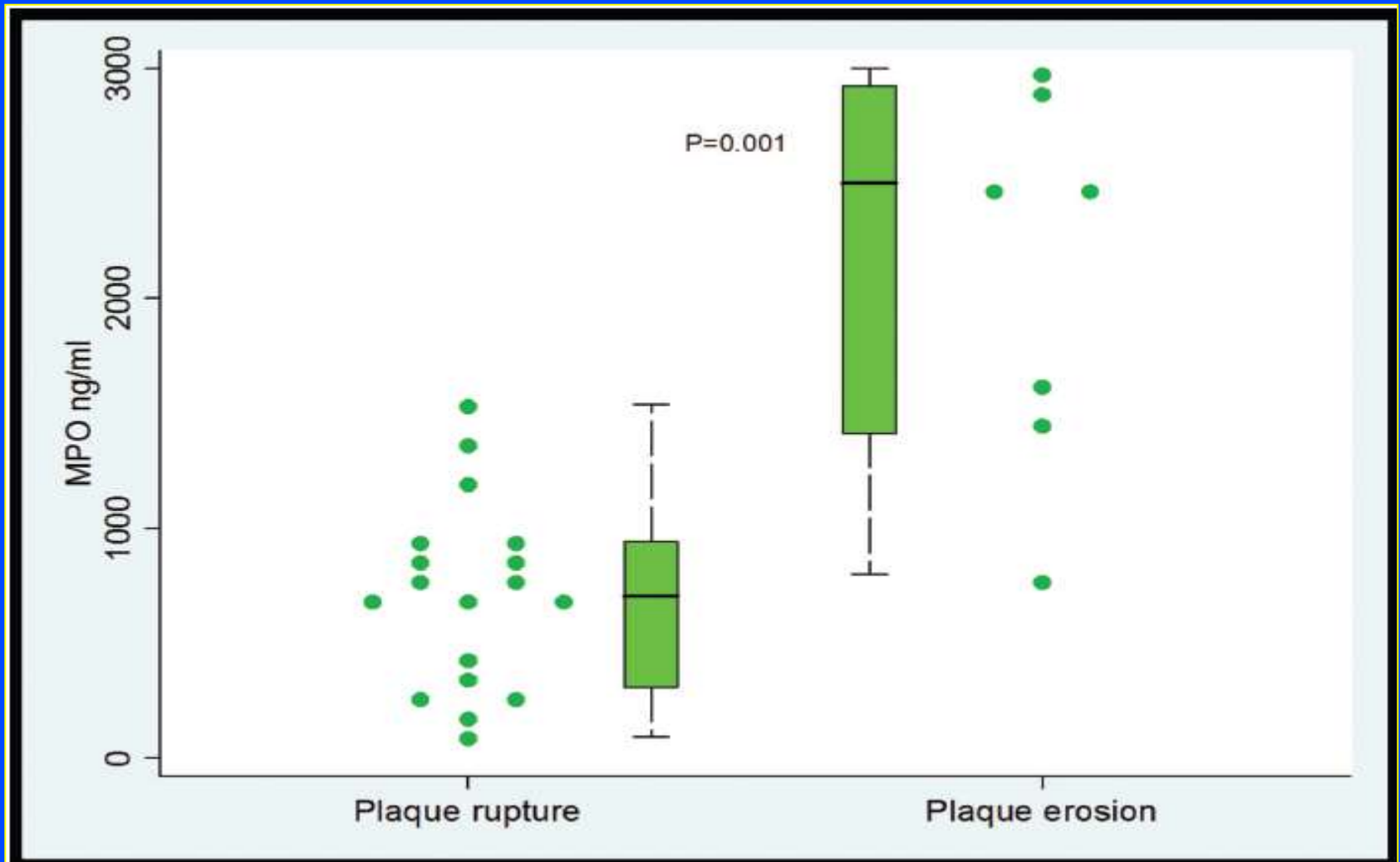
Plaque Erosion



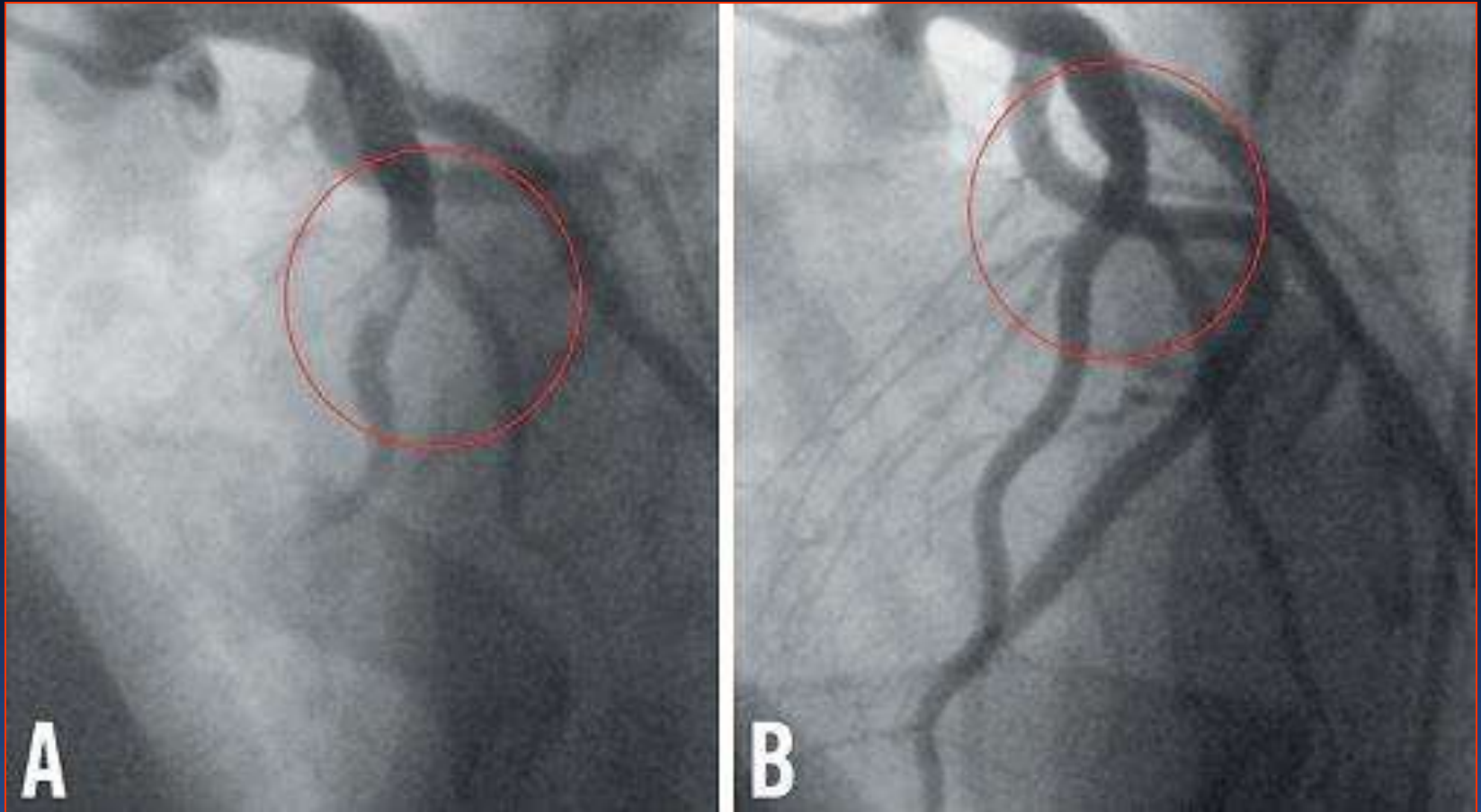
25 ACS Pts

Inflammation & Pathological Substrate

Serum Levels Myeloperoxidase

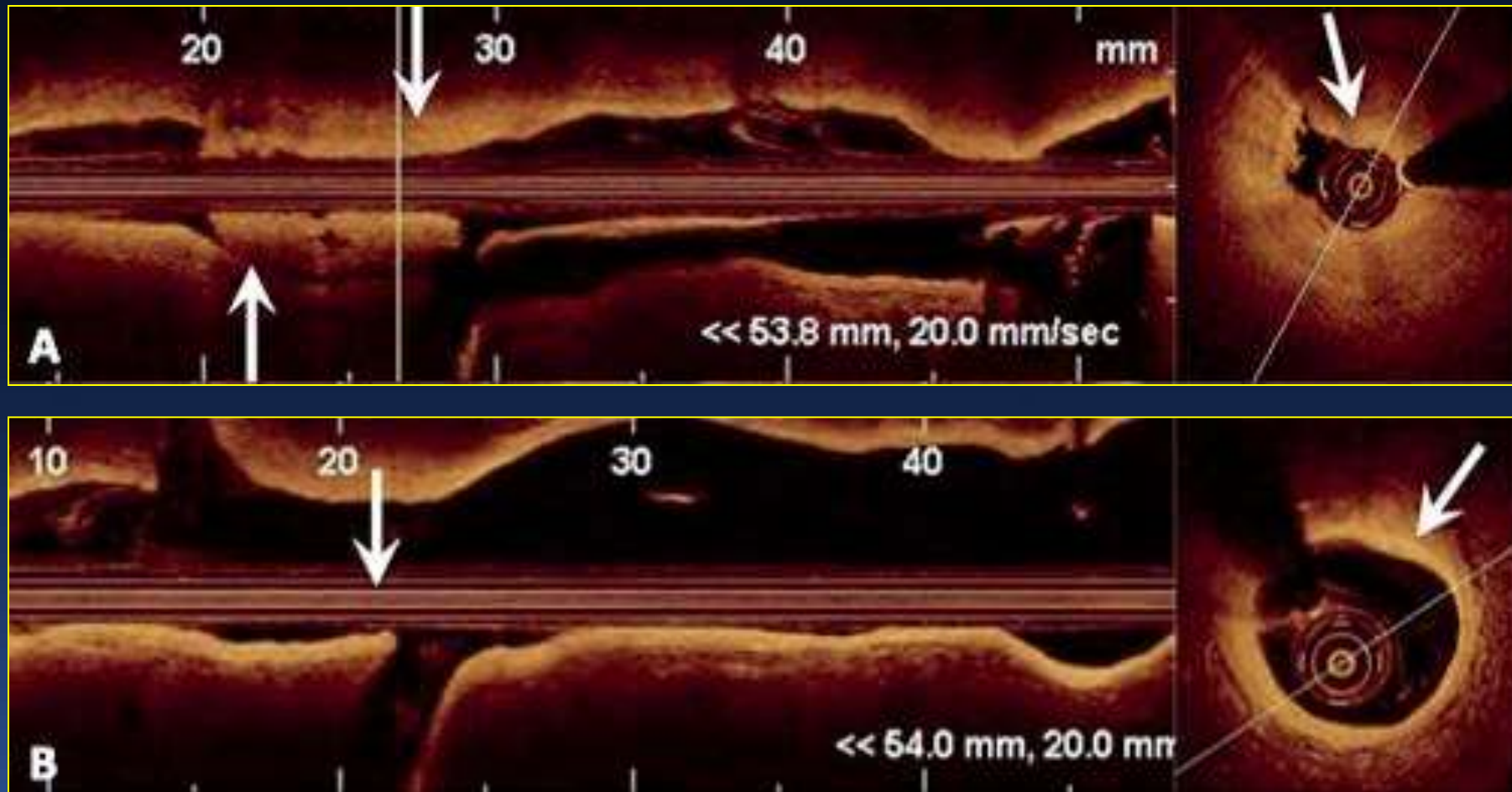


Safety of lone thrombus aspiration without coronary stenting in selected patients with AMI



Escaned J, et al. EuroIntervention 2013;8:1149-1156

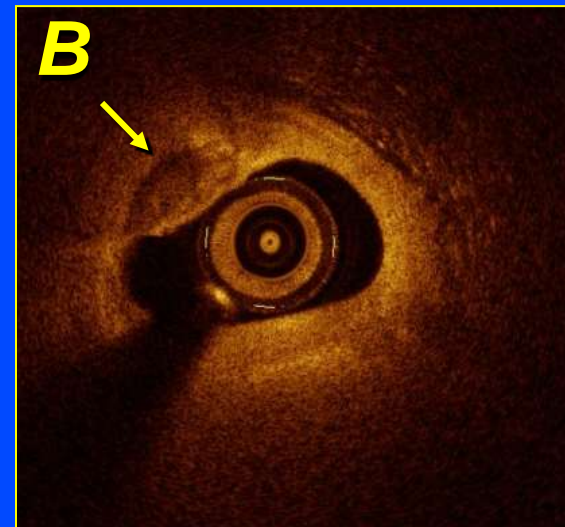
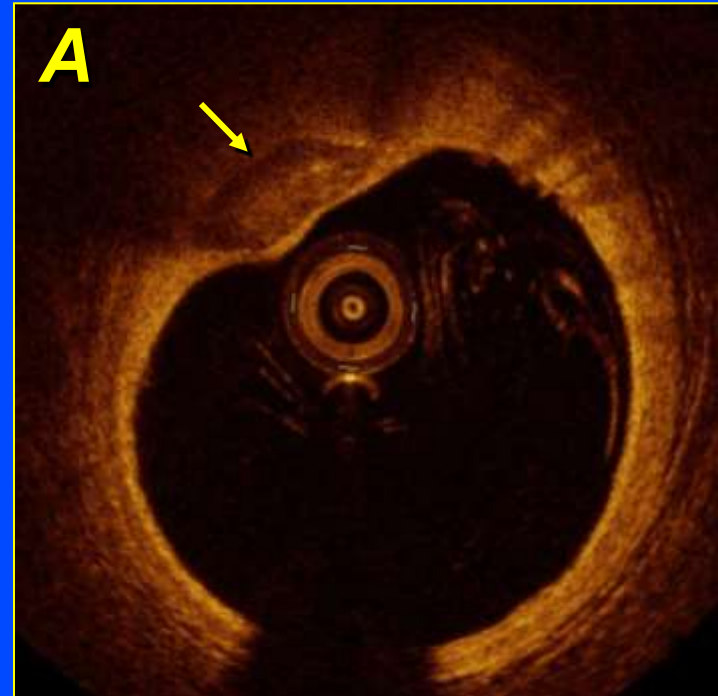
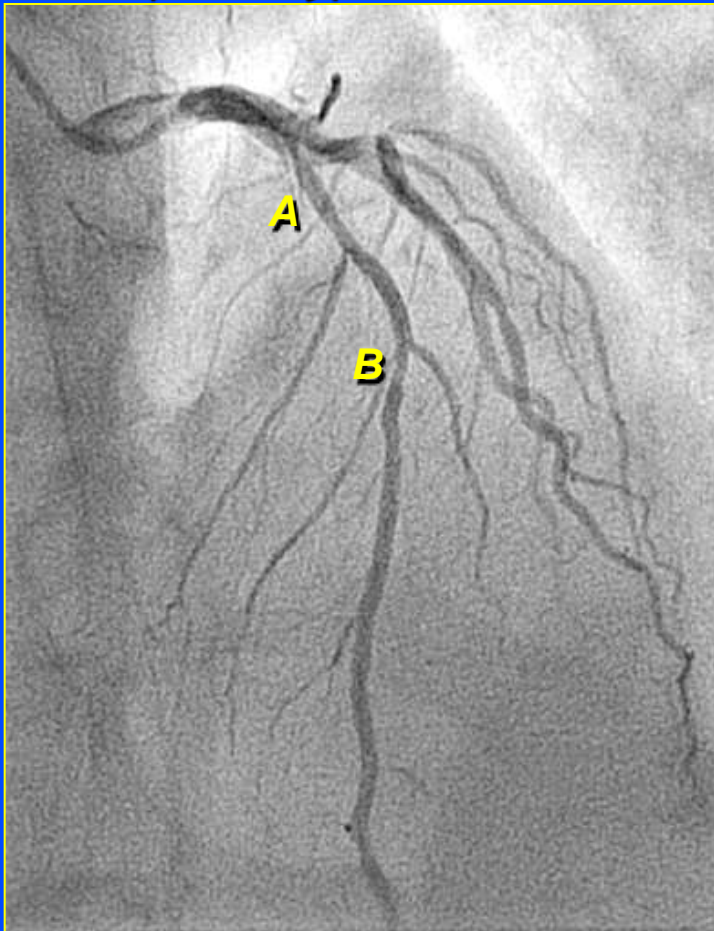
Safety of lone thrombus aspiration without coronary stenting in selected patients with AMI



Escaned J, et al. EuroIntervention 2013;8:1149-1156

CASE 5

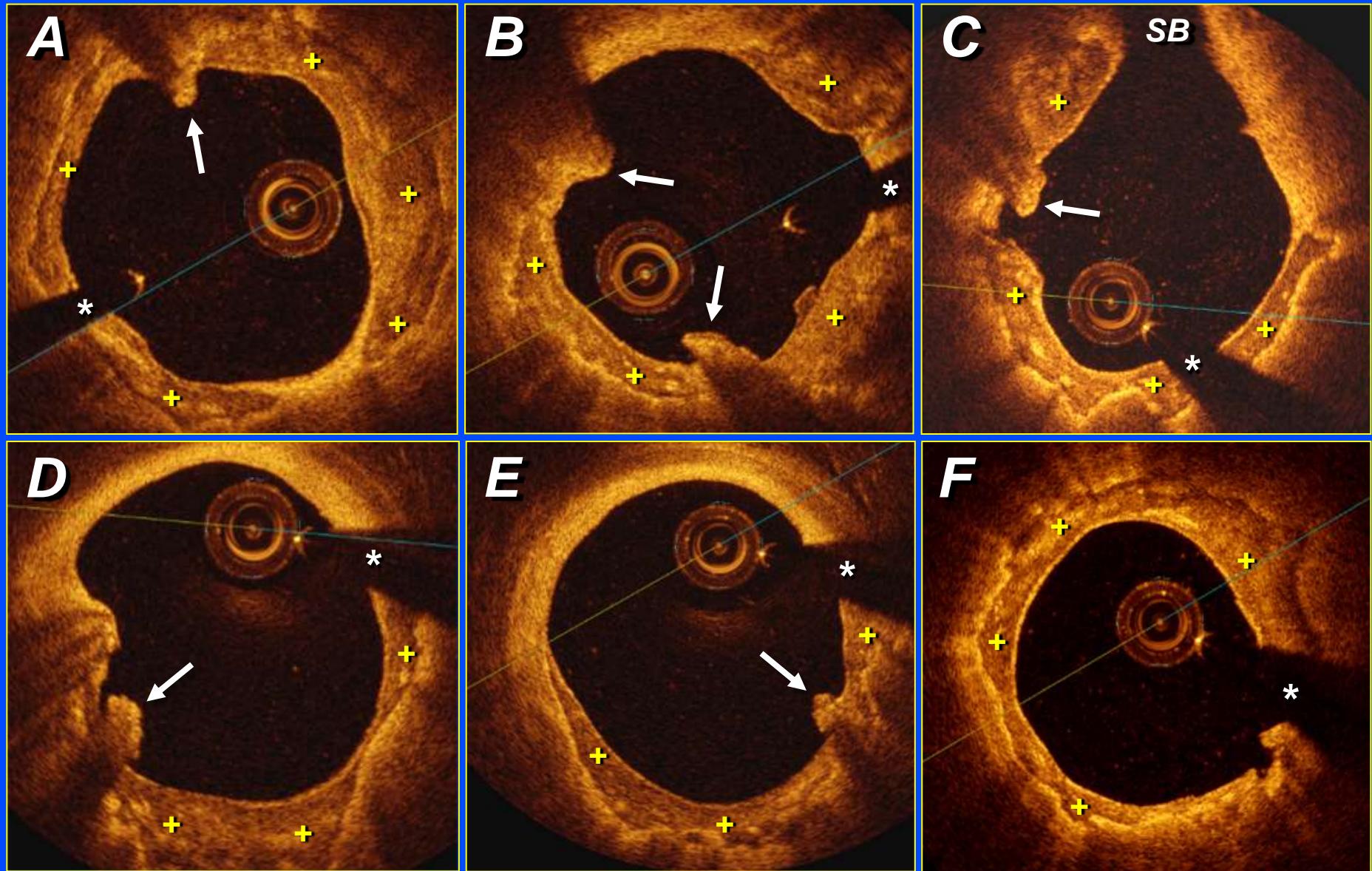
55-year-old male
Anterior STEMI
Apical hypokinesia



DB 1964952 15/02/2011

Hernandez R. Clínico San Carlos University Hospital, Madrid.

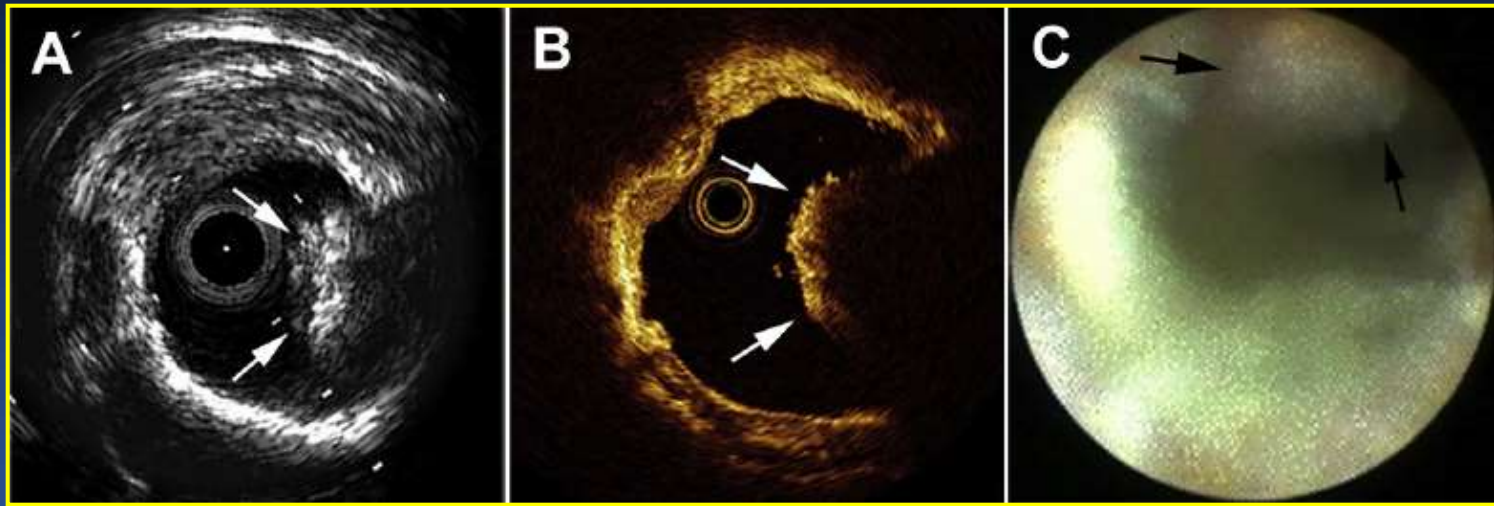
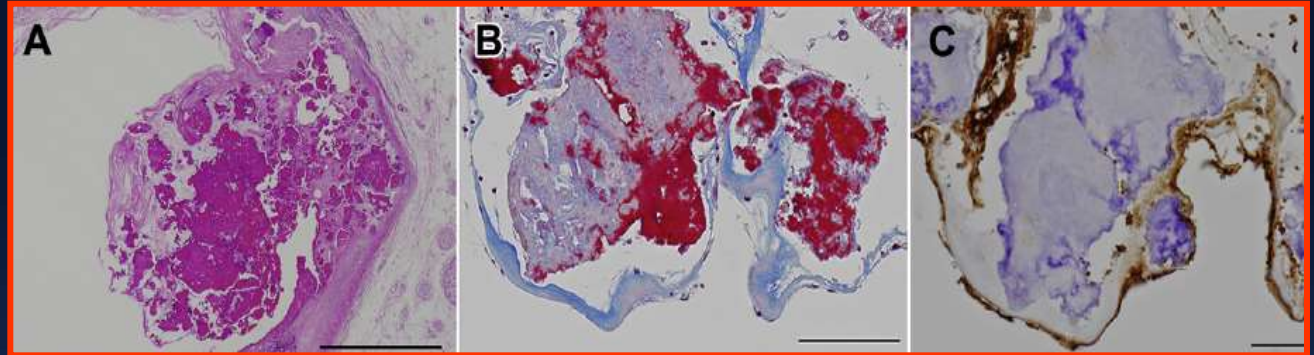
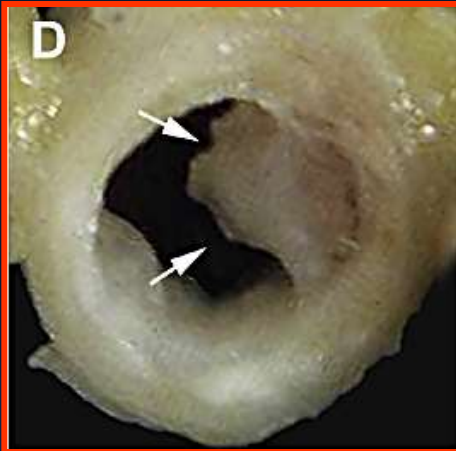
Coronary thrombosis from large, nonprotruding, superficial calcified coronary plaques



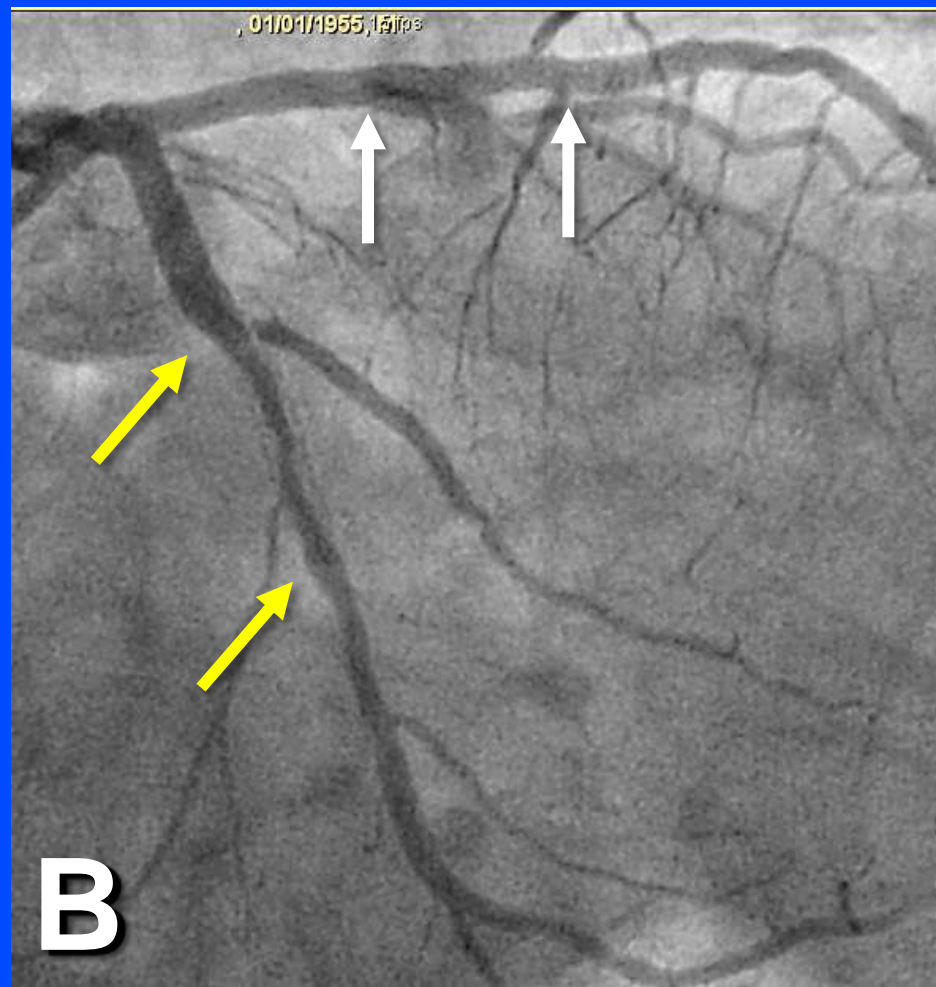
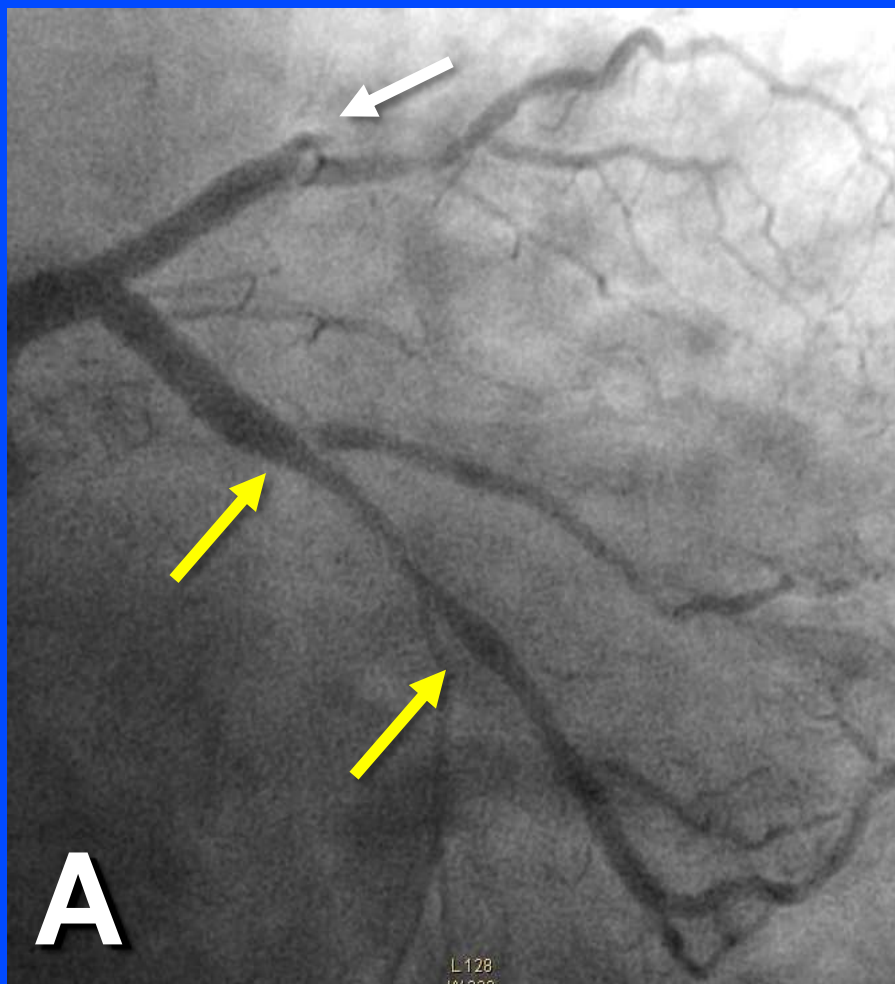
Elderly patient with NSTEMI and mild lesions on angiography

Intravascular Imaging of Calcified Coronary Nodule Complicated?

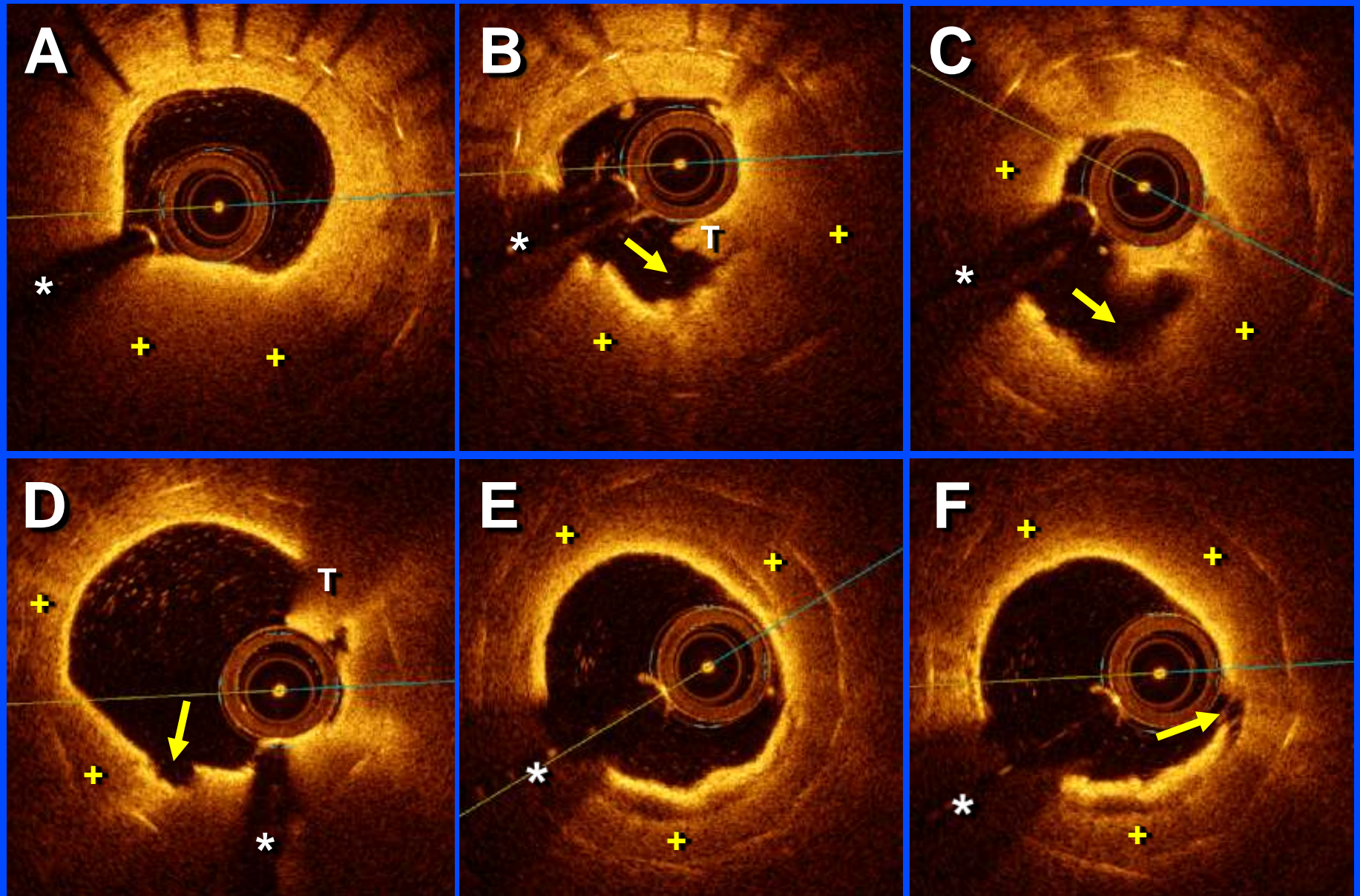
A 89-year-old woman died of stroke & heart failure



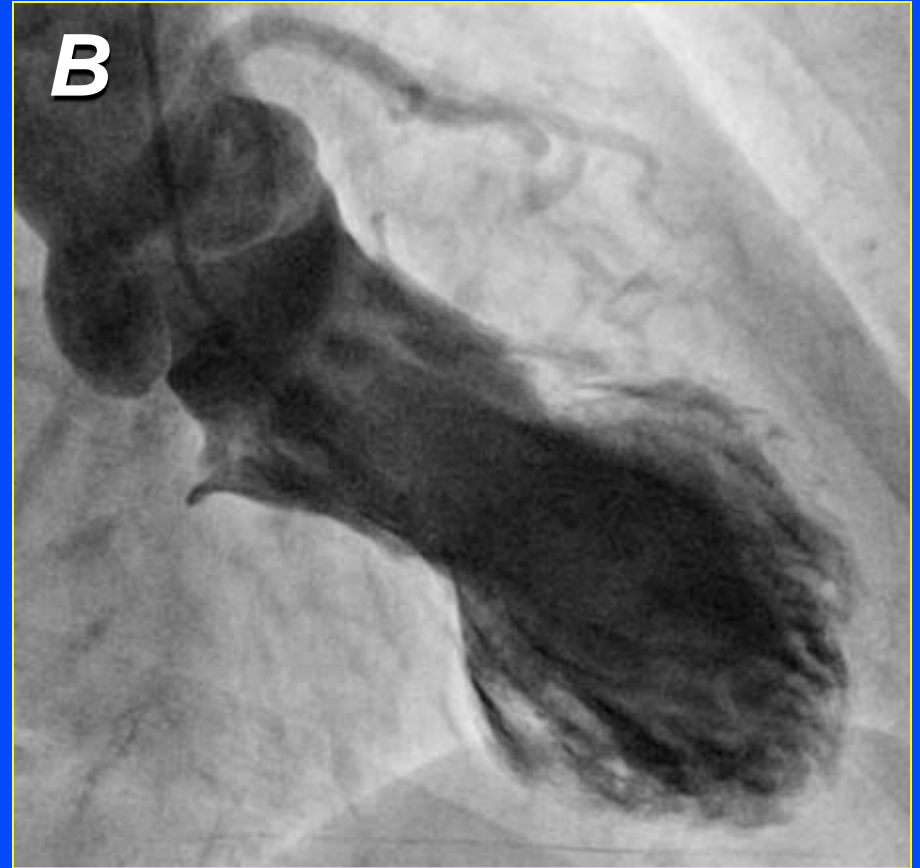
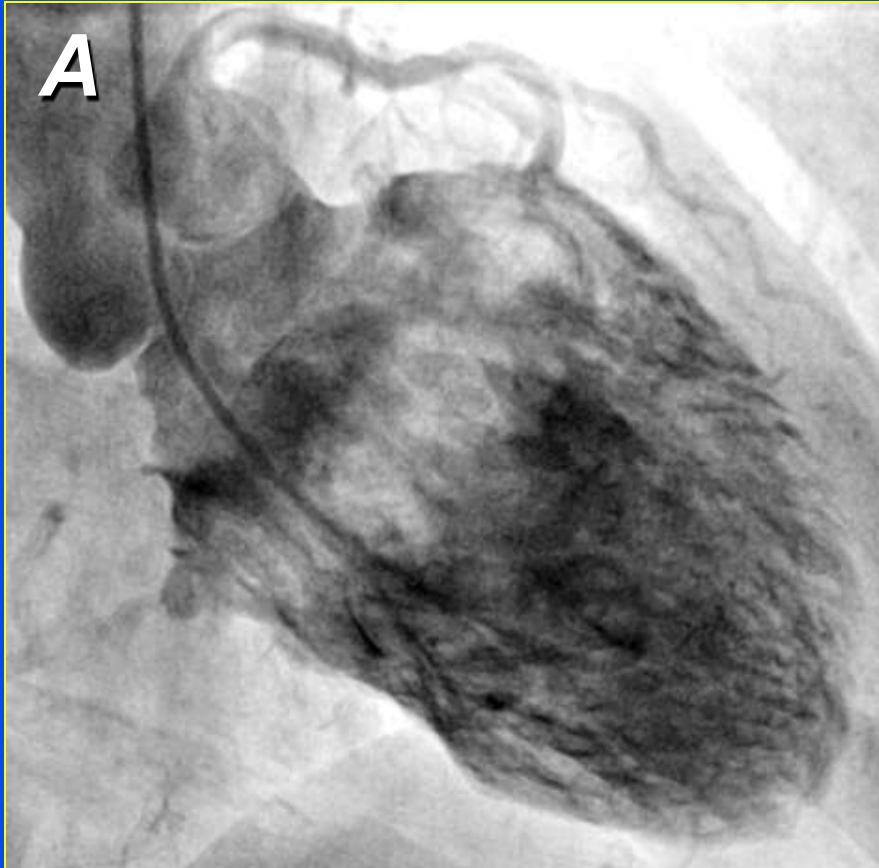
Anterior STEMI. Primary PCI (EES) ISR of a prior BMS in the LCX



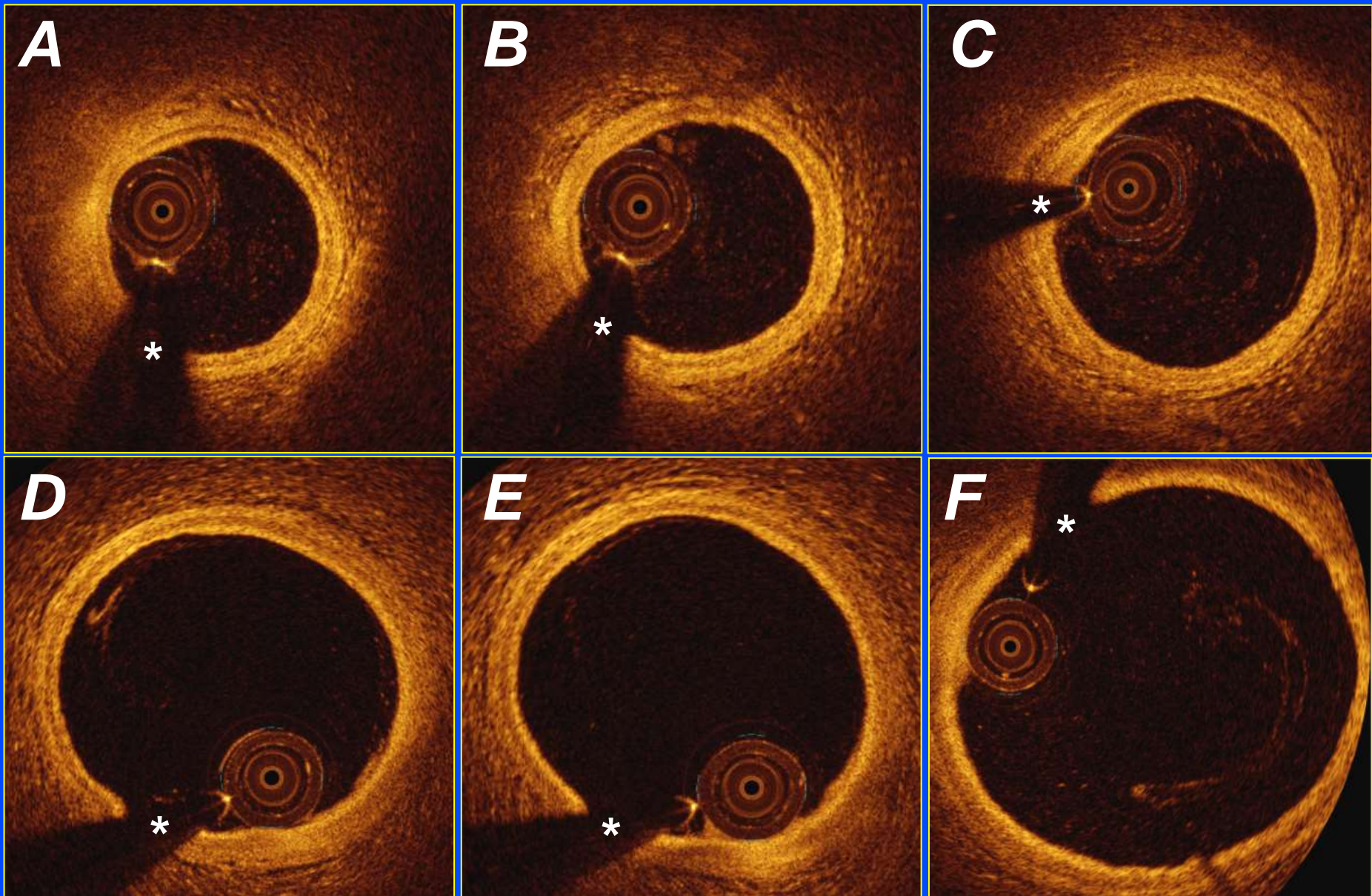
Detection & Treatment: Vulnerable In-Stent Neointima



Tako-Tsubo Cardiomyopathy



Tako-Tsubo Cardiomyopathy



STEMI

A 50-year-old woman without coronary risk factors presented with an anterior STEMI treated with thrombolysis.

Coronary angiography, performed 48 h later, revealed an occlusion (100%) in the proximal left anterior descending coronary artery



OCT

