

Complex Angioplasty

Difficult Times – Extreme Measures

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Complex Angioplasty

- Three vessel disease
- Ostial lesions
- Left main
- Total occlusions
- Bifurcation lesions
- Calcified lesions

And their combinations



Difficult Times

Patients with CABG
and Angina
Resistant to Medical Therapy
With
Open
Coronary Artery Bypass Grafts
Mainly the LIMA



Choices



- Medical Therapy
- Redo CABG
- PTCA



In patients with previous CABG and Documented Ischemia

Survival Improvement

The usefulness of CABG or PCI is uncertain

Class IIb

(Level of Evidence: B)

Symptom Improvement

CABG might be reasonable in failed Medical Therapy

when 1 or more significant ($\geq 70\%$ diameter) coronary artery stenoses are not amenable to PCI

Class IIb

(Level of Evidence: C)

PCI is reasonable in failed Medical Therapy

in 1 or more significant ($\geq 70\%$ diameter) coronary artery stenoses associated with ischemia

Class IIa

(Level of Evidence: C)

Extreme Measures

High risk Coronary Interventions
not based on any guidelines or solid studies

But

- On general practice
- Personal experience
- Operators capabilities

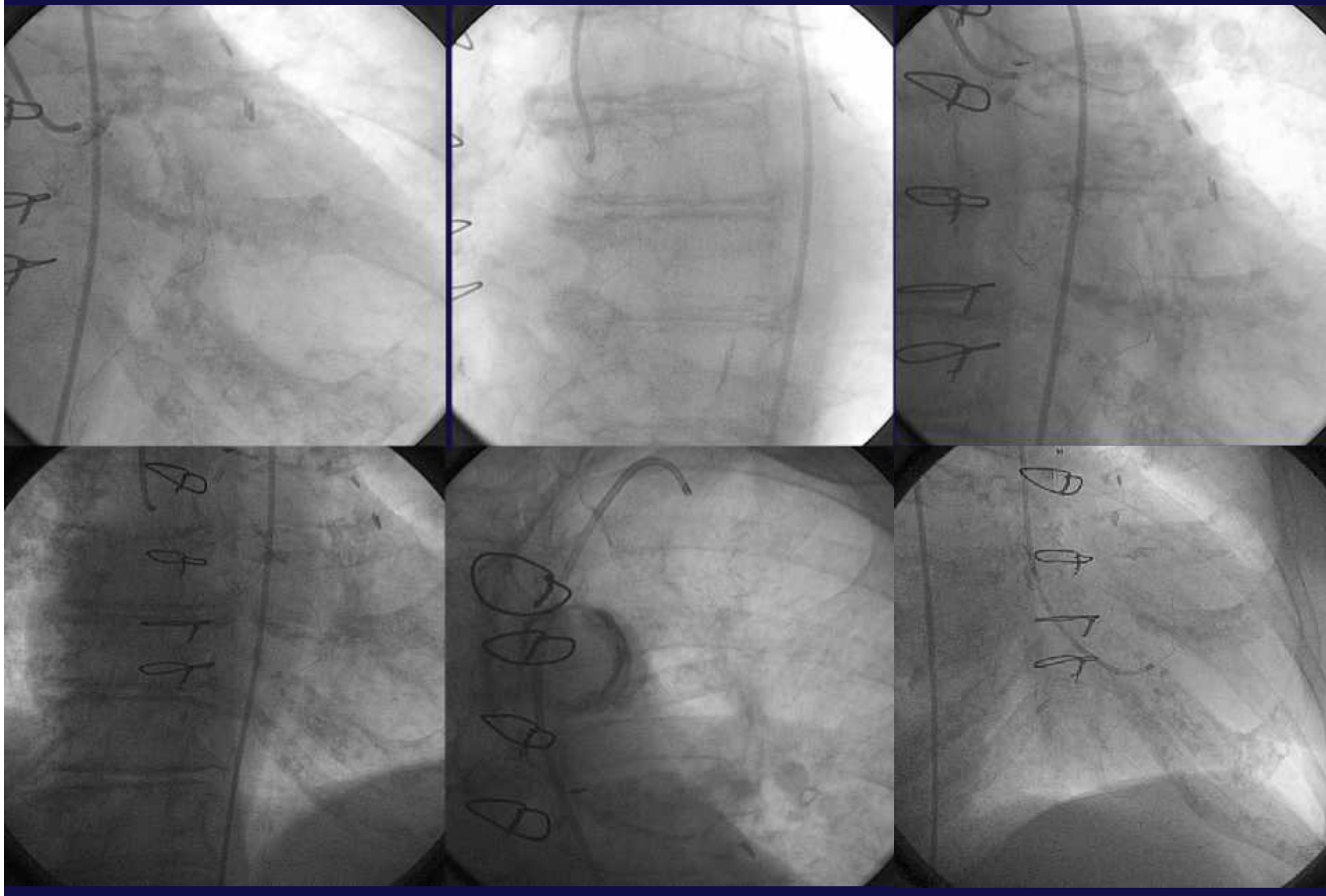


Outcome of Reoperative Coronary Bypass Surgery Versus Coronary Angioplasty After Previous Bypass Surgery

	Angioplasty (N=2613)	CABG (N=1561)	P
Q-wave myocardial infarction, n (%)	37 (1.42)	85 (5.45)	<.0001
Death in hospital, n (%)	31 (1.19)	106 (6.79)	<.0001
Coronary surgery, n (%)	75 (2.88)	1561 (100)	<.0001
Length of stay, d <.0001	3.0±4.2	10.5±12.4	
Stroke, n (%)	0 (0)	44 (2.82)	.27
Angina during follow-up, n (%)	1058 (46)	531 (42)	.03
Time to follow-up, y	4.3±3.1	4.6±3.0	.03

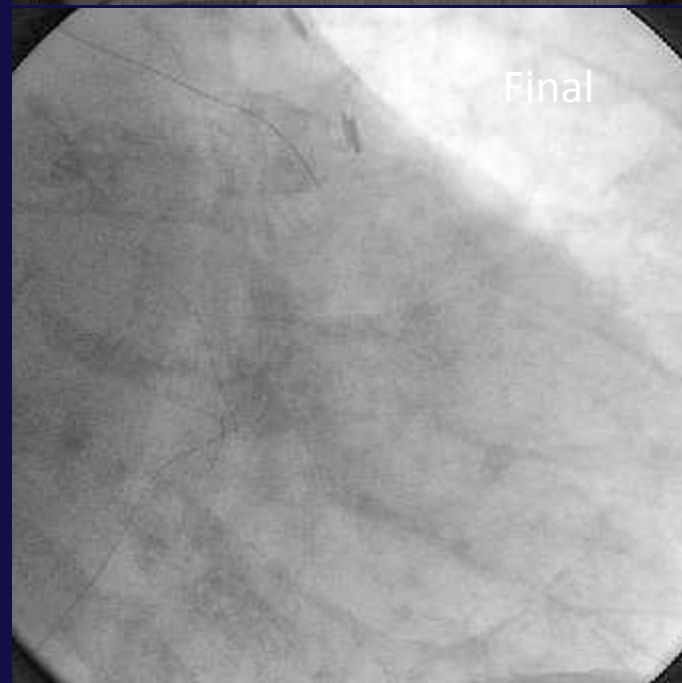
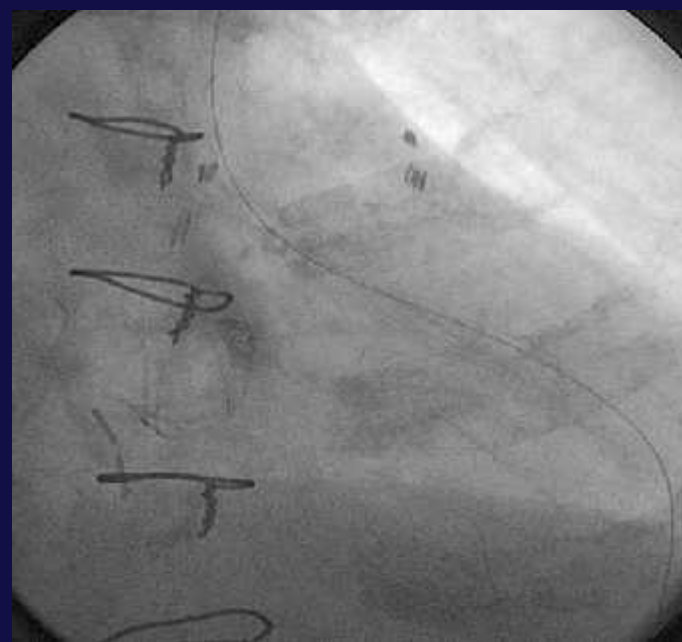
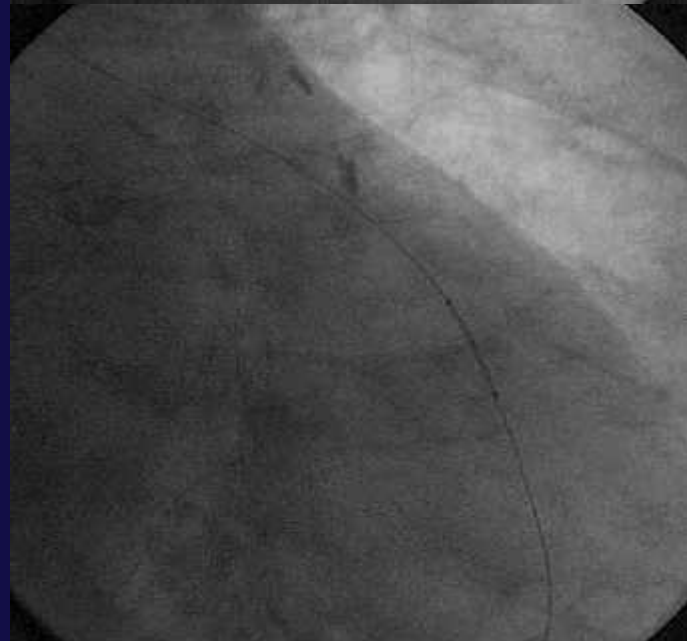
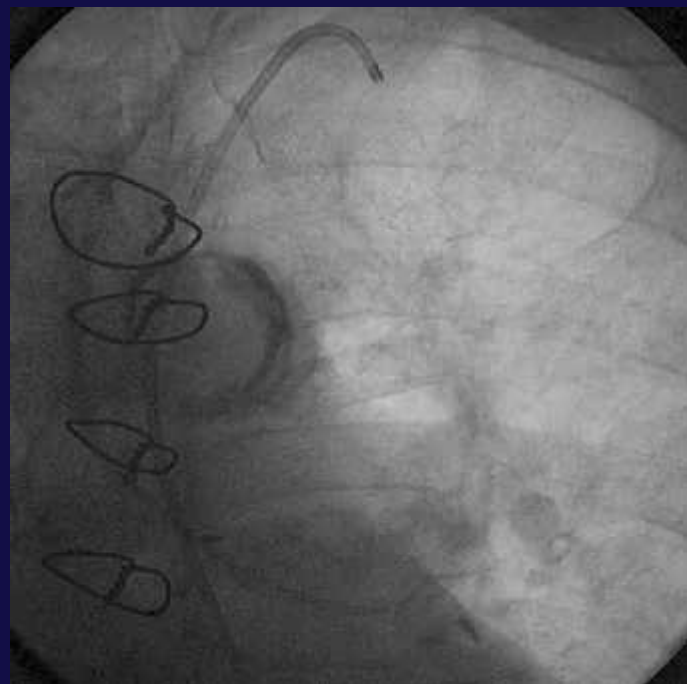
One Vessel disease

86 y/o. CABG 2004, Unstable angina



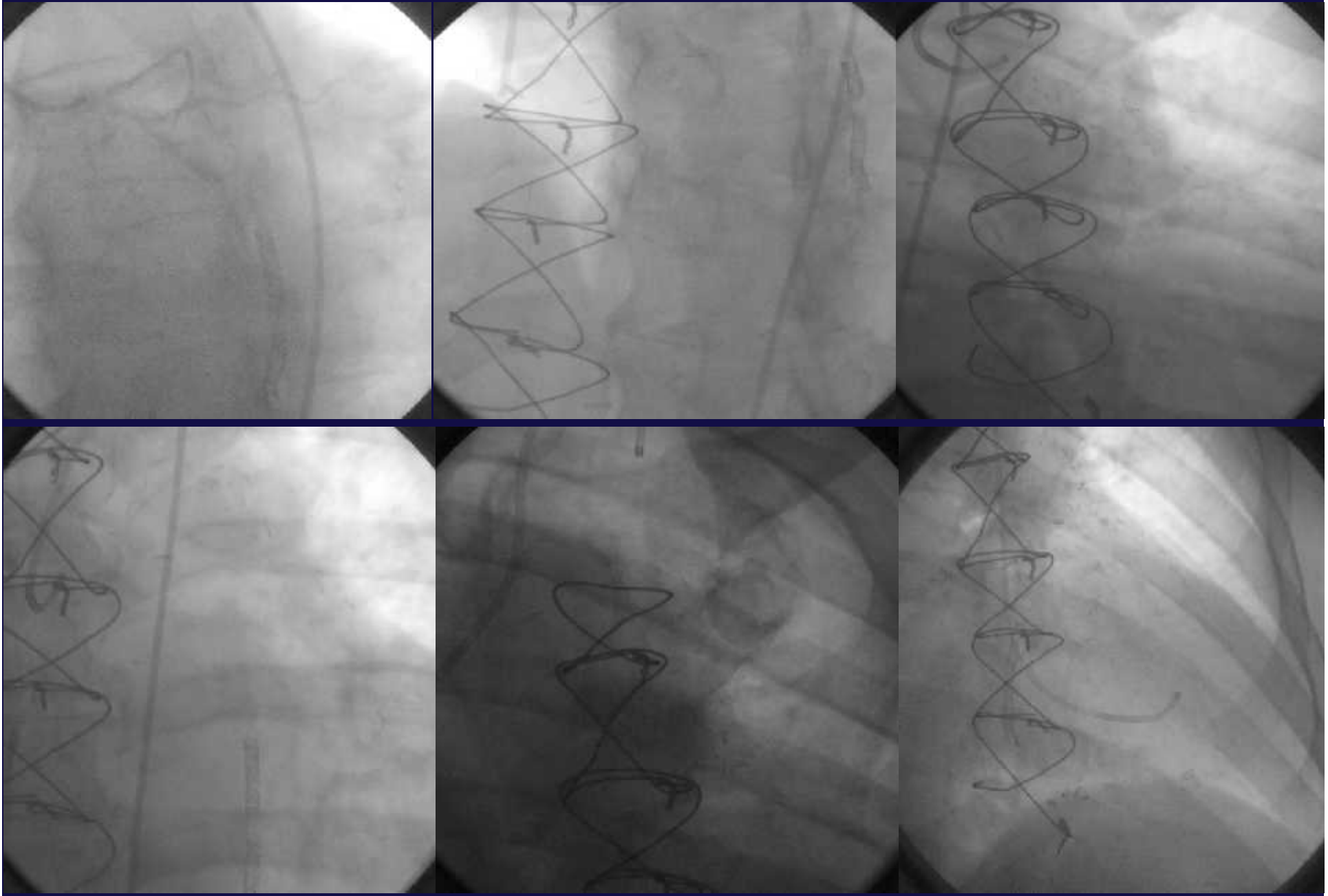
One Vessel disease

86 y/o. CABG 2004, Unstable angina



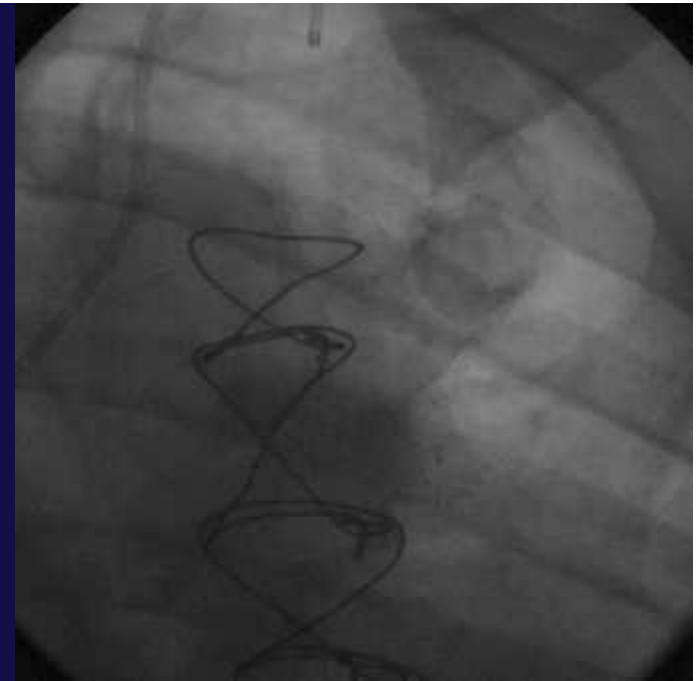
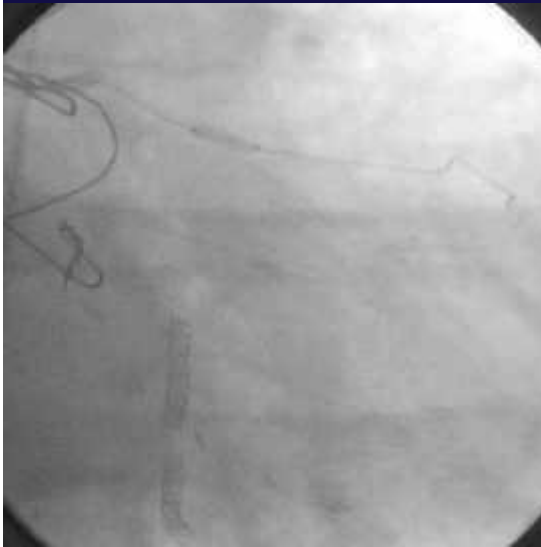
Two Vessel disease

67 y/o CABG 2007, effort angina



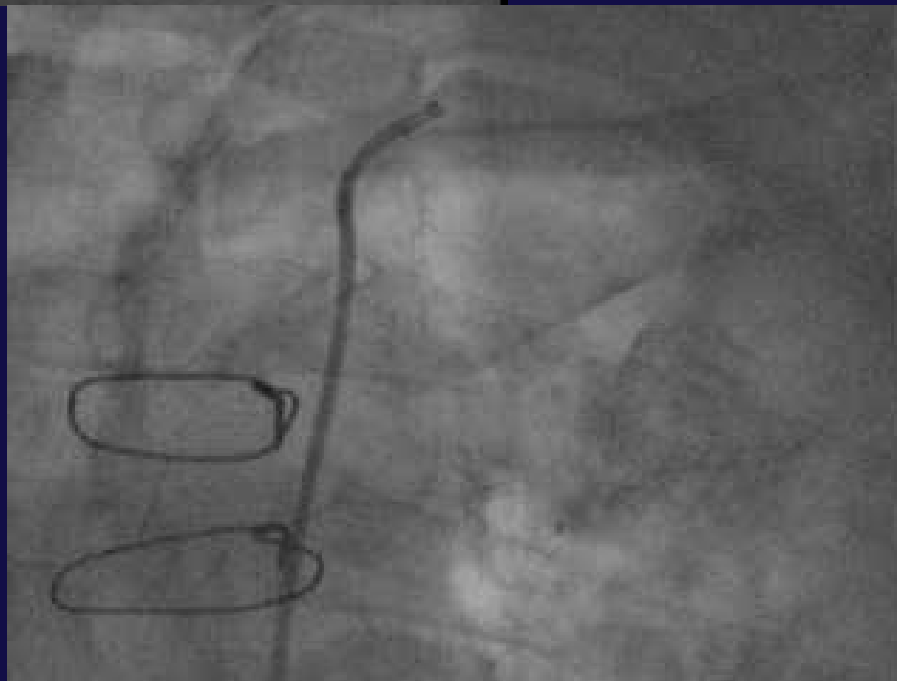
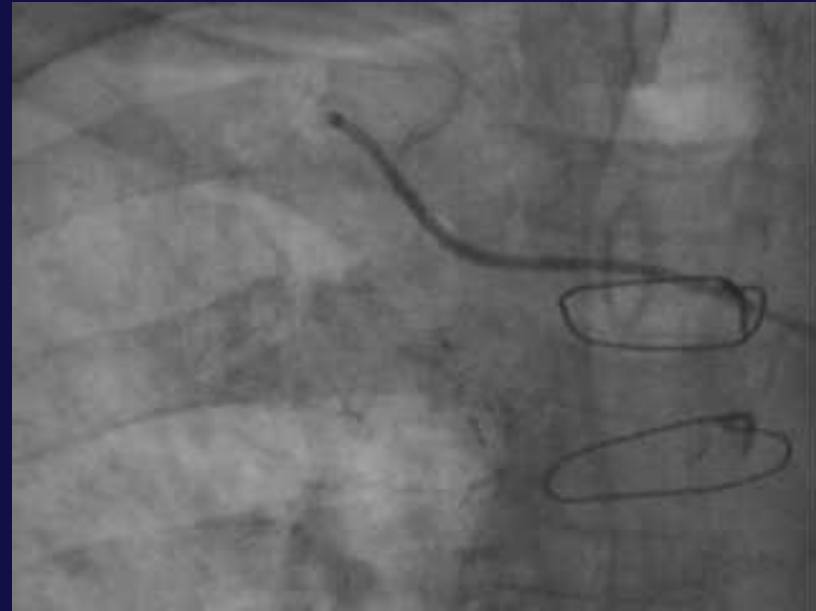
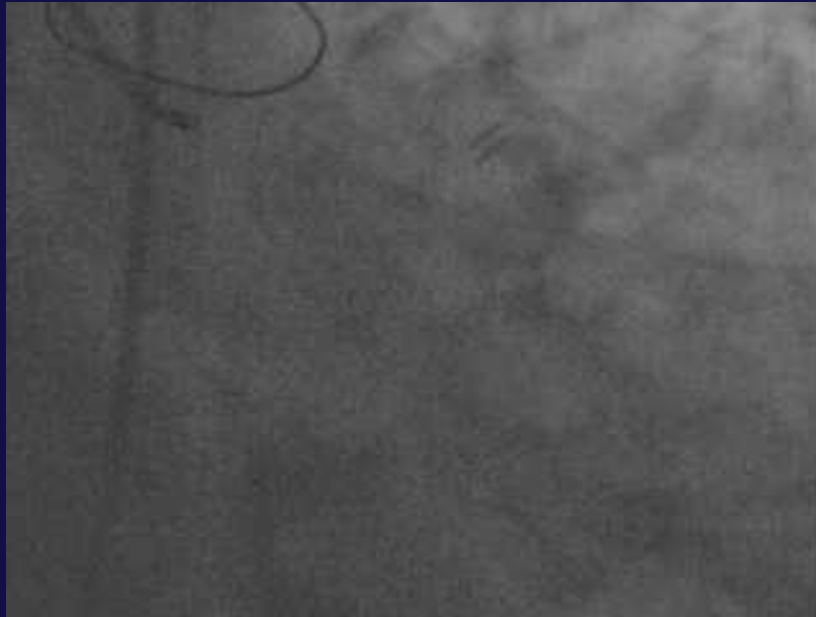
Two Vessel disease

67 y/o CABG 2007, effort angina



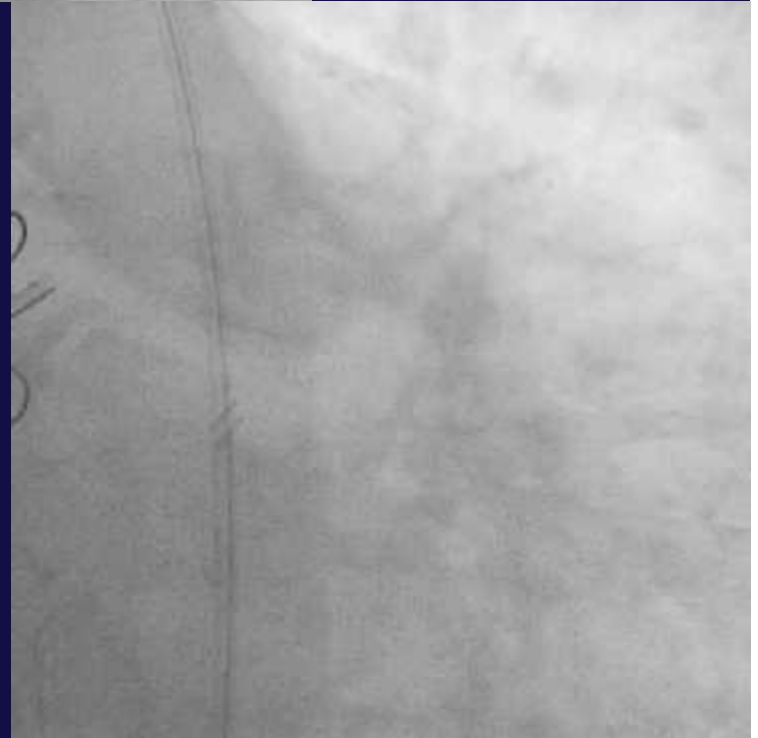
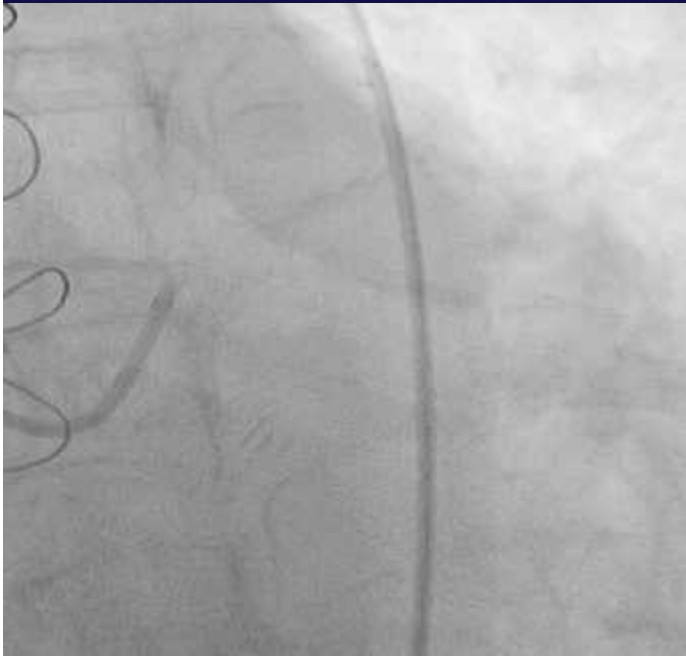
Ostial Lesion

74 y/o CABG 2011, effort angina



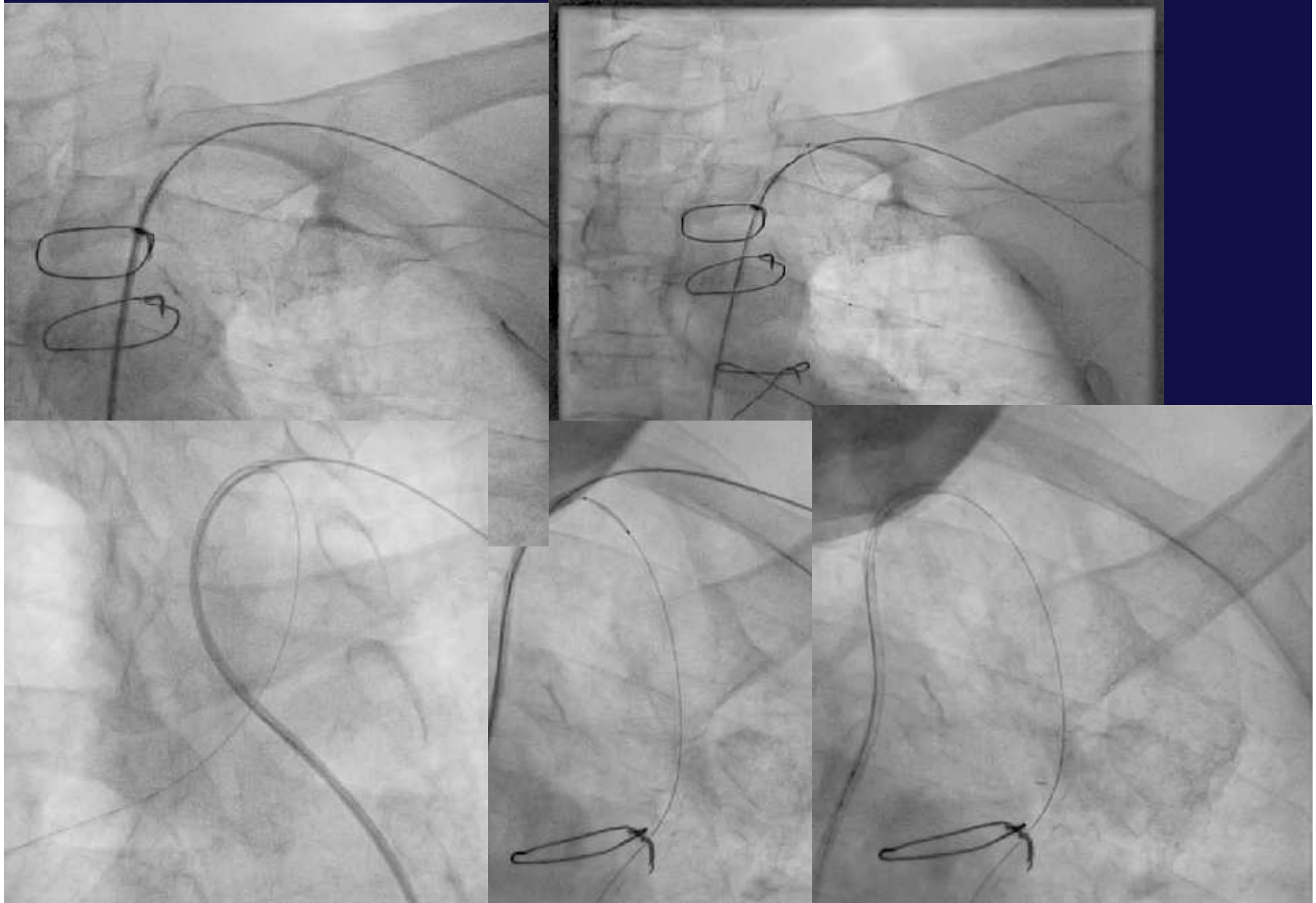
Ostial Lesion

74 y/o CABG 2011, effort angina



Ostial Lesion

74 y/o CABG 2011, effort angina

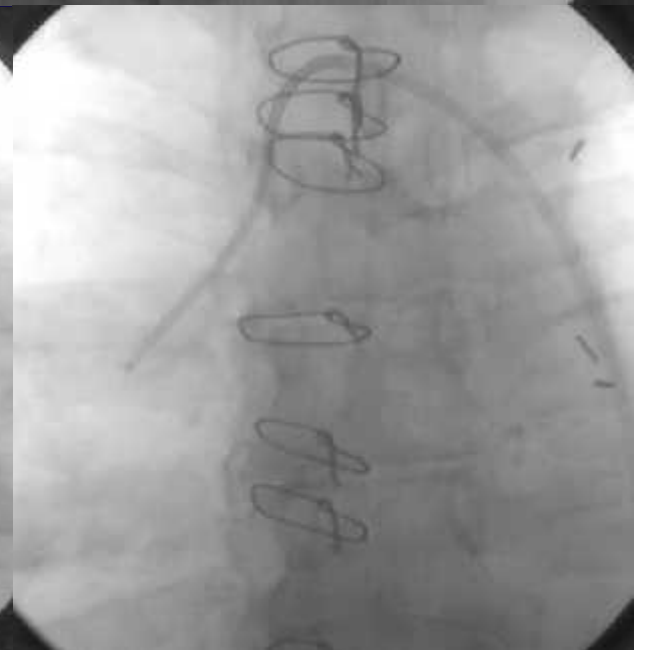
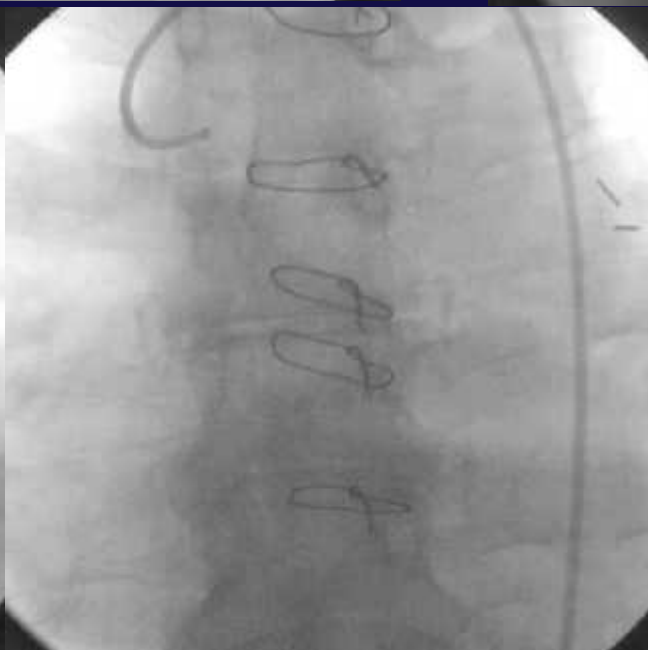
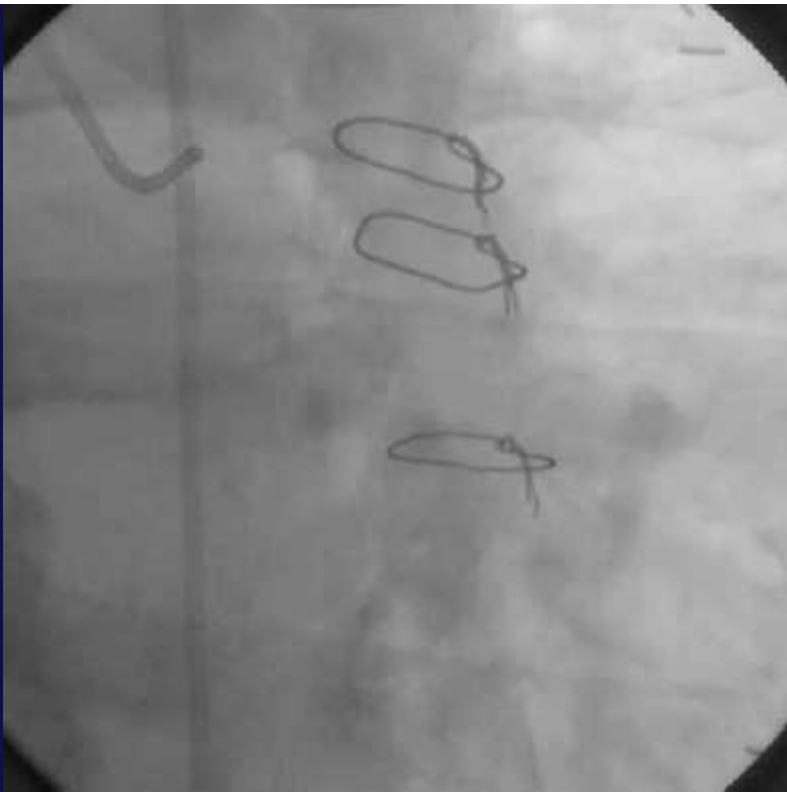


CABG and 3 Vessel Disease

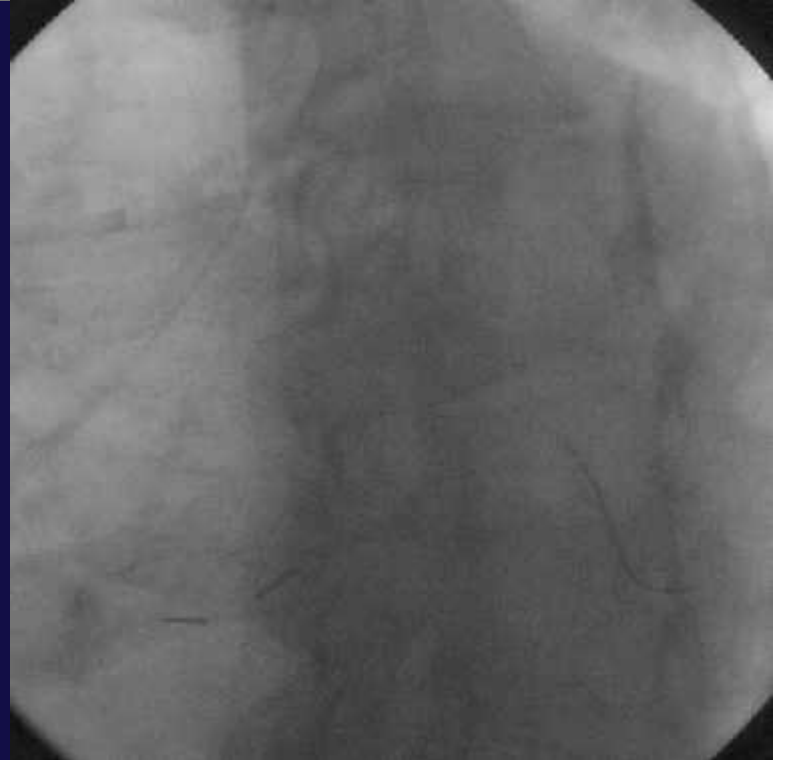
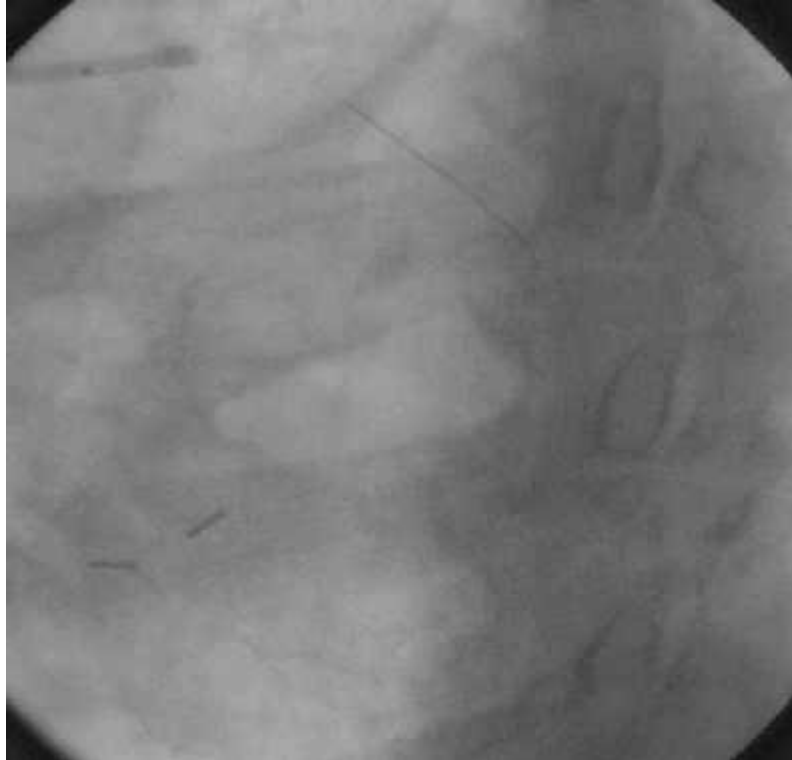
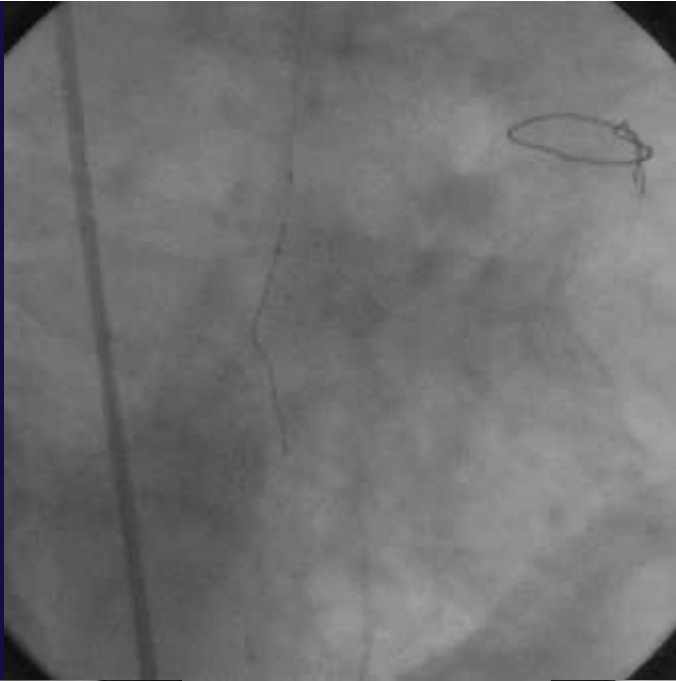
History

- 2015
88 y/o man with CAD
New onset angina on minimal effort
- 1991
CABG with LIMA to LAD, SVG to DX, SVG to OM and SVG to RCA
LVEF 55%
- 2006
15 years after CABG
Chest pain and dyspnea on exertion

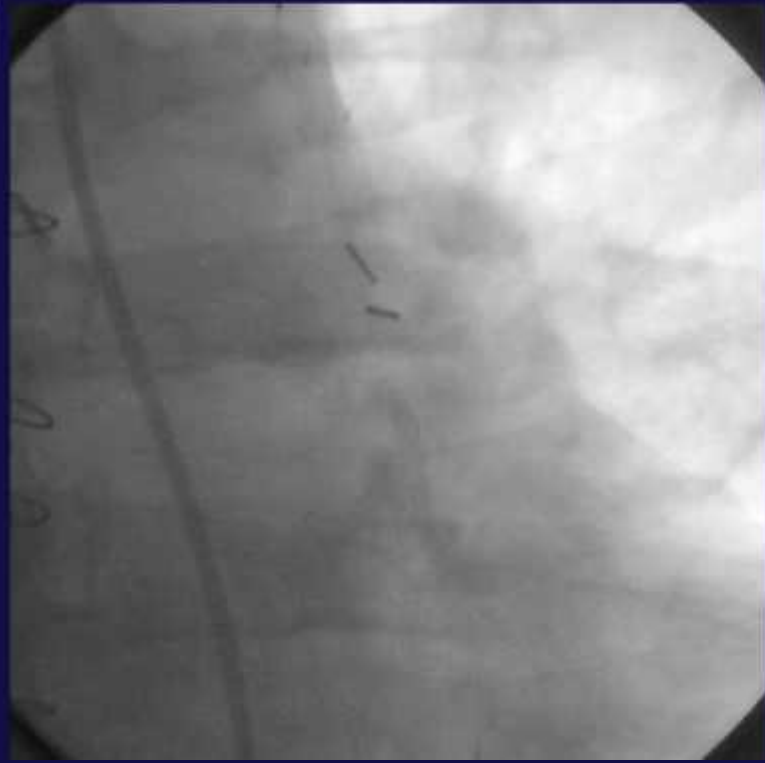
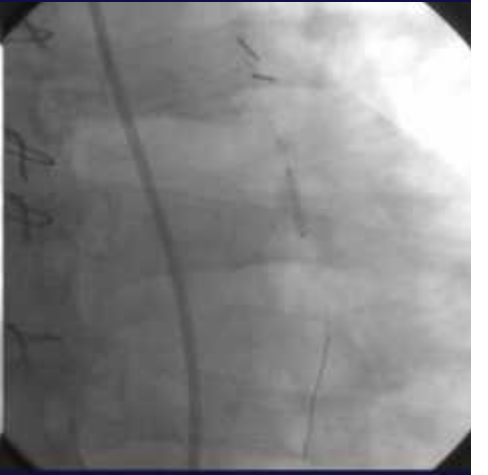
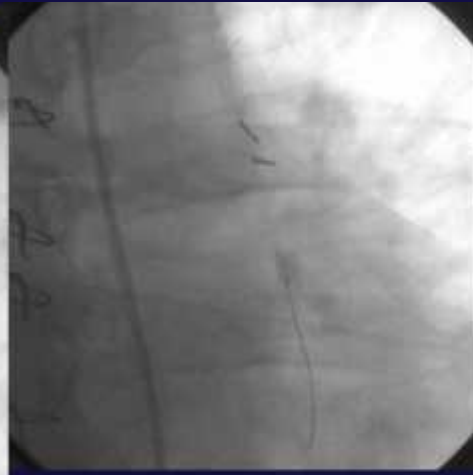
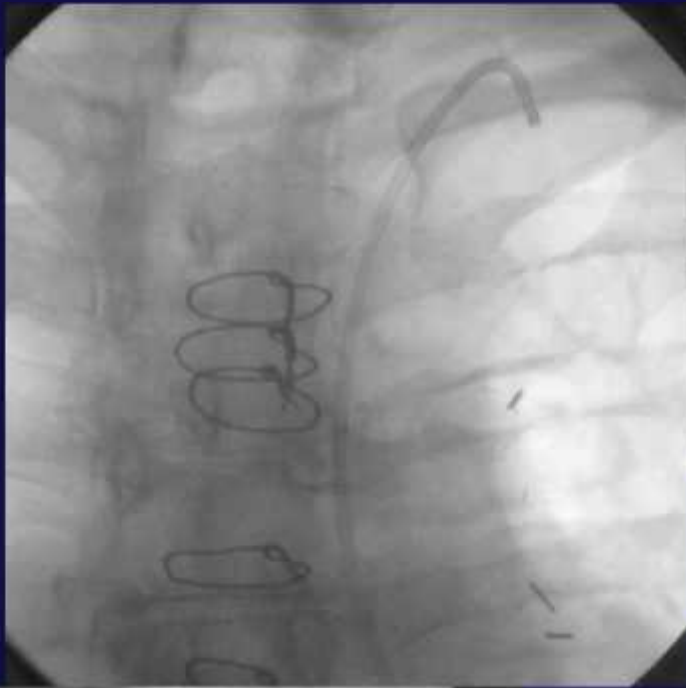
2006



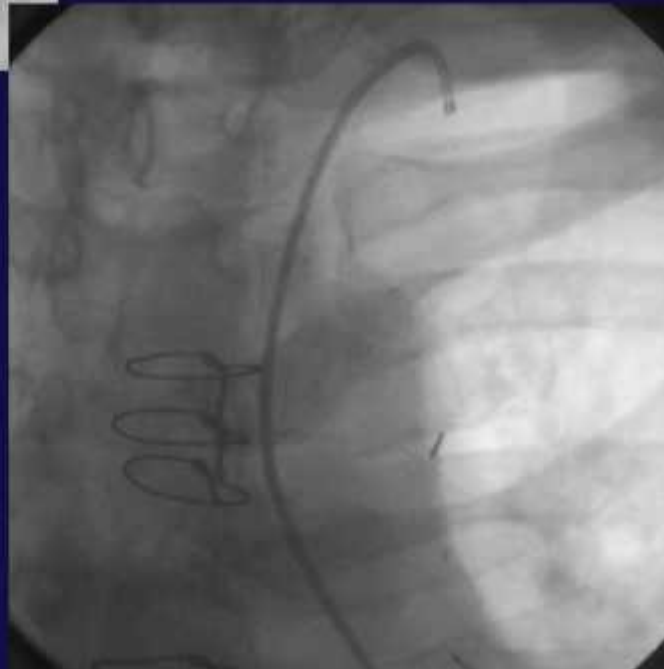
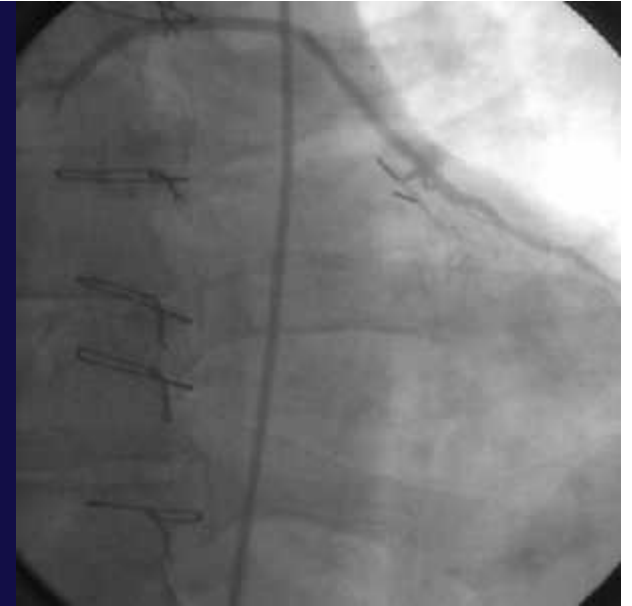
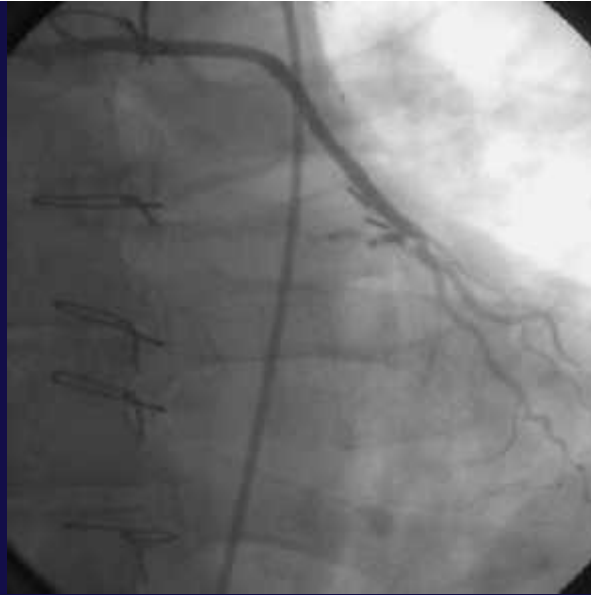
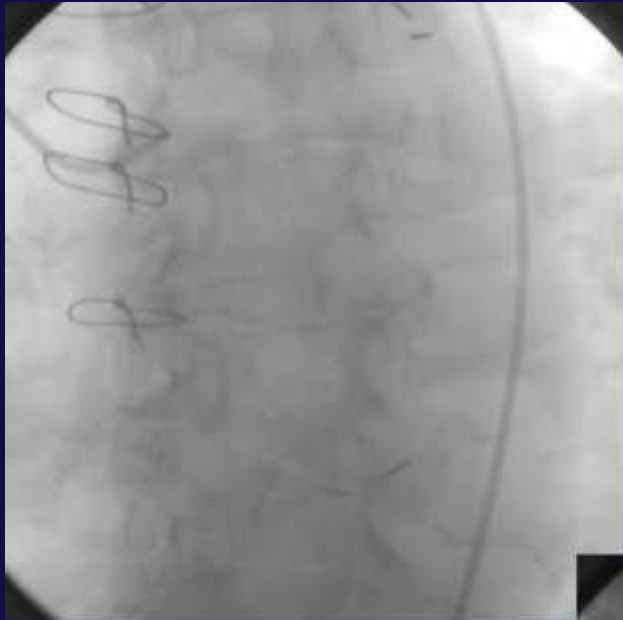
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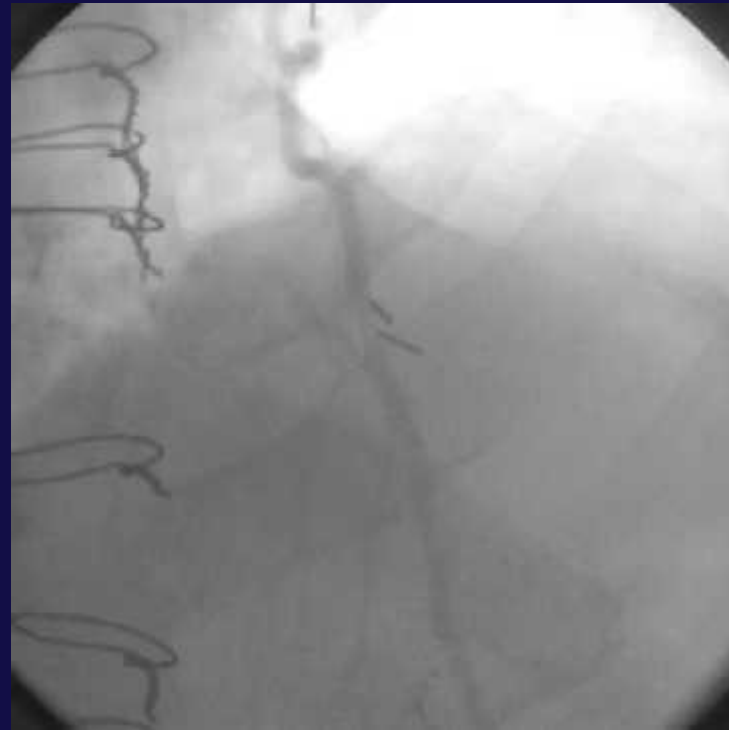
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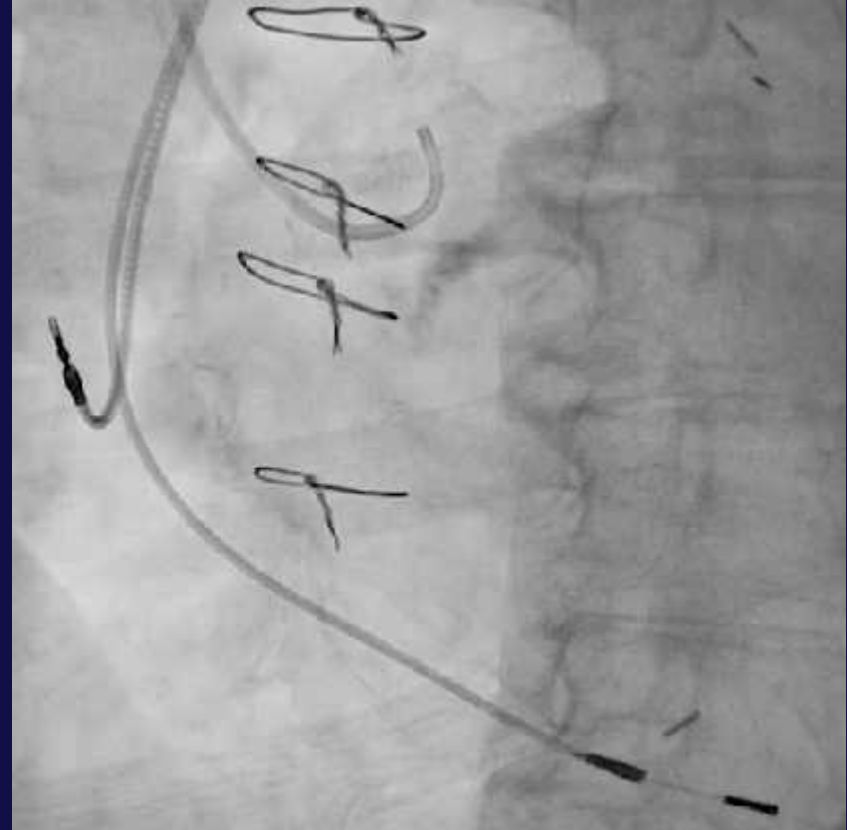
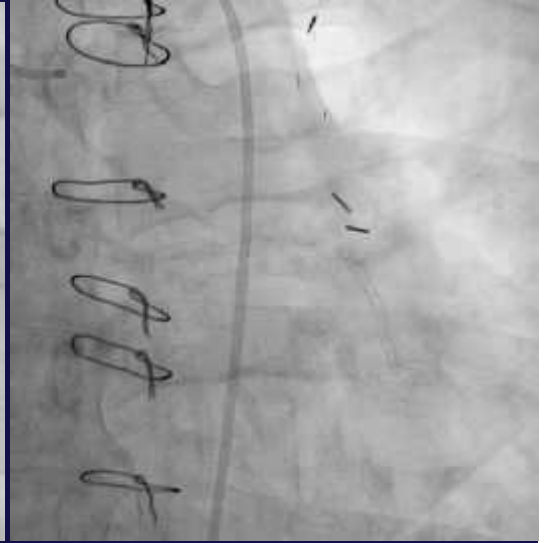
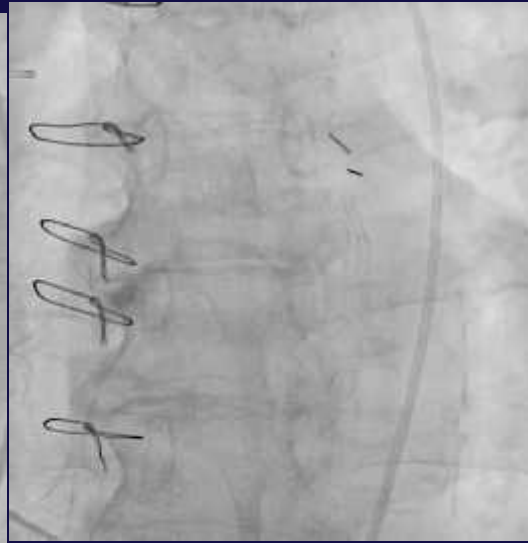
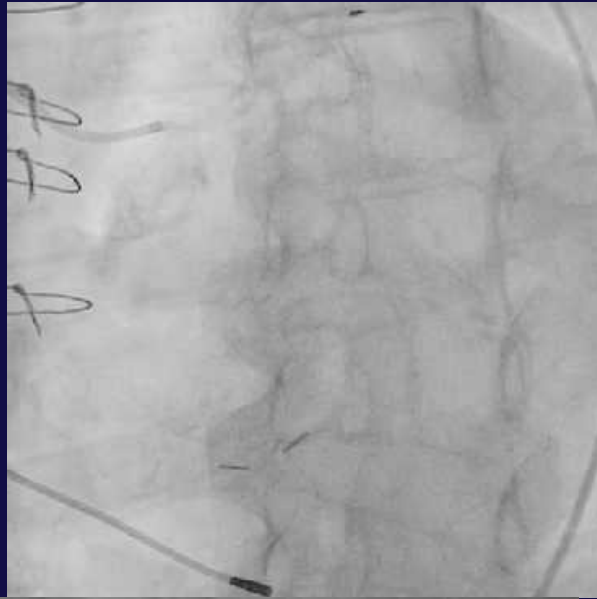
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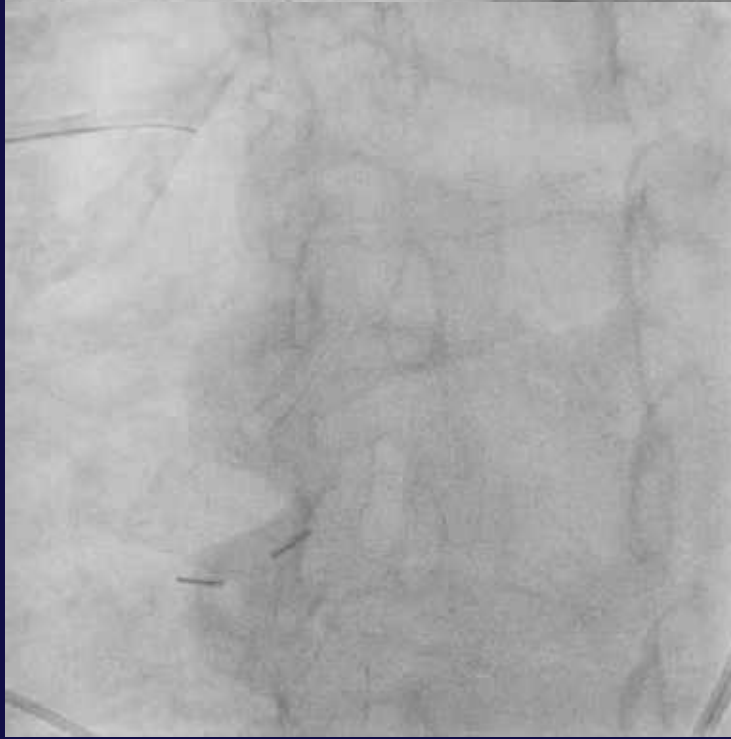
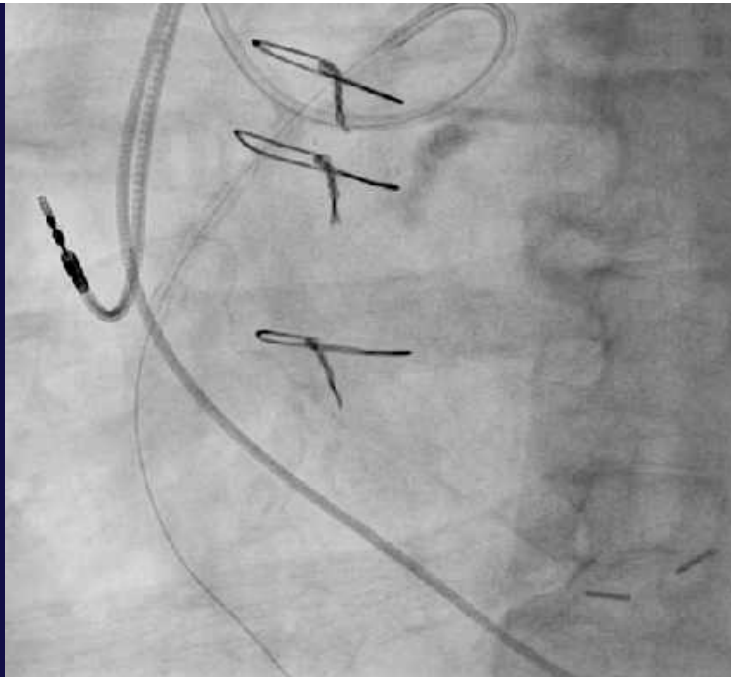
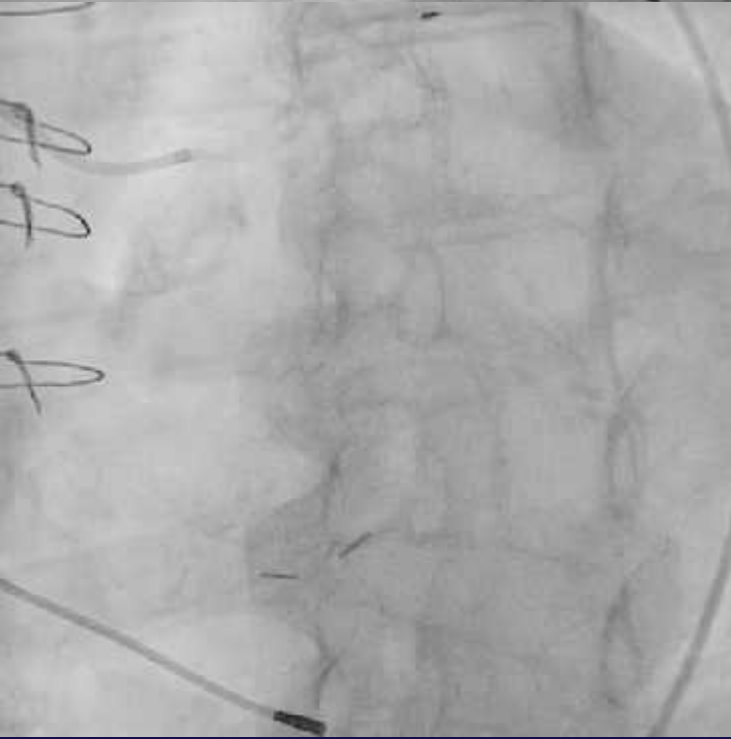
2009



2015



2015

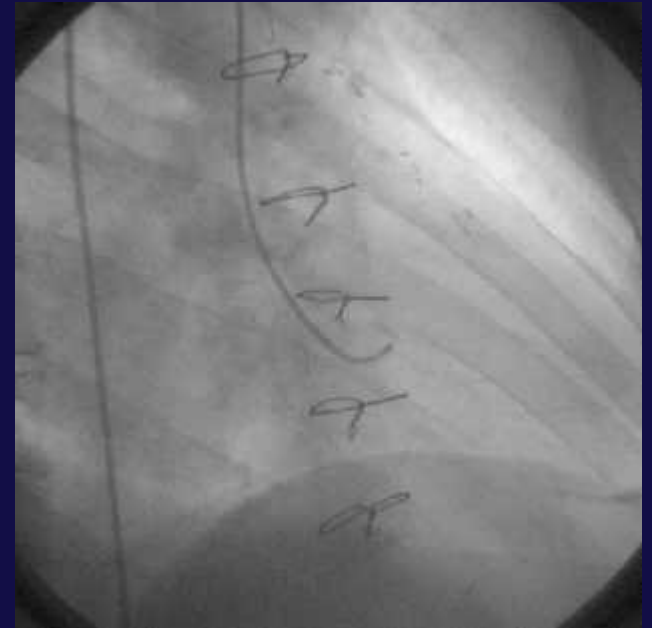
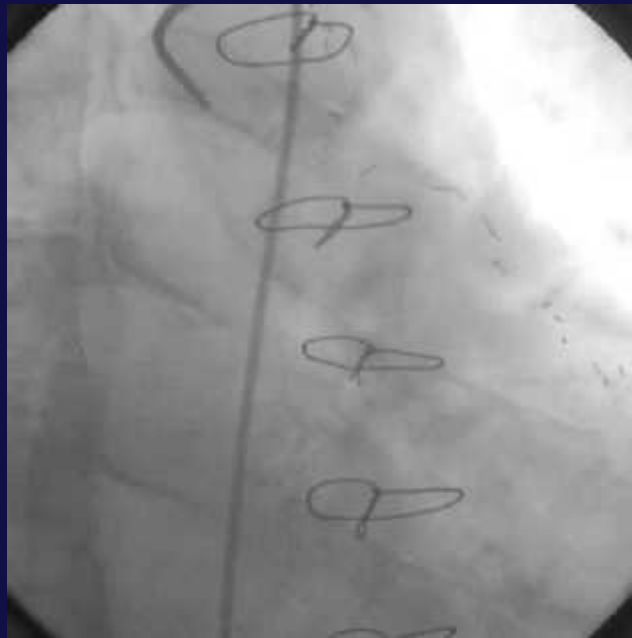
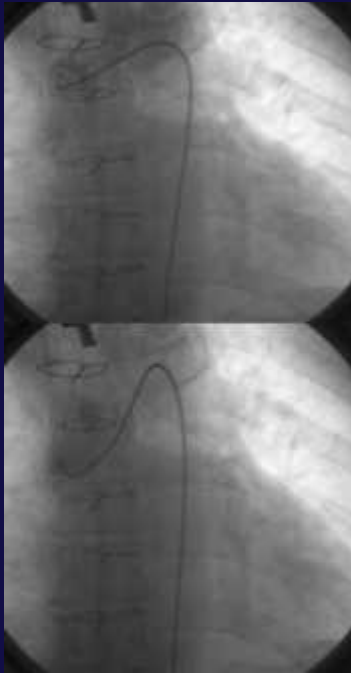
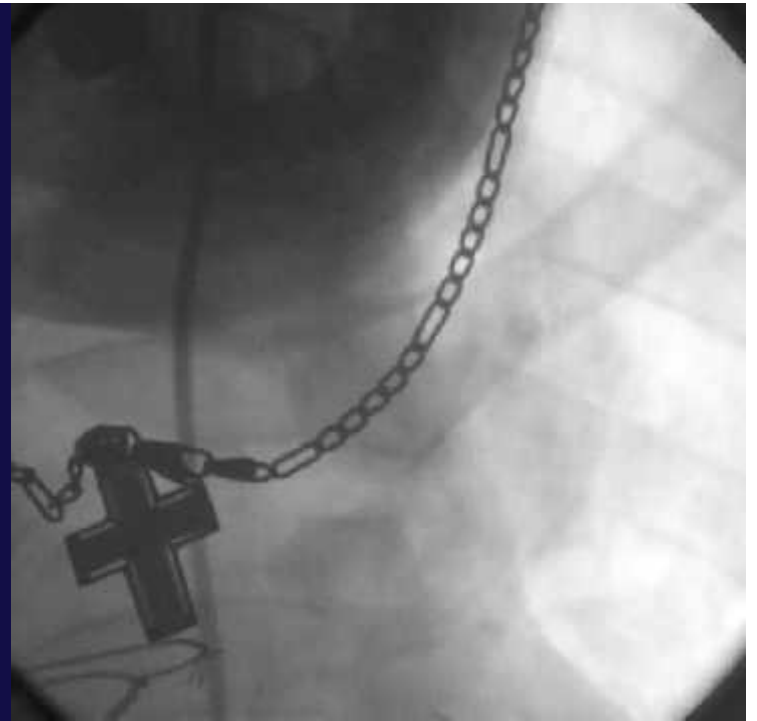


CABG and Left Main disease

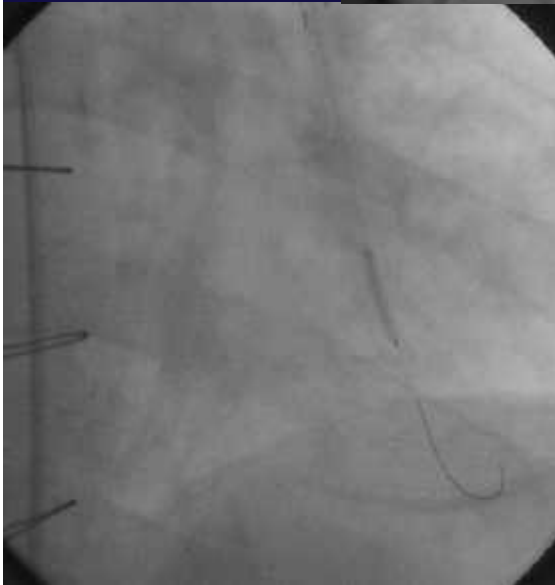
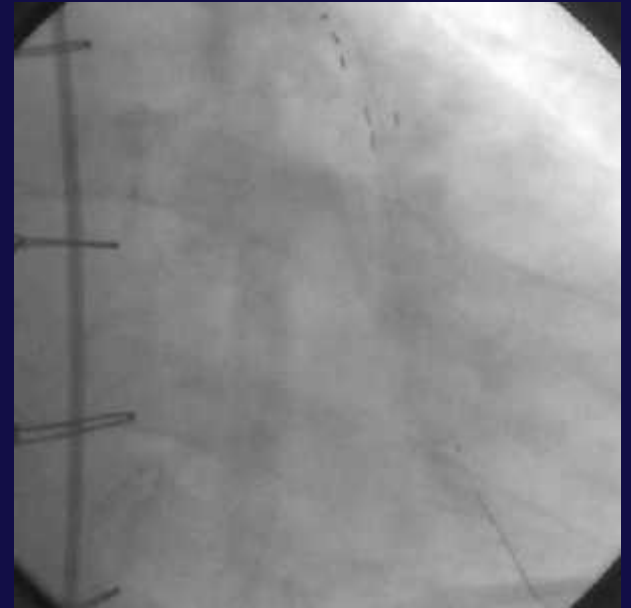
History

- 2015
77 y/o man Asymptomatic
- 1999
CABG with LIMA to LAD, SVG to DX, SVG to OM and SVG to RCA.
LVEF 55%
- 2007
8 years after CABG Angina

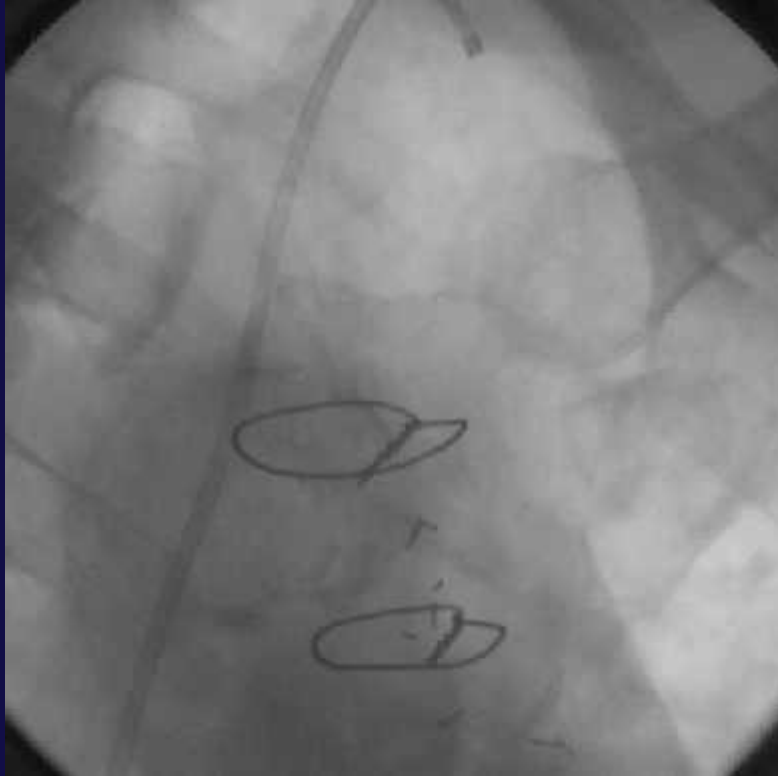
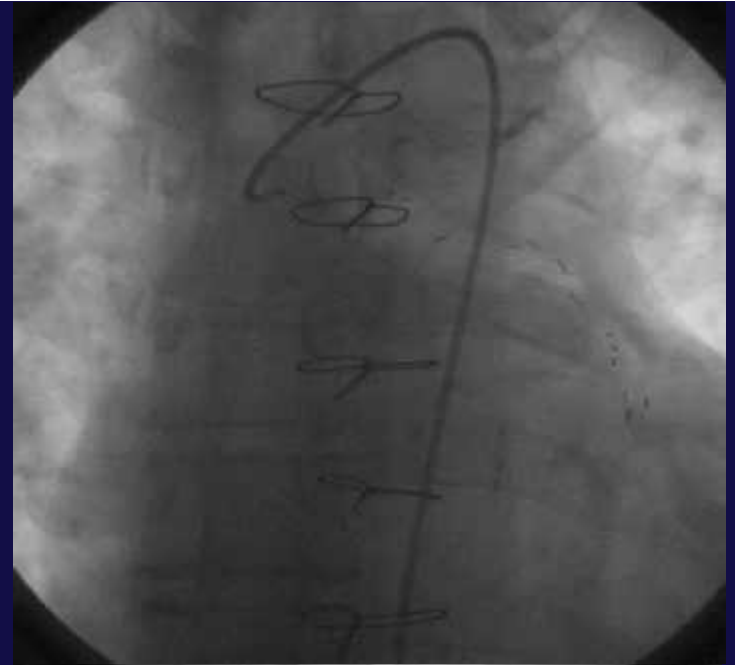
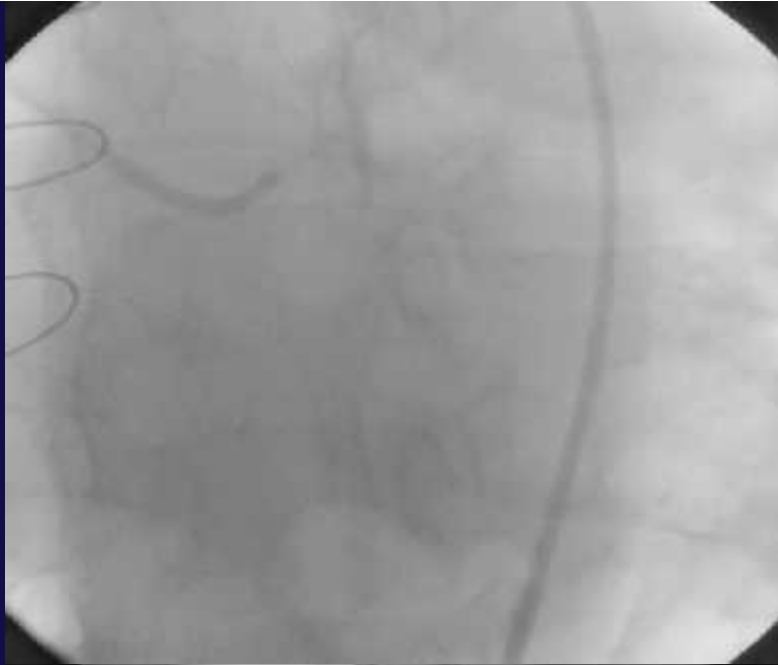
2007



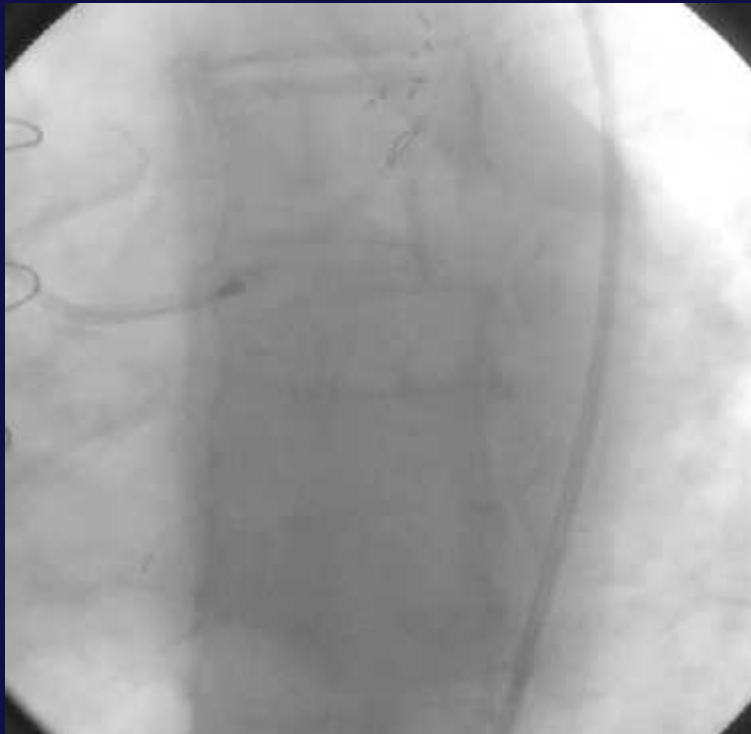
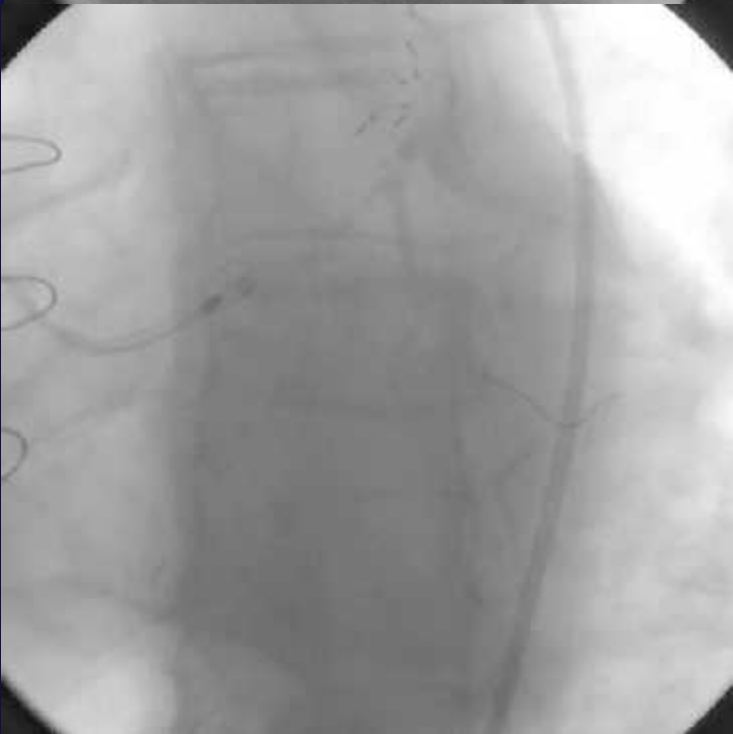
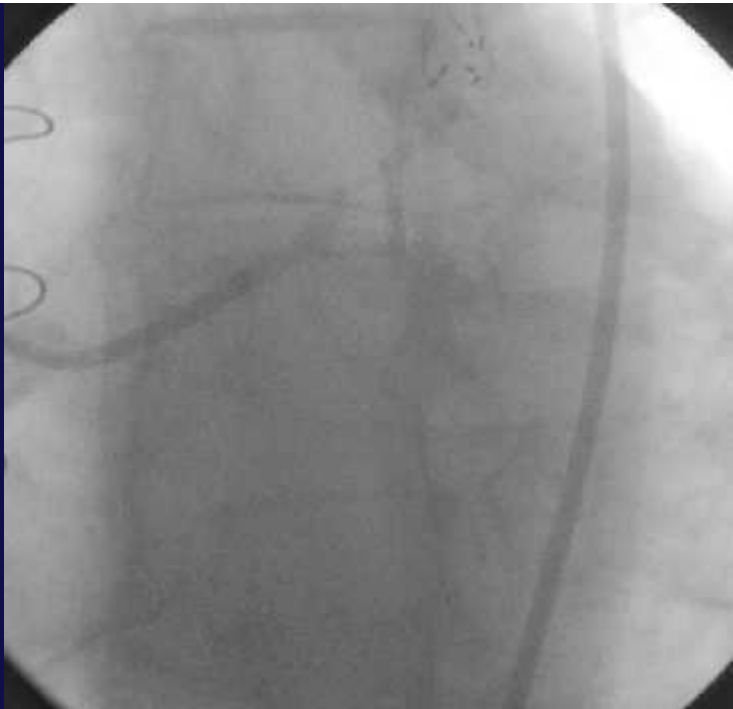
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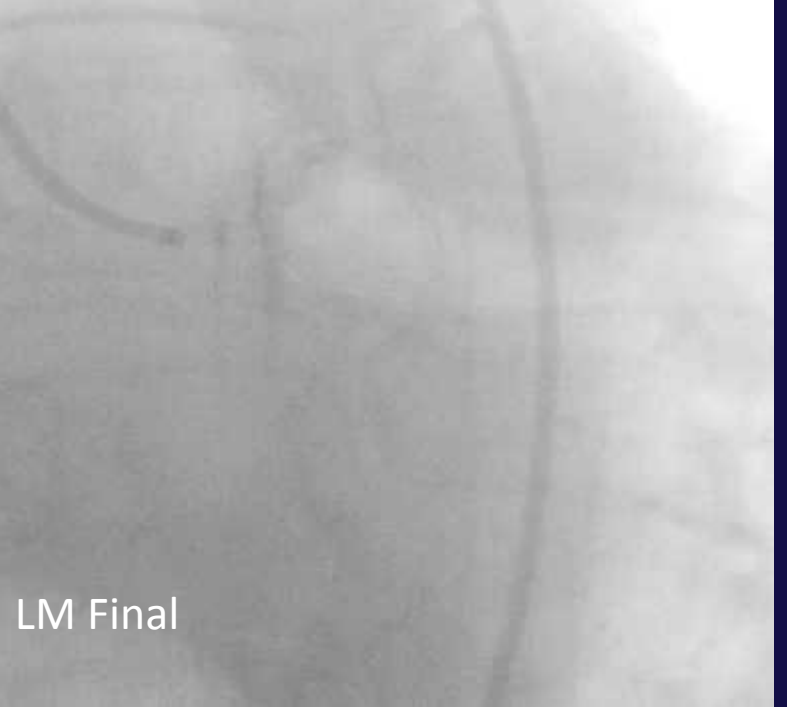
2012



2012

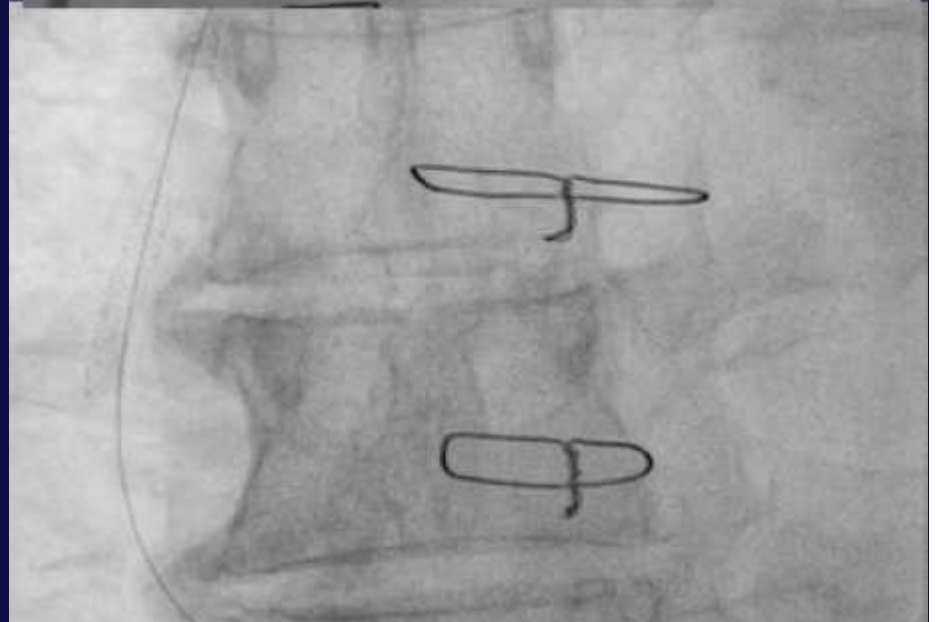
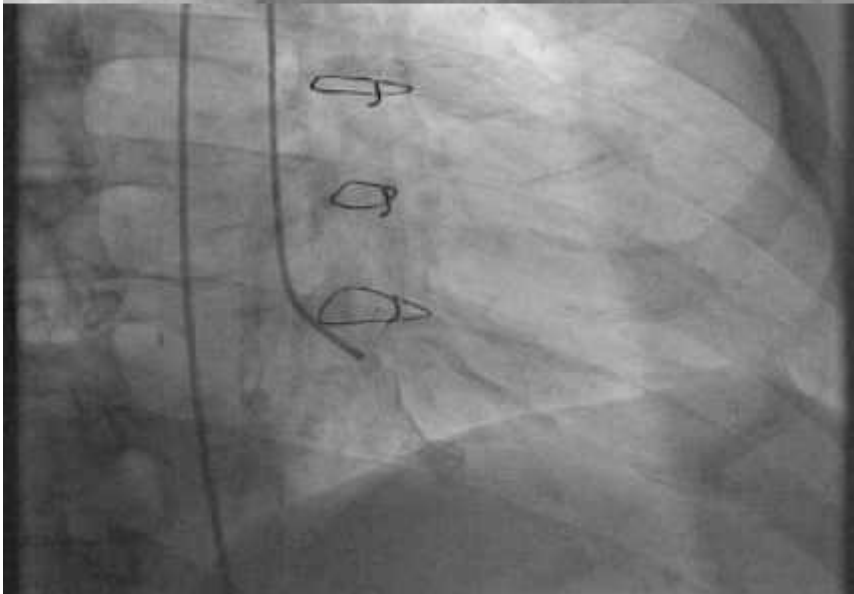
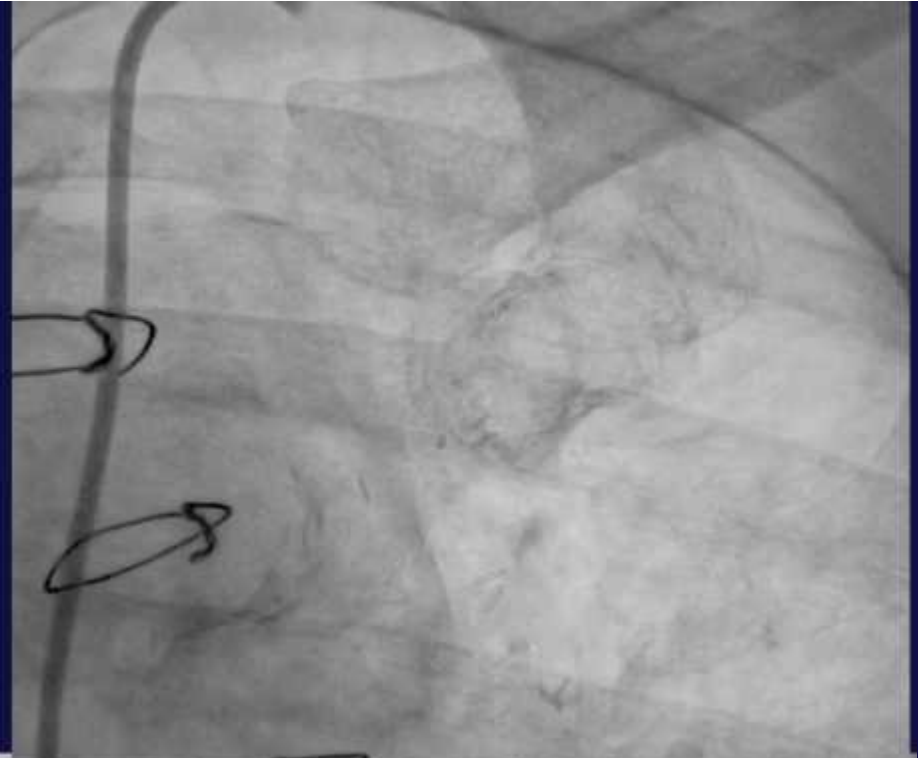
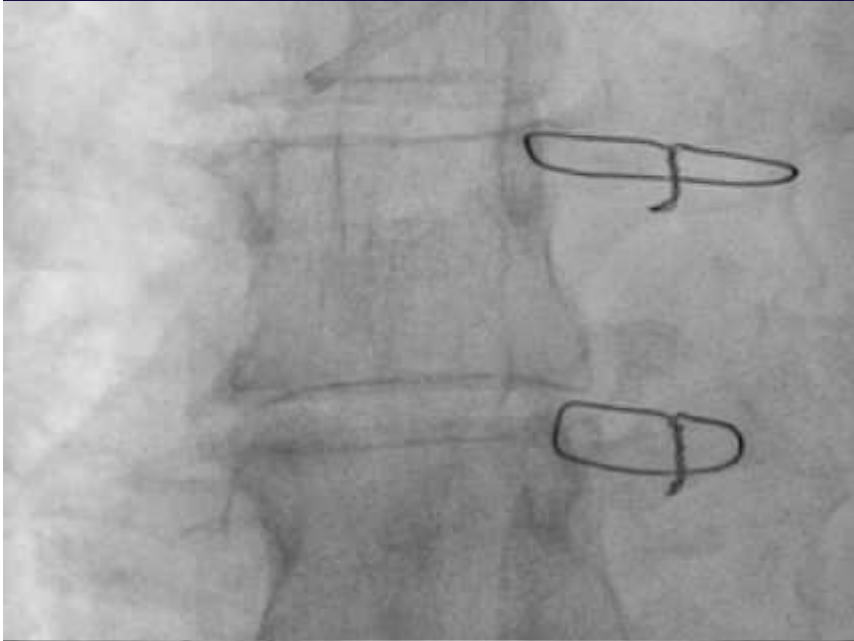


2012

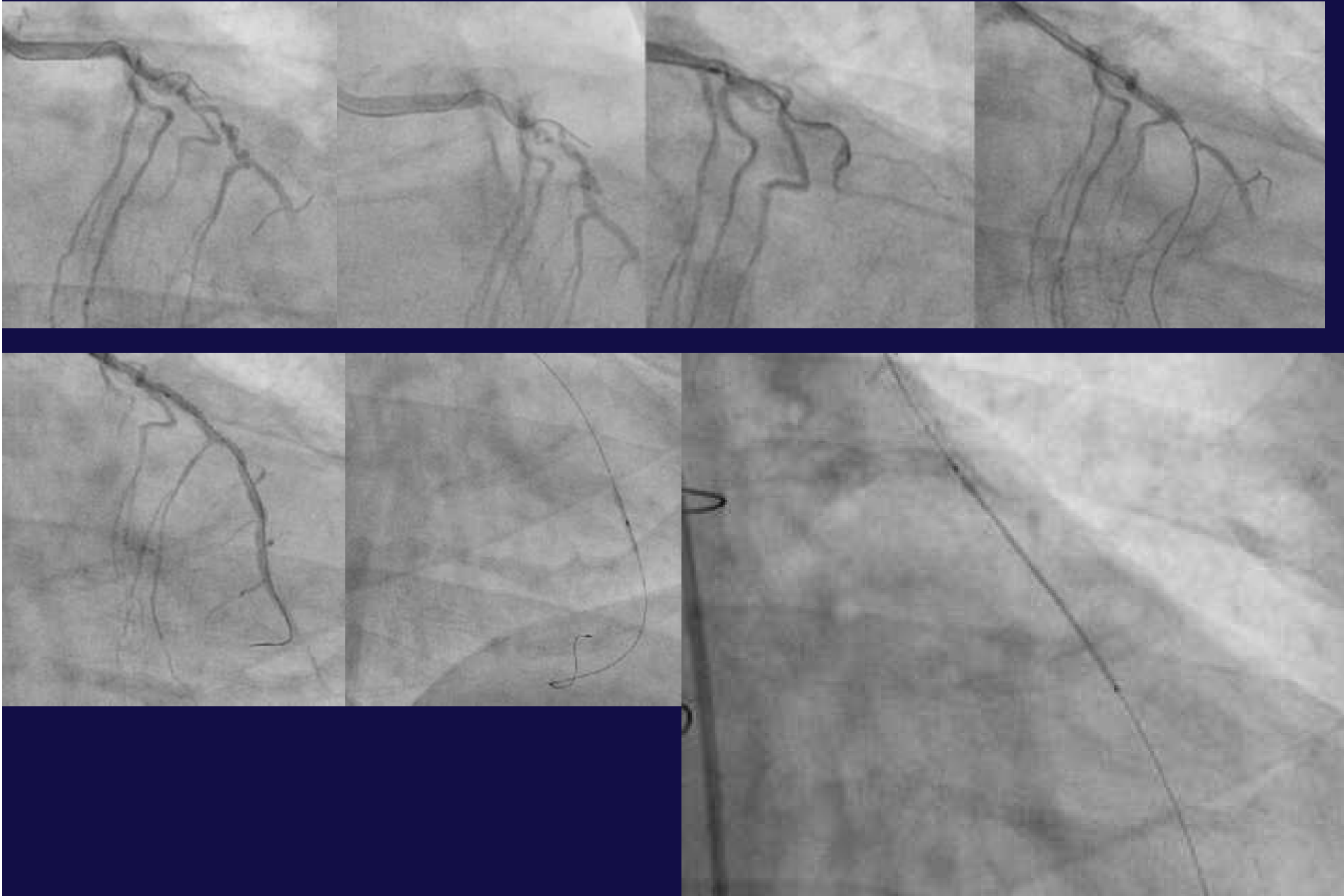


LM Final

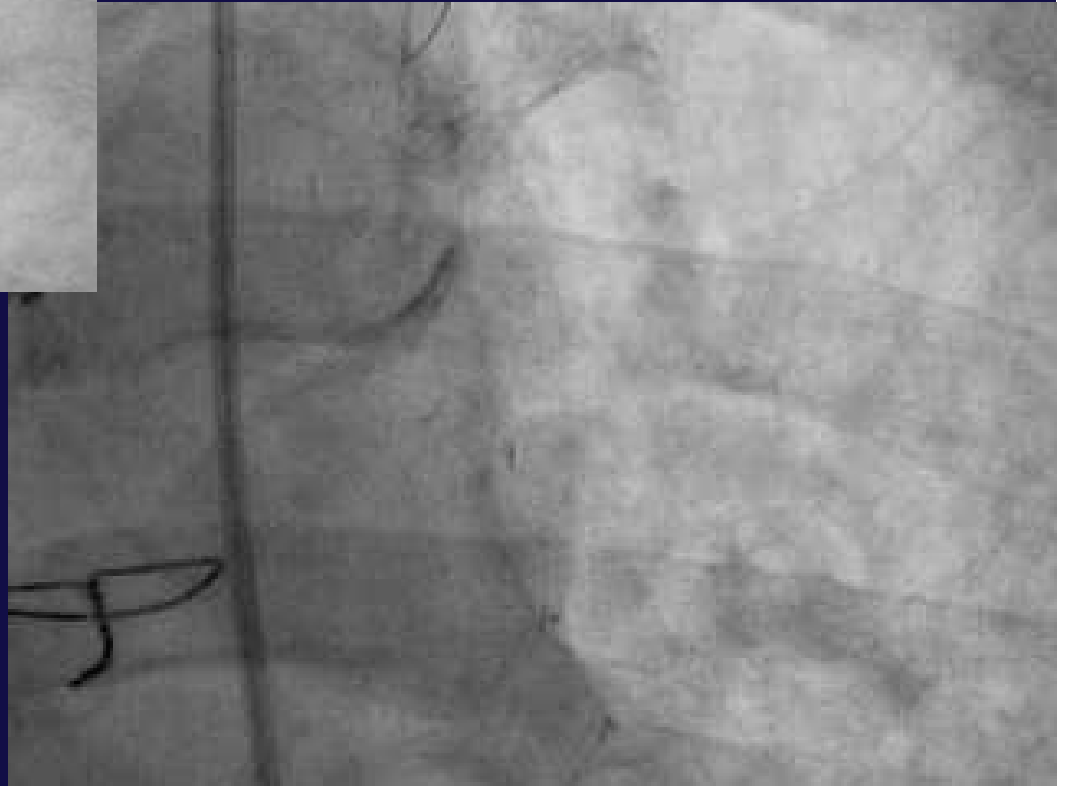
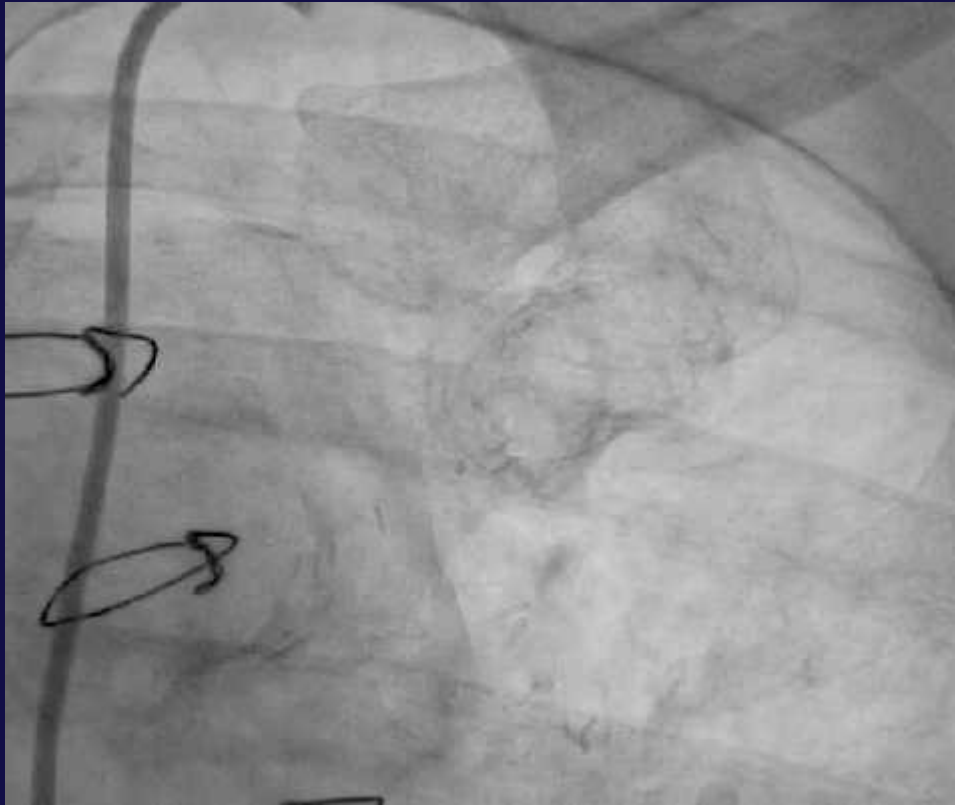
CABG with Total Occlusion



CABG with Total Occlusion



CABG with Total Occlusion





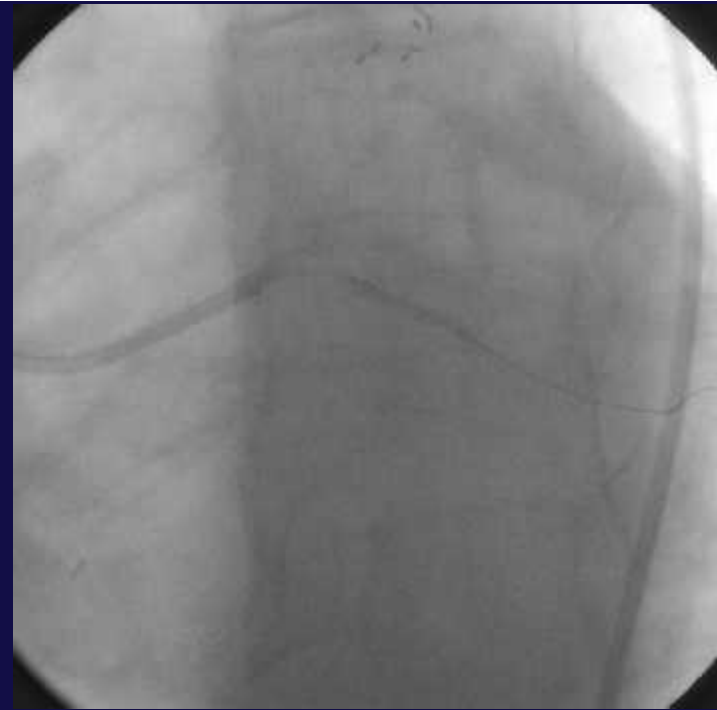
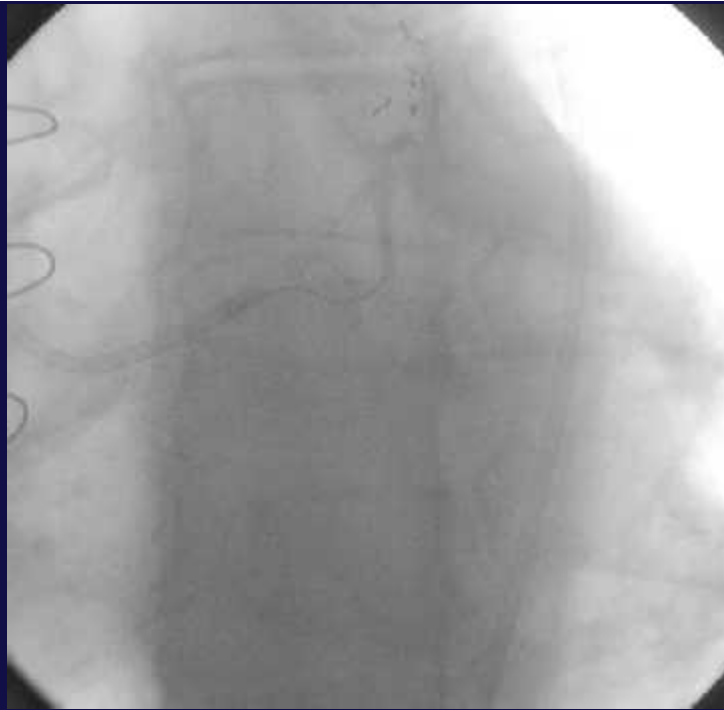
Conclusions

- Coronary bypass surgery and PCI are not competitive but Complementary Therapies
- LIMA to LAD may not be the indefinite solution to CAD
- Interventional cardiologists need to respect the coronaries so they can accept bypass graft in the future
- Cardiac surgeons need to be aware of the solutions interventionalist can offer when native vessel disease progress





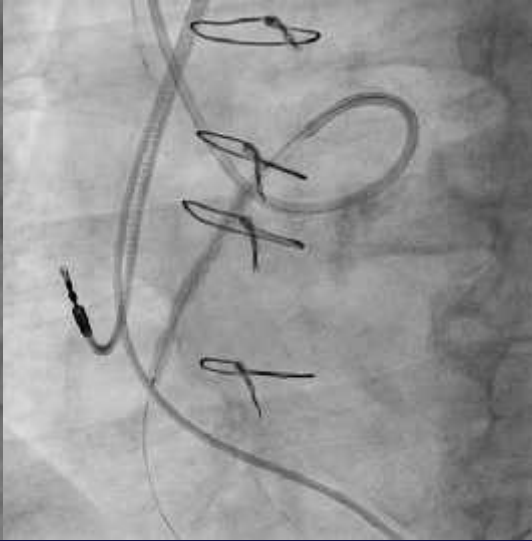
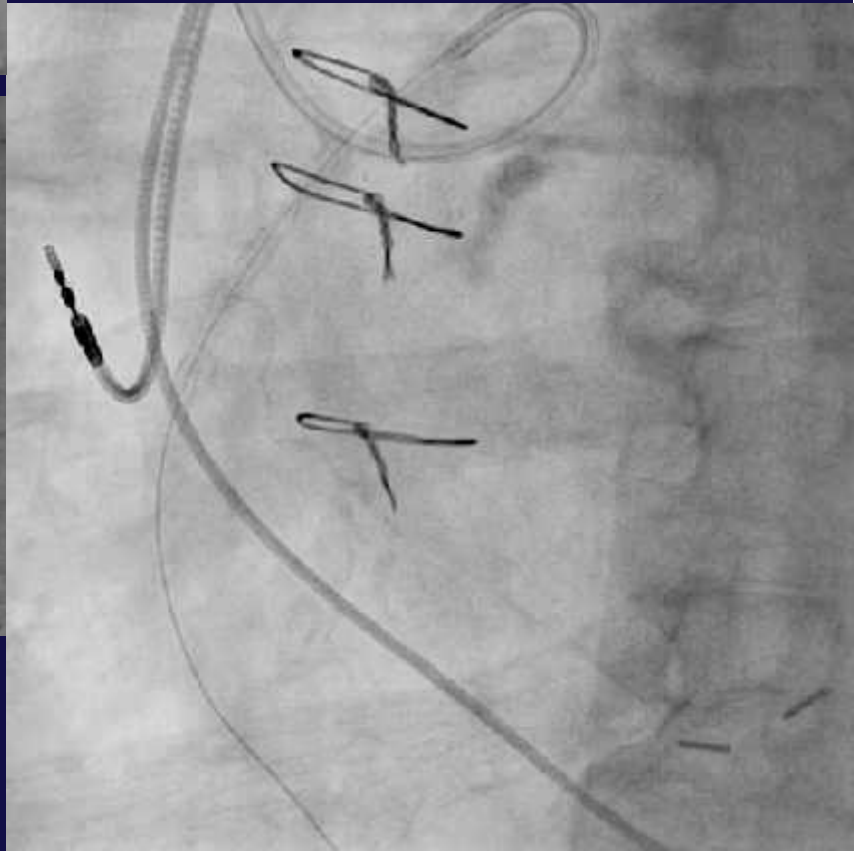
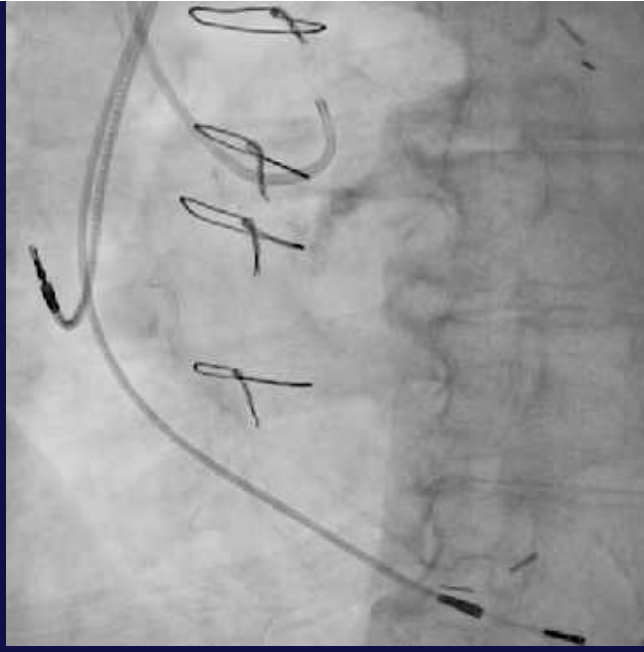
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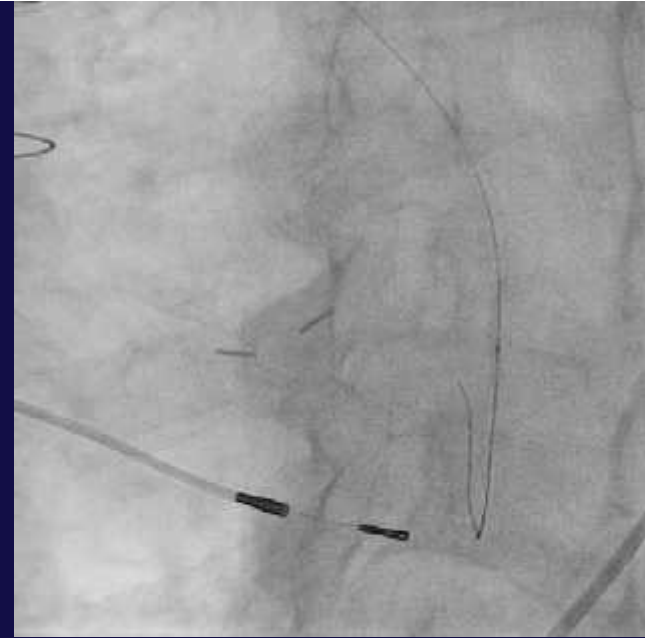
Stent LM



2015



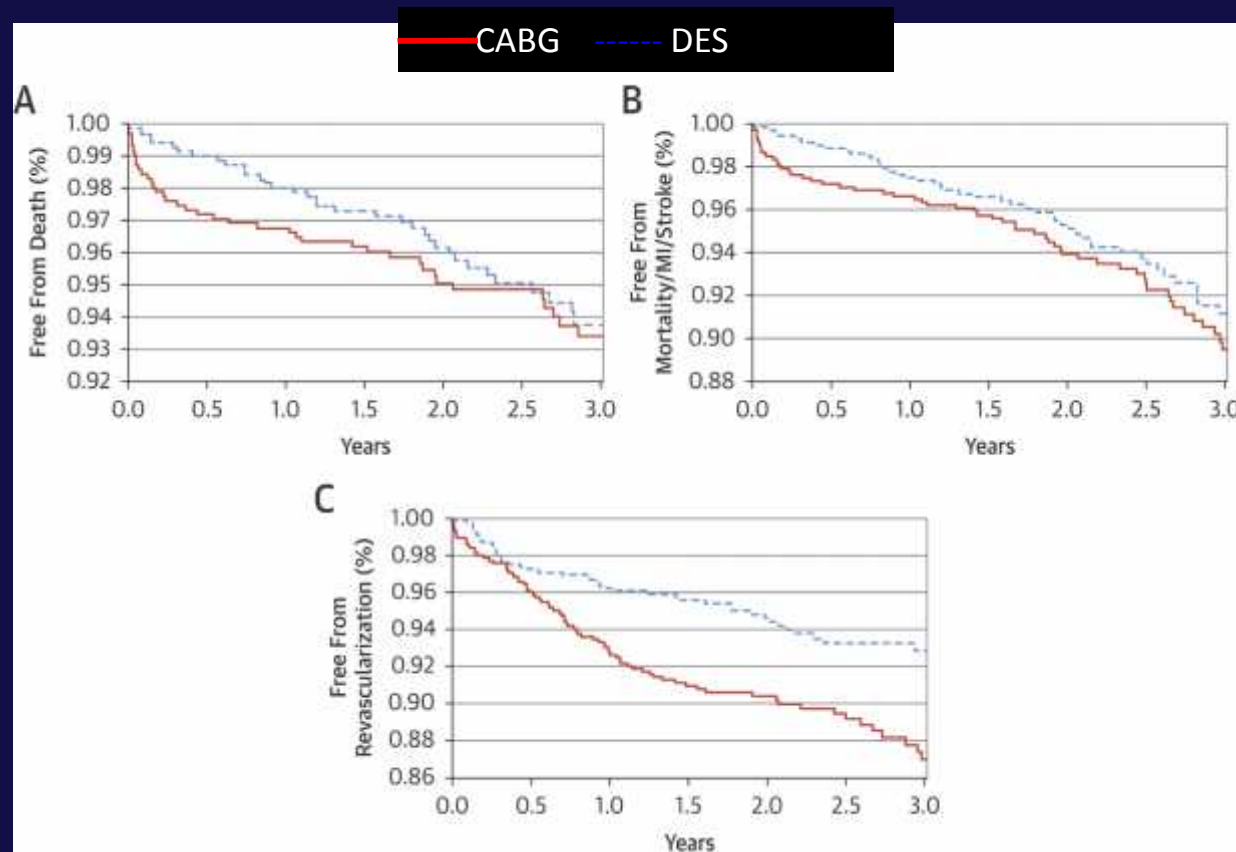
2015



Raising Questions/ Answers

- Who takes care of the Bypassed patient
 - The Interventional Cardiologist
- Is the LIMA to LAD meant to provide for ..ever?
 - Obviously NOT
- Can coronary angioplasty finally save the day???
 - In many cases
- For how long????
 - As long as the CABG does

Coronary Artery Bypass Graft Surgery Versus Drug-Eluting Stents for Patients With Isolated Proximal Left Anterior Descending Disease



Hannan E.L et al. J Am Coll Cardiol. 2014;64(25):2717-2726

Coronary Artery Bypass Graft Surgery Versus Drug-Eluting Stents for Patients With Isolated Proximal Left Anterior Descending Disease

