Peripheral Vascular Interventions:

Changes in Latitude, Changes in Attitude.

What is possible in 2005

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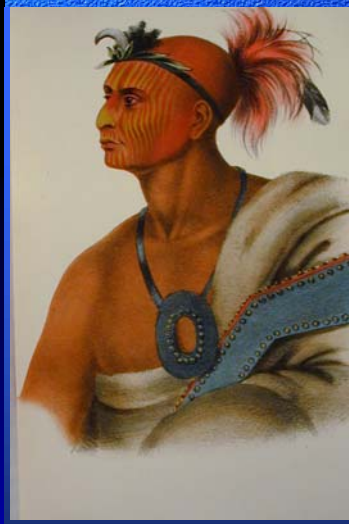
A Successful Peripheral Vascular Interventional Program can produce phenomenal clinical achievements:

An illustrated journey



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During the last 25 years, cardiology has evolved *from* a diagnostic, cerebral specialty, whose maxim was

"Primum non-nocere",

which, a priori, precluded any intervention to an active, surgical subspecialty,

which employs minimally invasive approaches to treat all forms of cardiovascular diseases.

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Today, *angioplasty in conjunction with its adjunctive procedures* is a generic term, which refers to

- Balloons
- Stents: bare, covered, drug eluting
- Stent-grafts
- Atherectomy devices
- Rotational ablation
- etc, etc, etc.

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However, for angioplasty to be effective, a physician must be aware of what is

possible

feasible,

attainable, and

appropriate.

As well as *the extent of his/her abilities*

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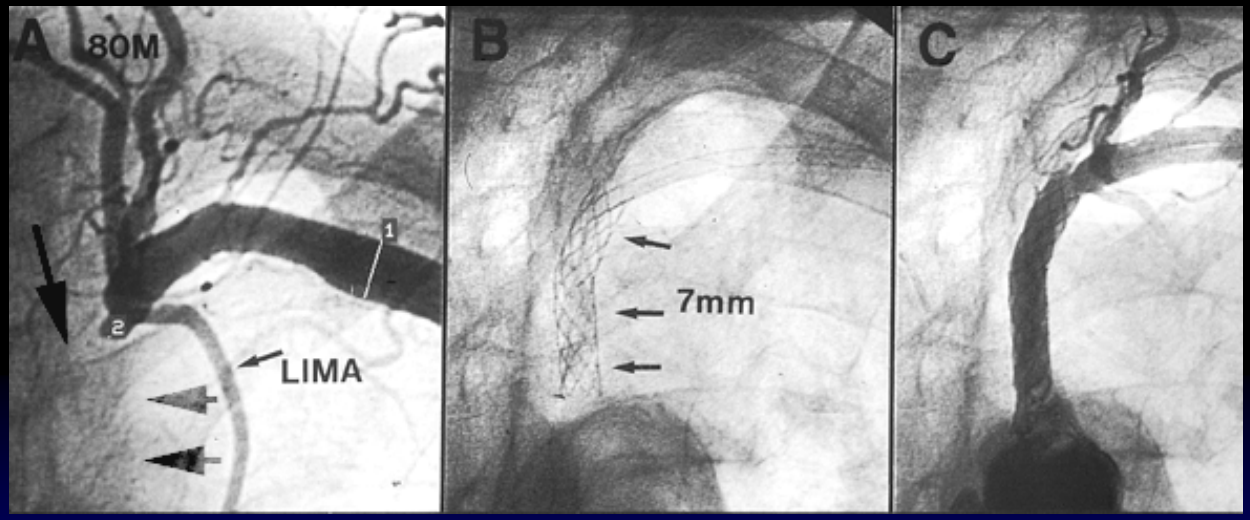

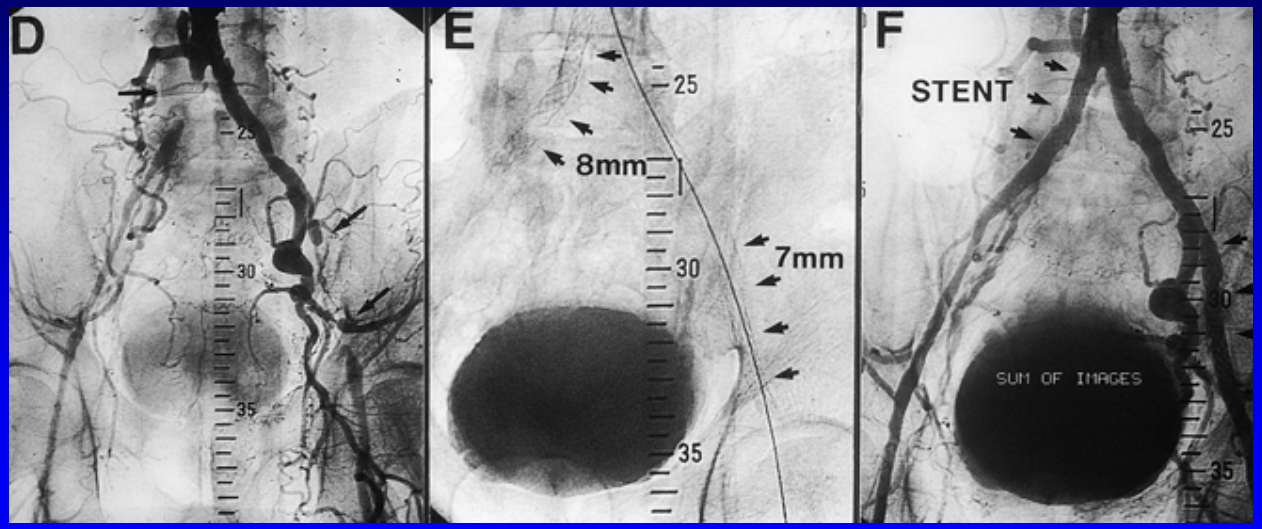

CLI: L. brachial approach for ileofemoral stent recanalization, despite L. subclavian occlusion (80M)

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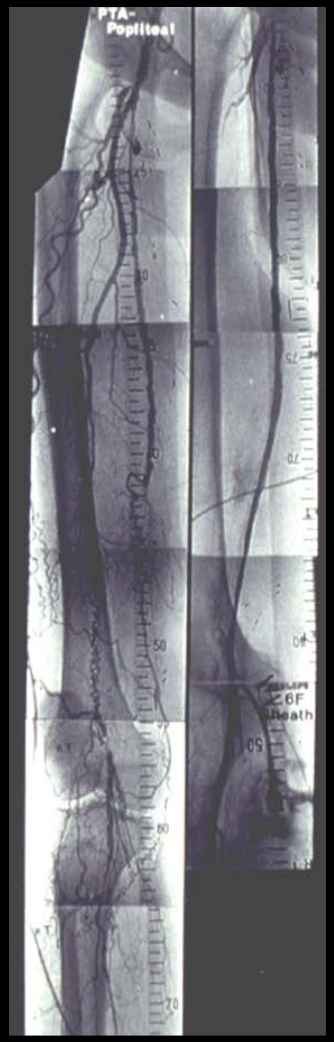
Ischemic petechia:
treatment is recognition and recanalization (RA 80M)



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Bilateral popliteal occlusions[1]

(78F with severe COPD, Class IV angina; 8/90)

Bilateral balloon PTA, 8/80

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Bilateral popliteal occlusions[1]: 2.5 yrs. latter

(81F with severe COPD, Class IV angina; 1st PTA in 8/90)

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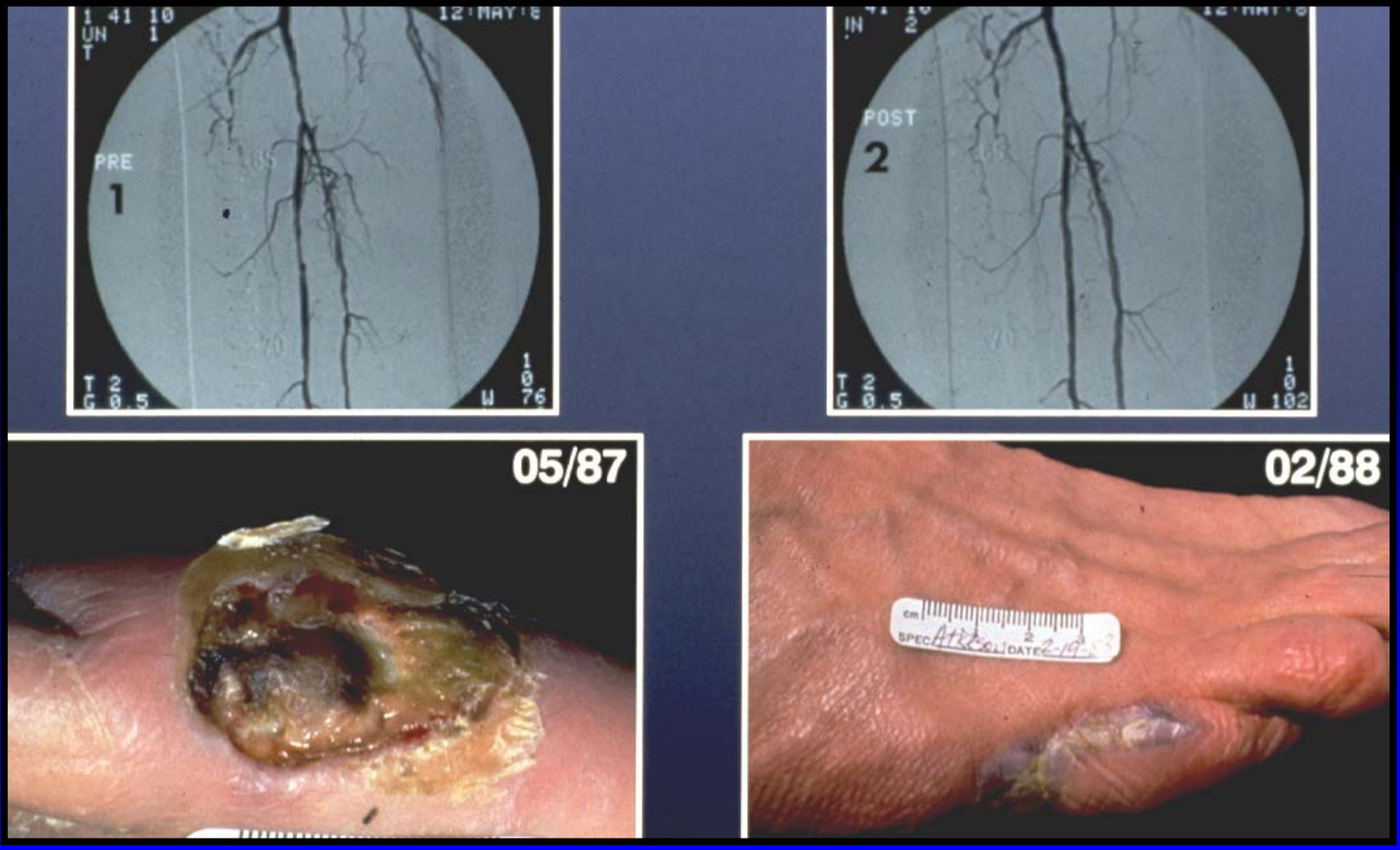
CLI: Resolution of long standing ischemic ulcer with TPV PTA



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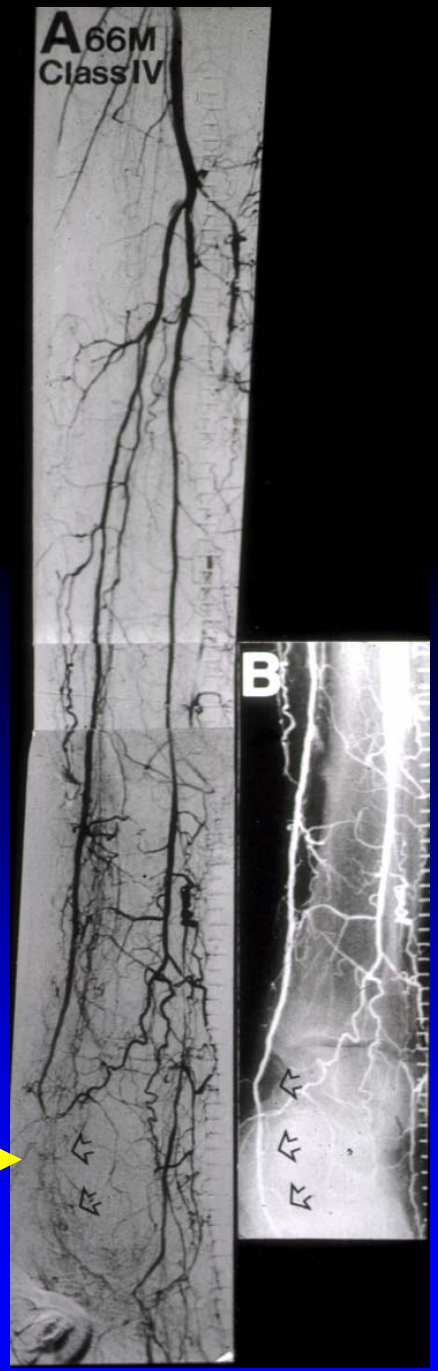
CLI: using coronary techniques to solve a distal left posterior tibial artery occlusion (66M)



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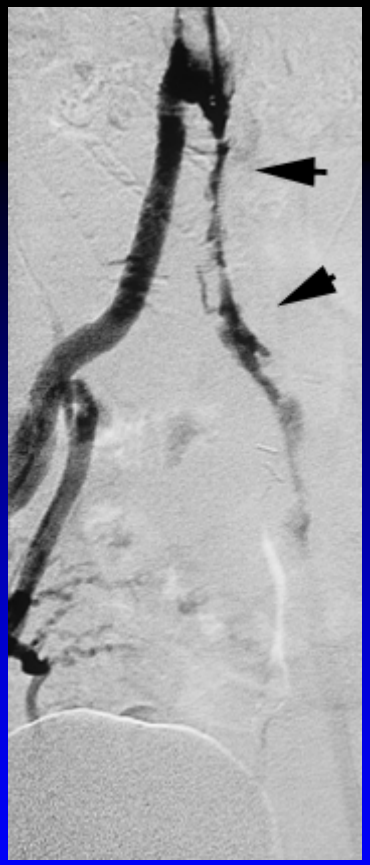
Stent Recanalization of an occluded left limb of an aortobifemoral graft: Angiojet/stents/and NO thrombolytics (49M,300#)



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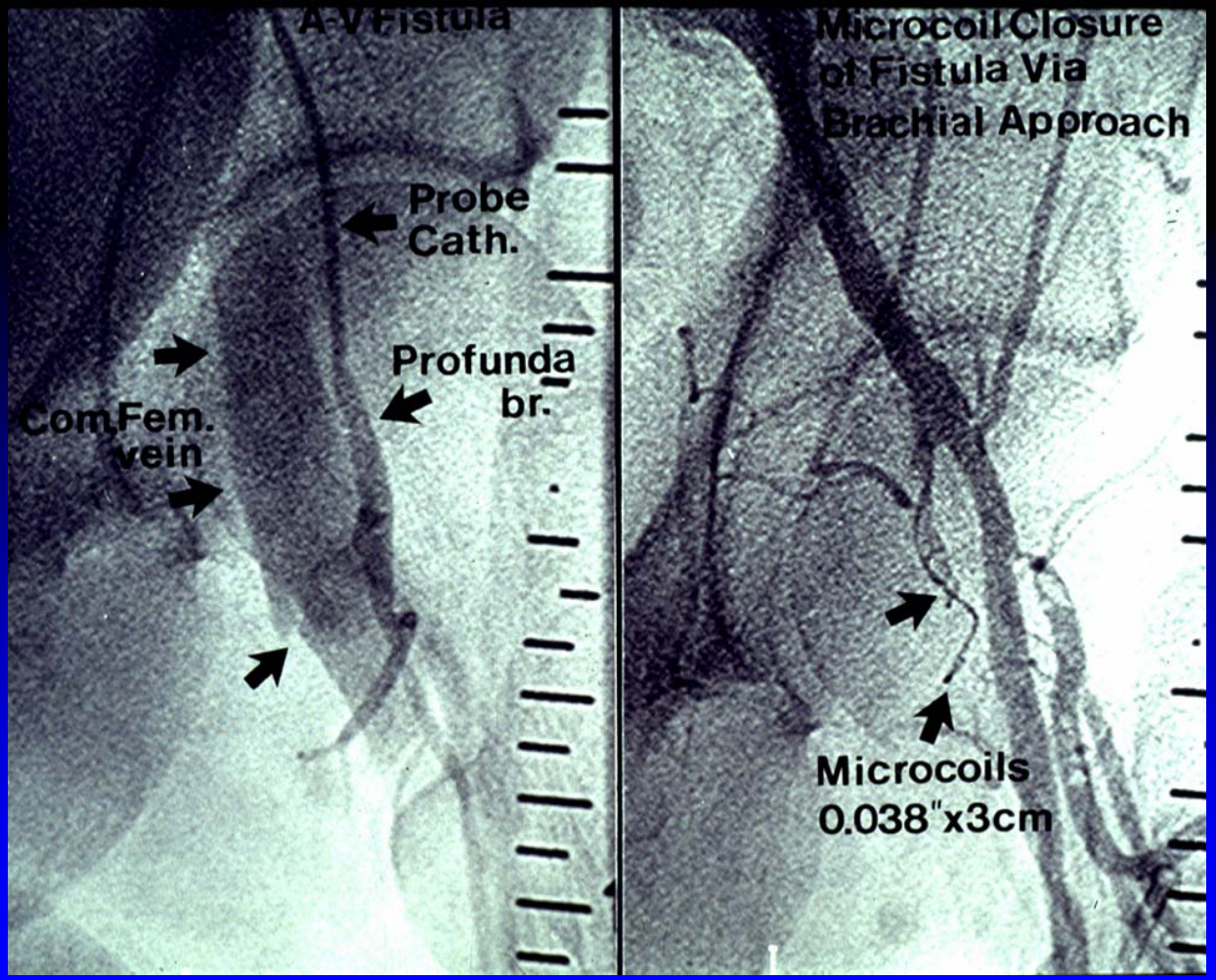
Closure of profunda to femoral vein fistula with micro-coils



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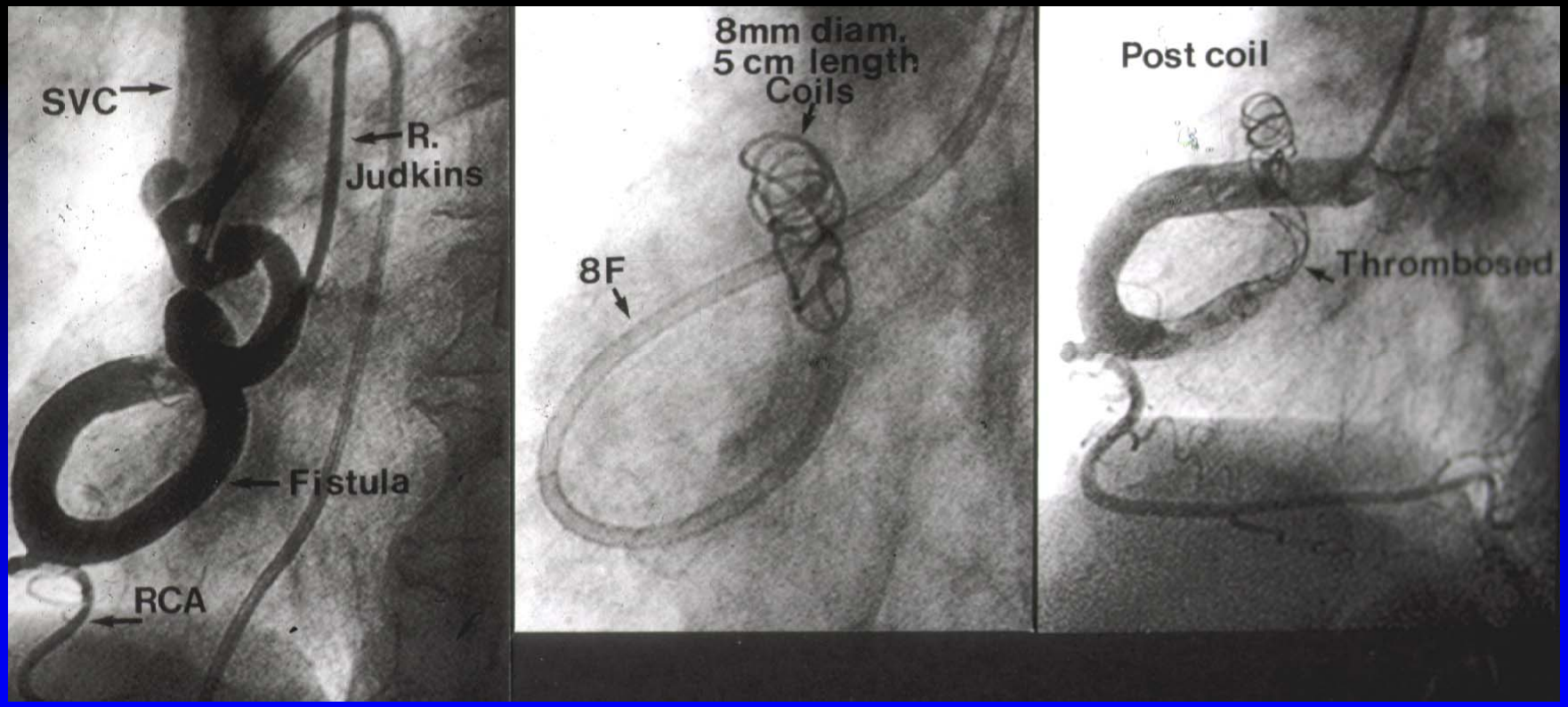
RAC to SVC fistulae[1]:

(65M swine farmer with CHF)



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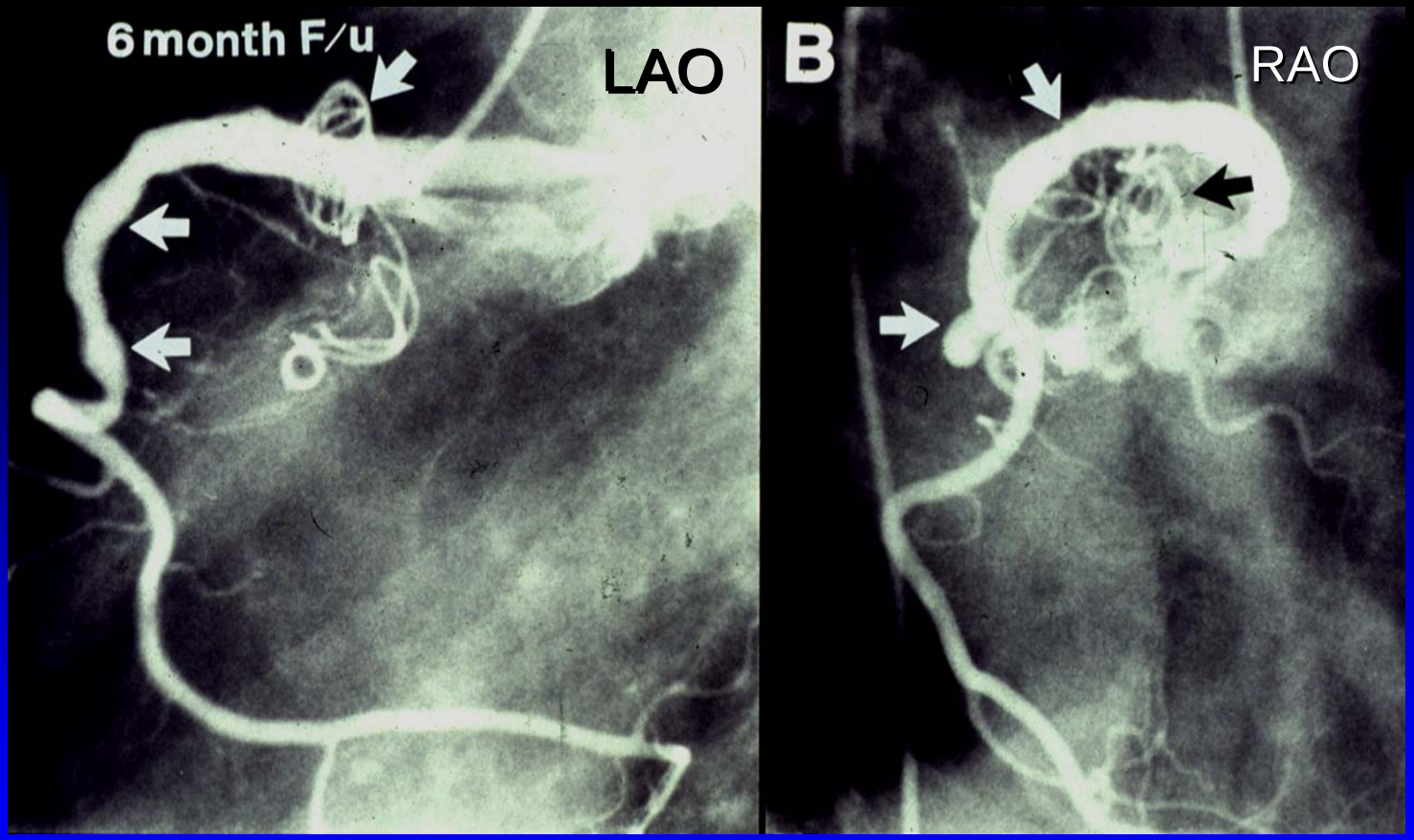
RAC to SVC fistulae[2]: **6 month f/u**

(65M swine farmer with CHF)



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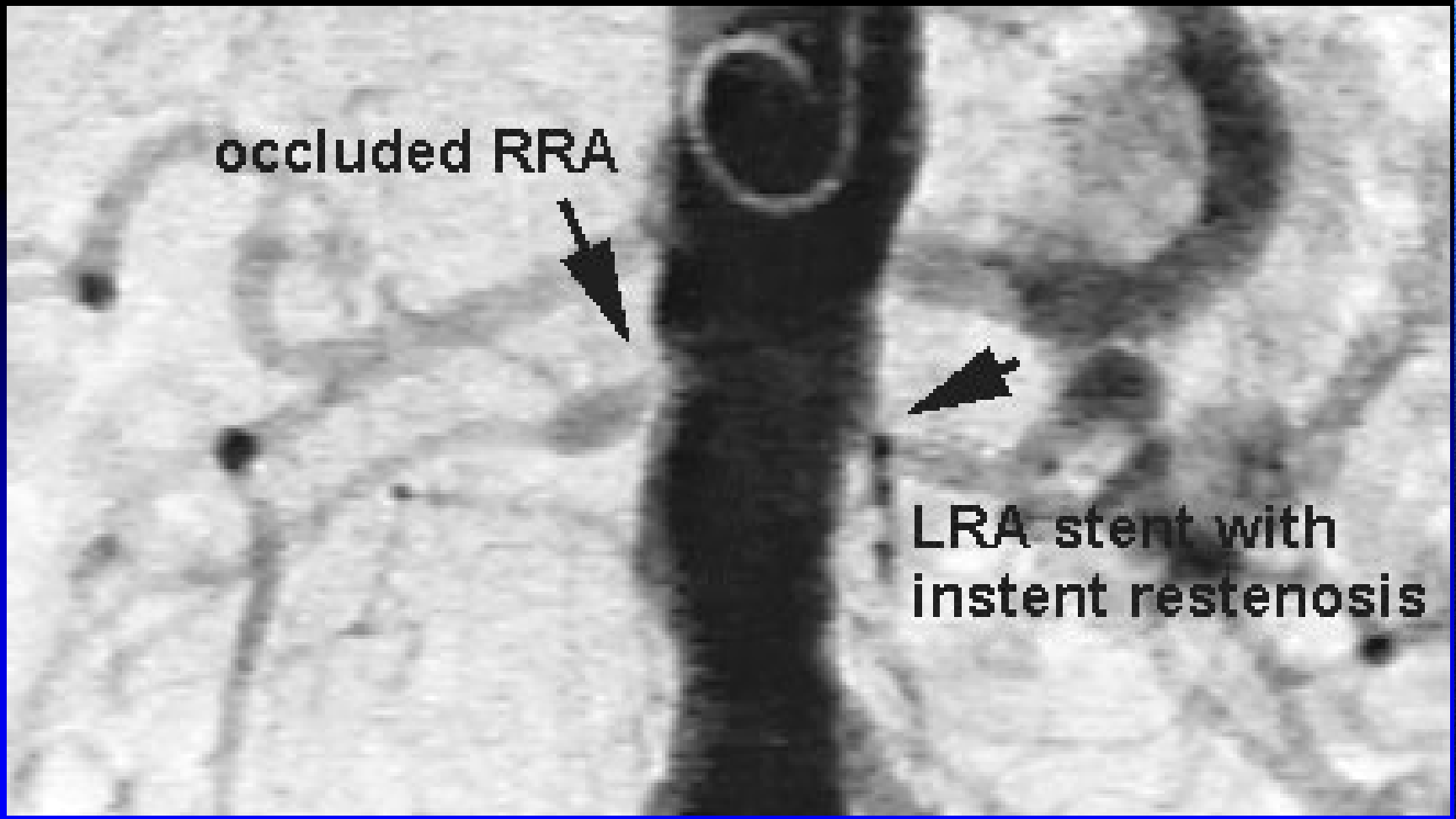
Angiogram 3 months post PTA



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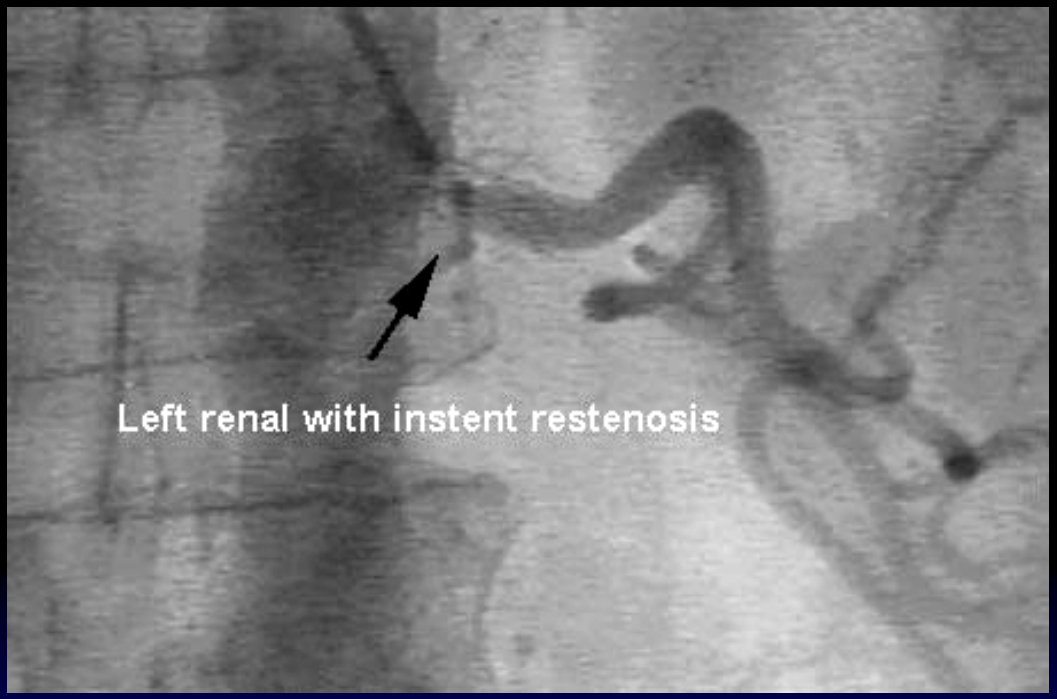
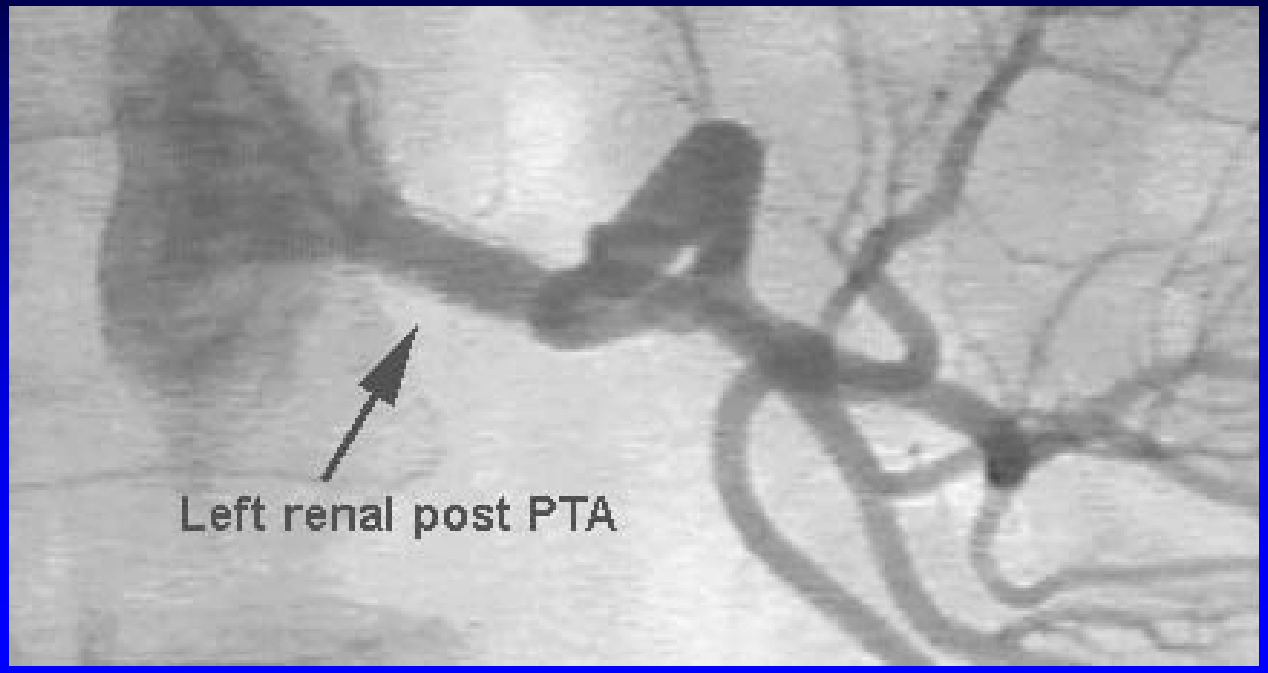
Instent restenosis of LRA: pre and post PTA





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Entry made into the Occluded RRA with 0.035” Glidewire followed by placement of 0.014” coronary guidewire

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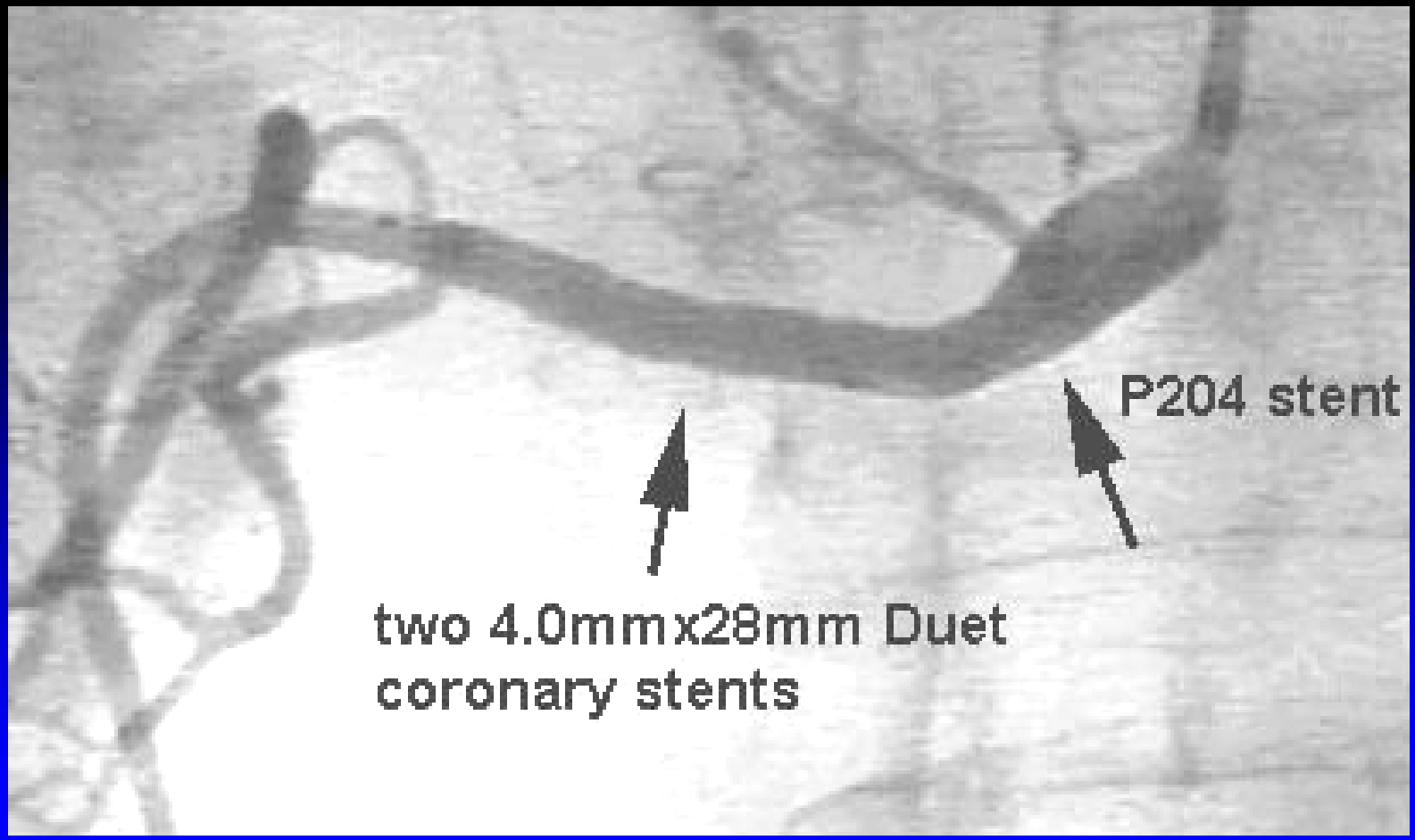
Post PTA angiogram: using 4.0mm coronary and P204 Palmaz stent



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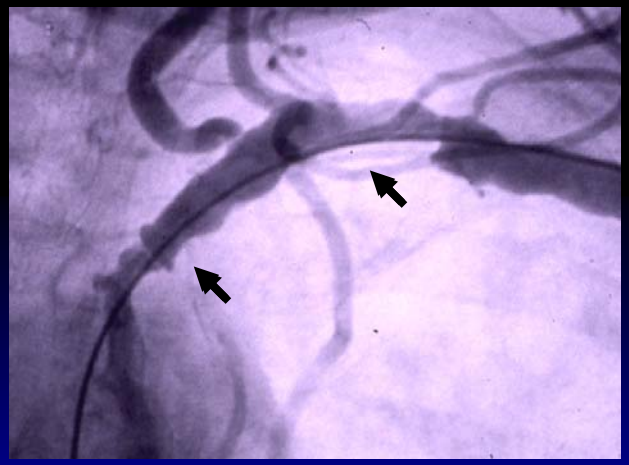
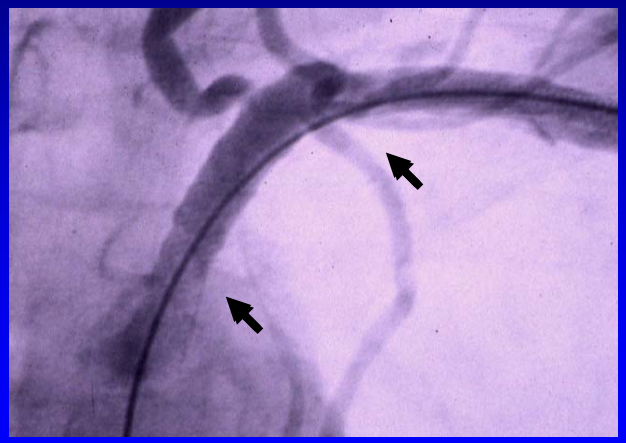
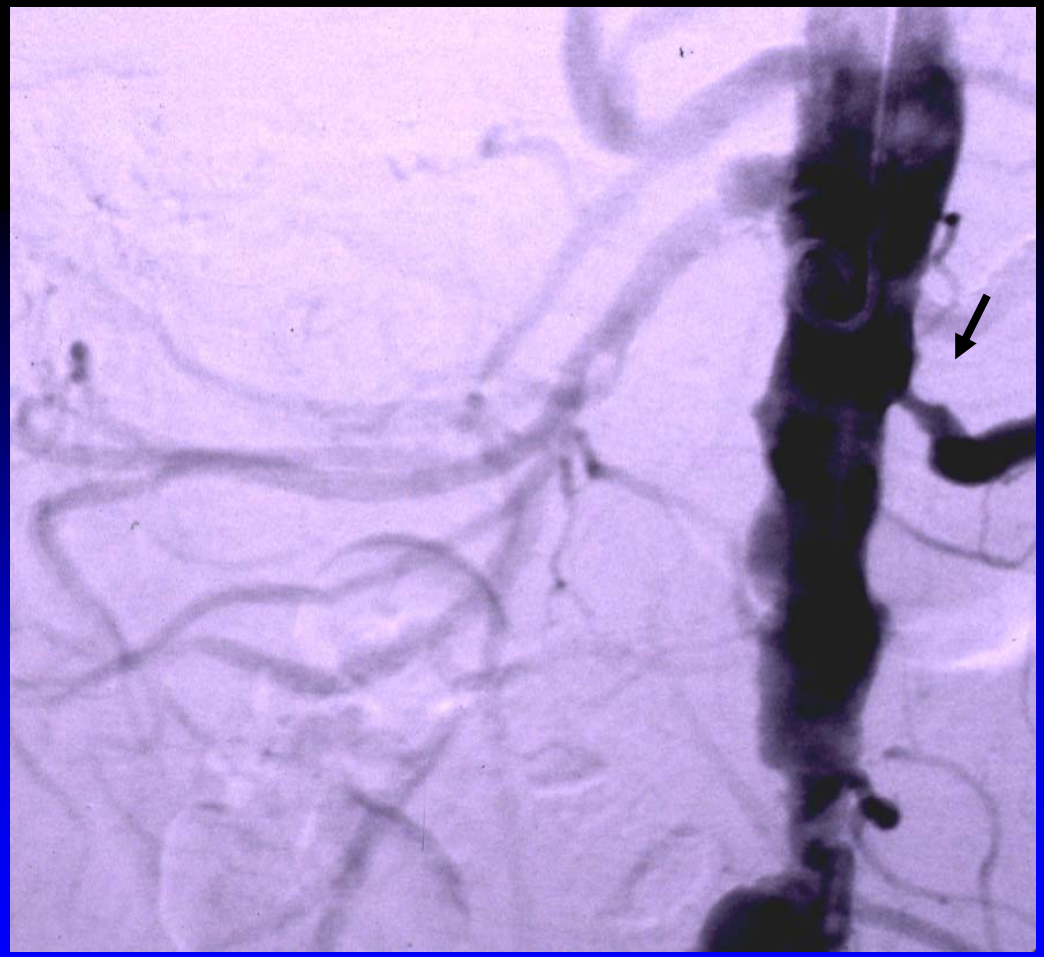
Hypertensive Encephalopathy[1]: comatose, intubated 55F with papilledema and anuria







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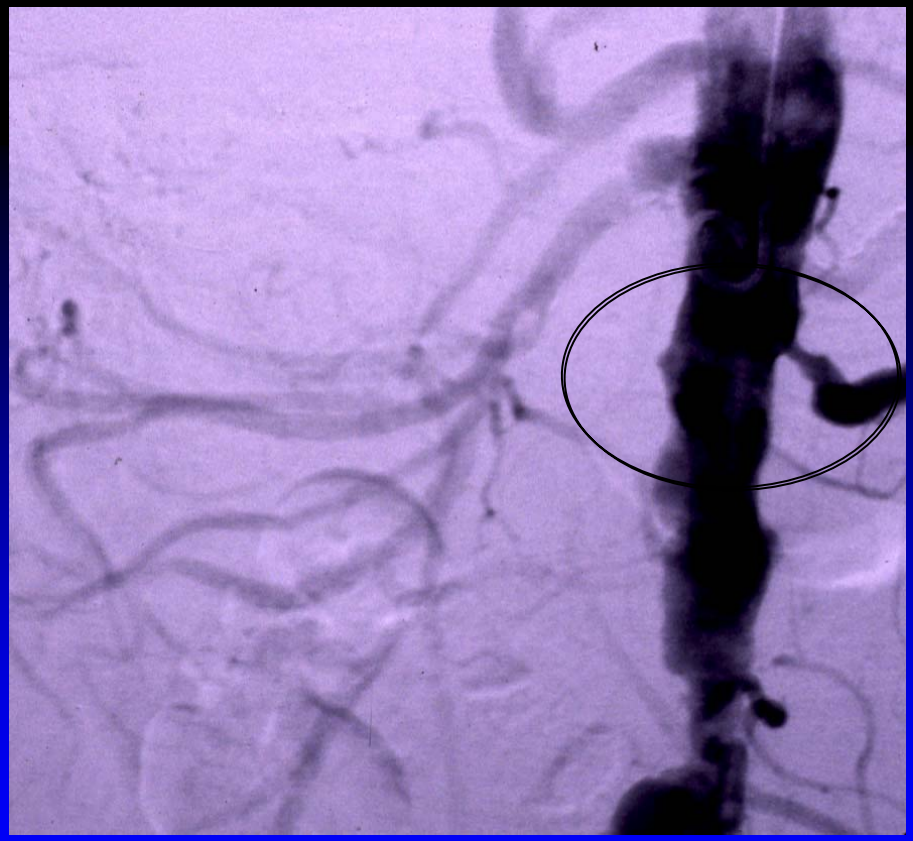
Hypertensive Encephalopathy[2]:
stent-supported angioplasty of left renal artery.
Do anything else?



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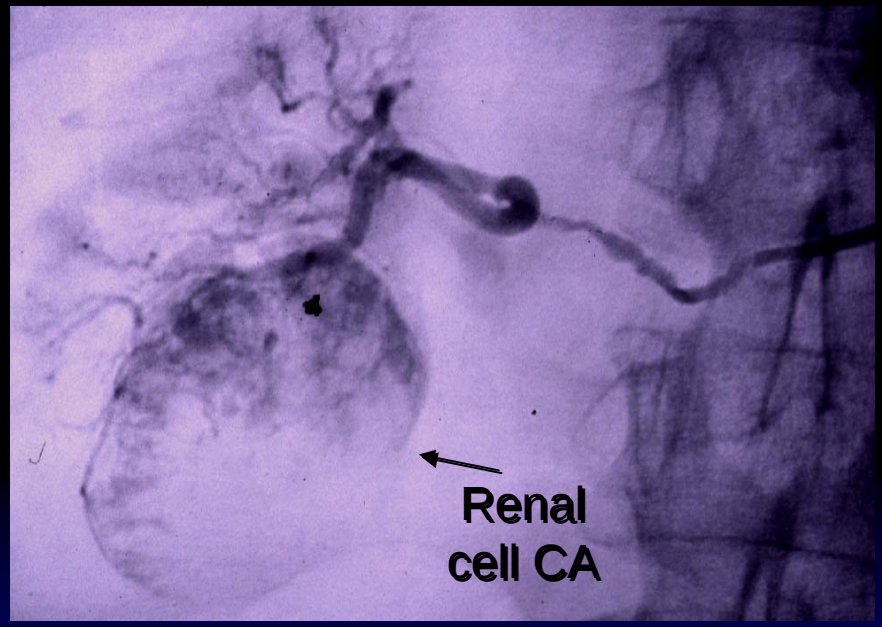

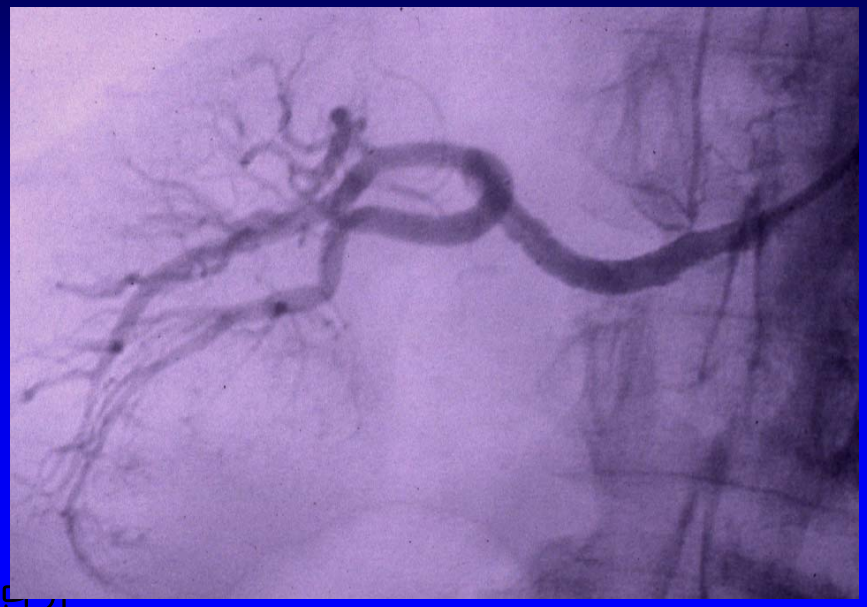

Hypertensive Encephalopathy[3]: recanalization of occluded right renal artery with discovery of renal cancer

Patient subsequently diureses and leaves the hospital: consider alternatives Rx!

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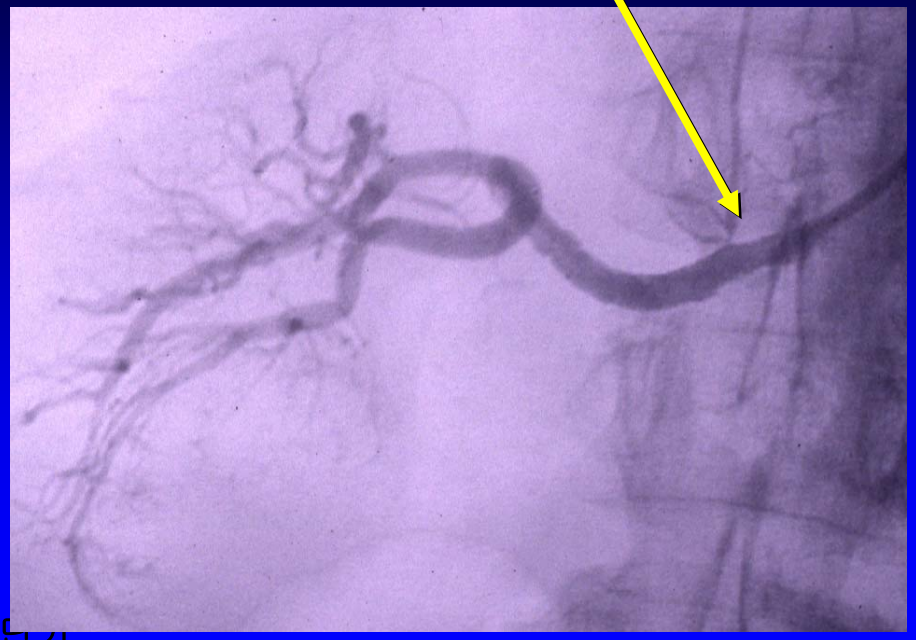
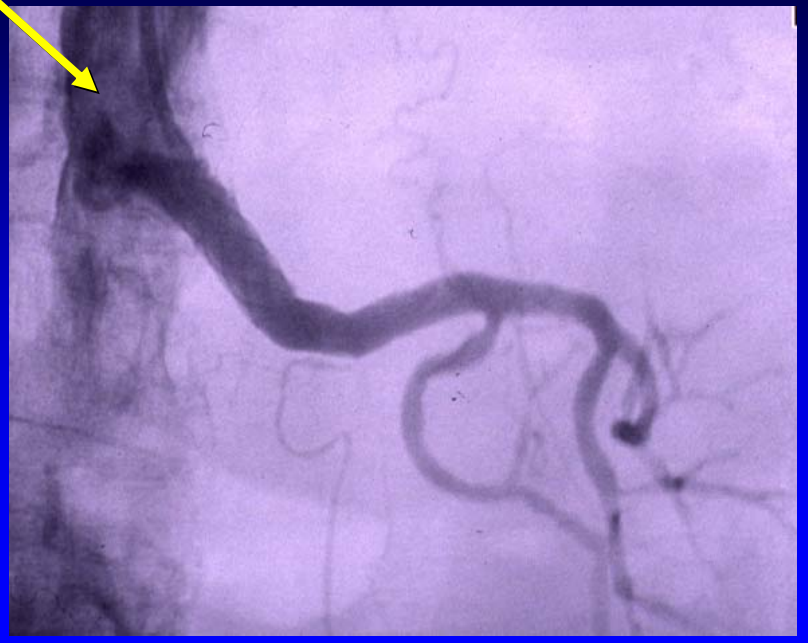
Hypertensive Encephalopathy[1]:

comatose 55F with papilledema, anuria, and is intubated: pre and post intervention





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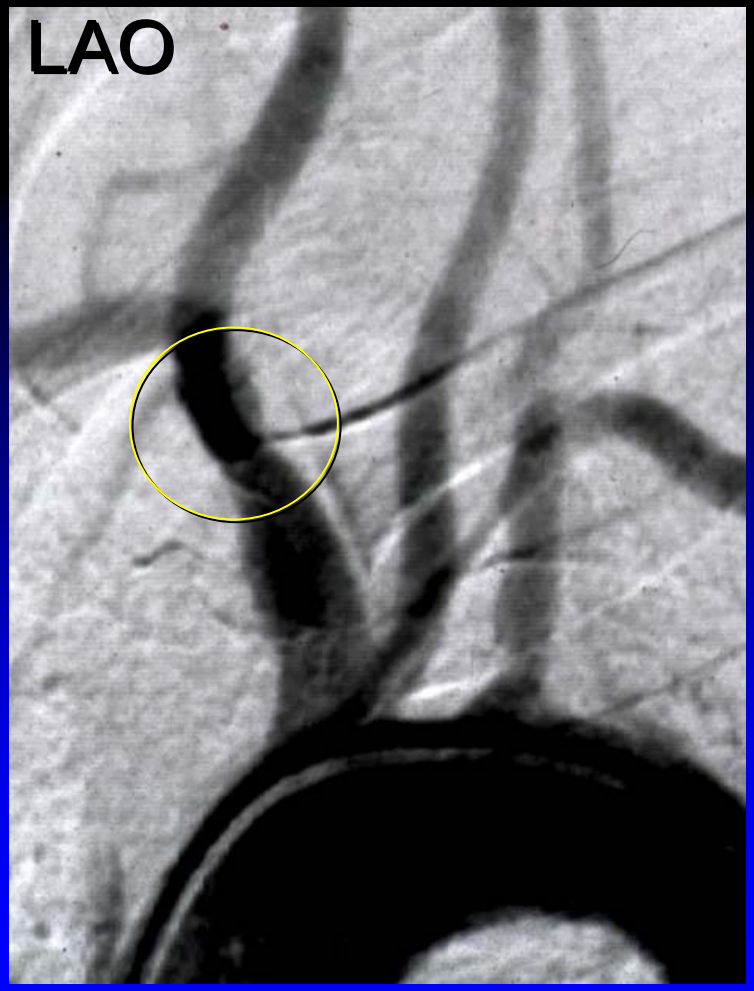
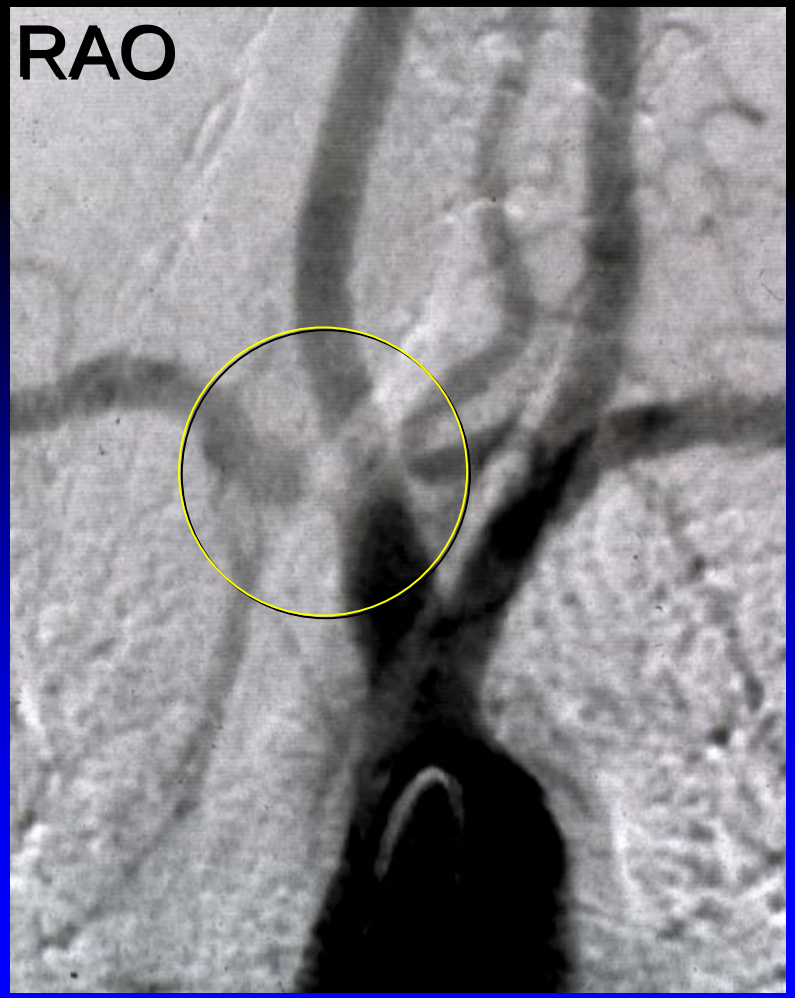
Subclavian stenosis[1]:
why you always must have two obliques





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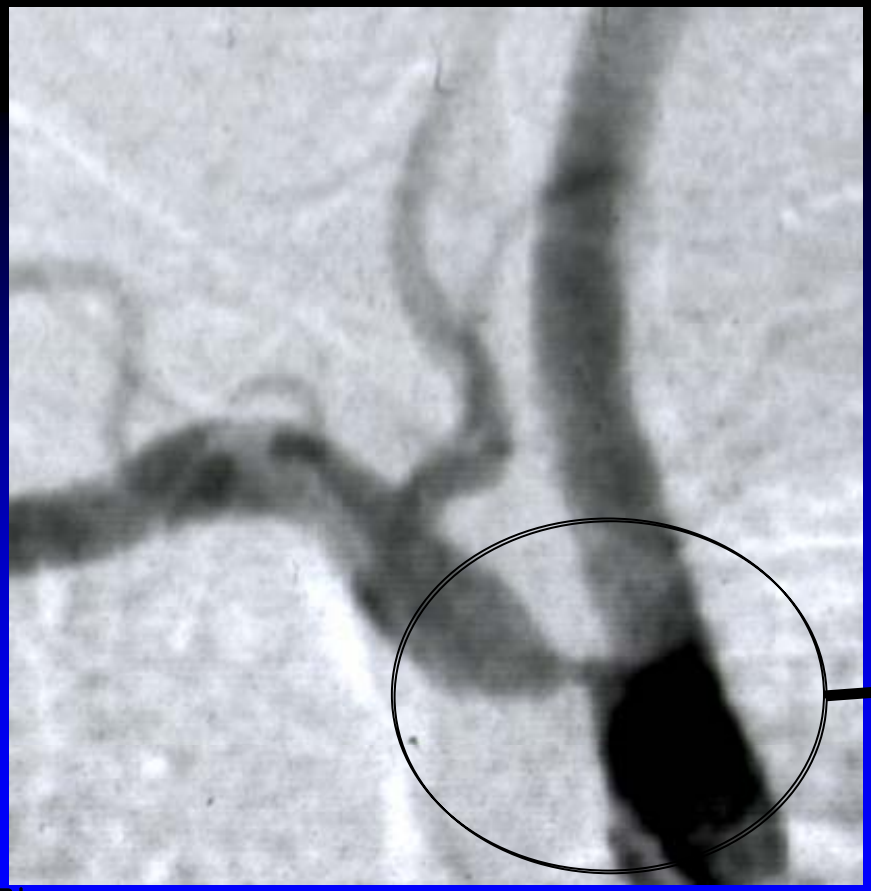
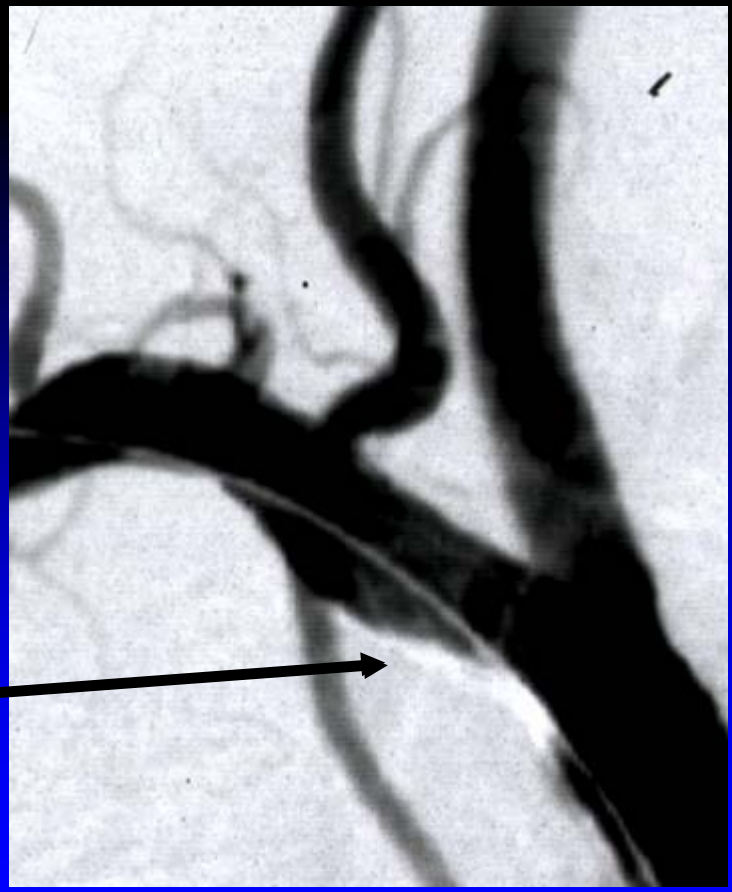
Subclavian stenosis[2]: stent repair using femoral approach





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CLI[1]: Popliteal Approach: recanalized occluded SFA; complication: popliteal fossa hemorrhage[1] (6/92 MC 60F)

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Healing of right foot occurs[2] (6/93)

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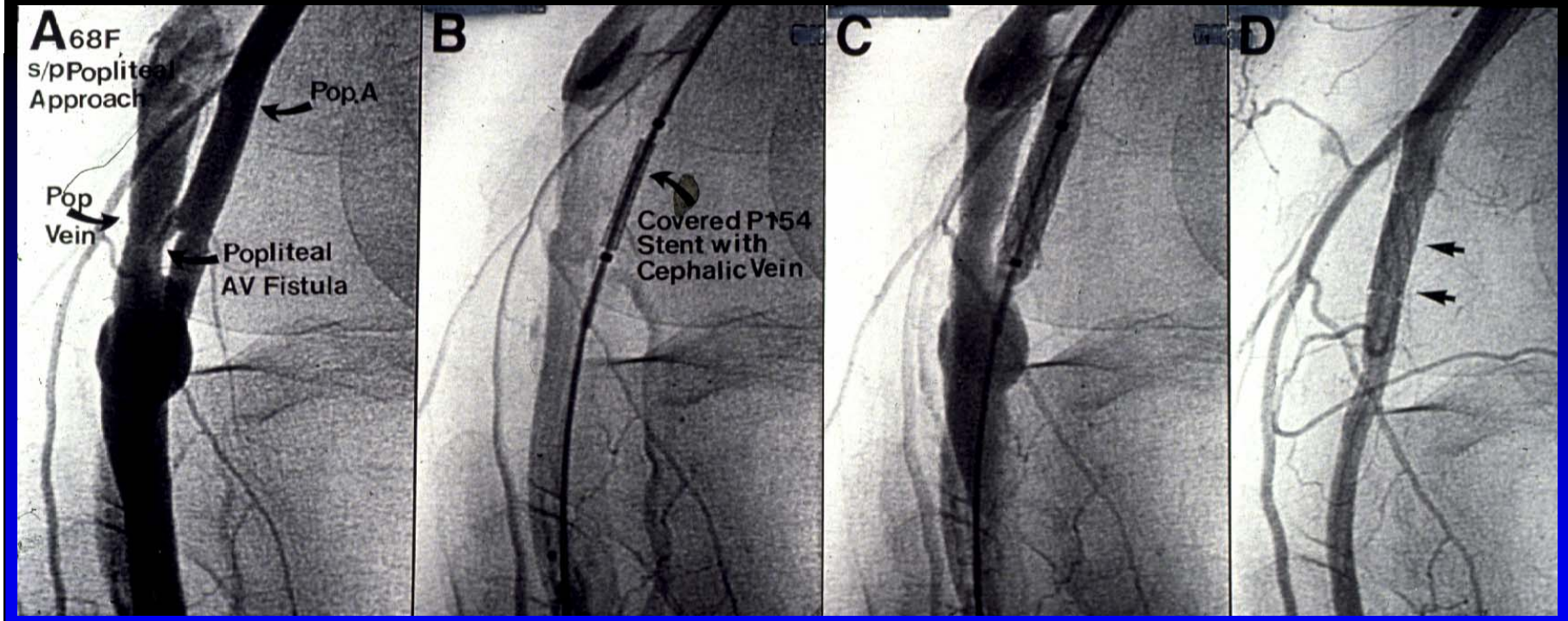
Patient returns in 5/94 with right leg claudication and AV fistula[3]



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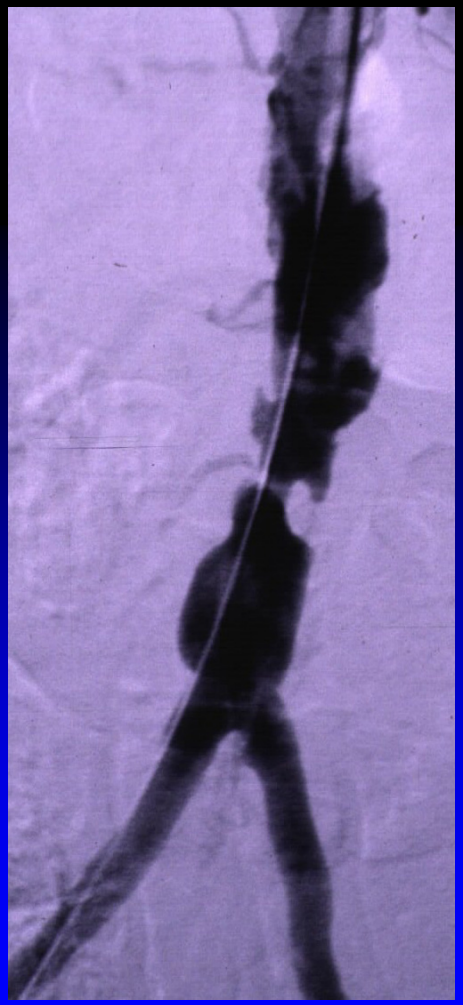
Atheroembolic from infrarenal aorta after cardiac catheterization (JM 60F)



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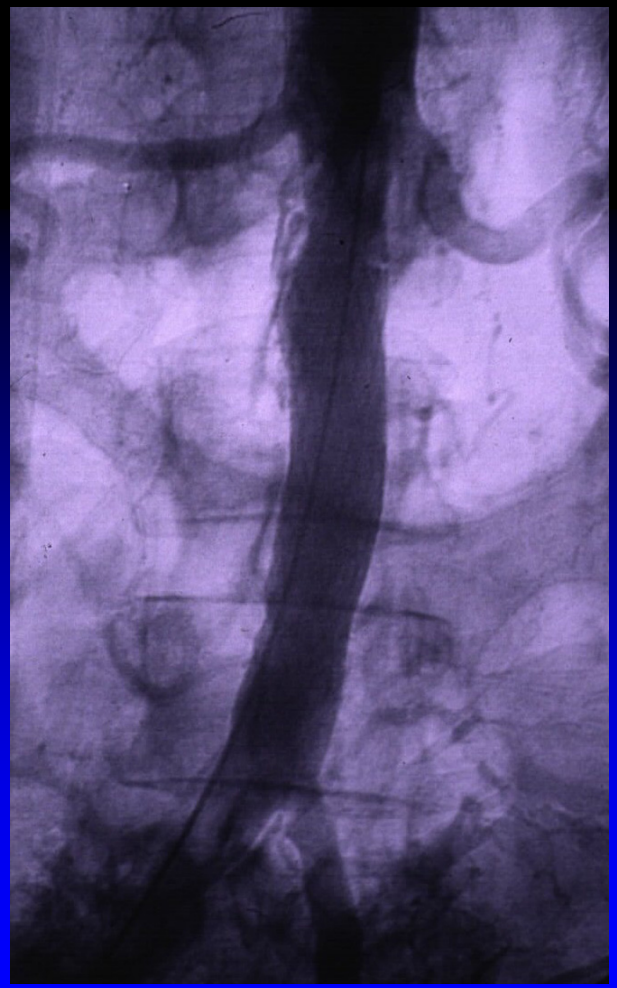
Atheroembolic from infrarenal aorta: after repair with PTFE large Palmaz stents (JM 60F)



Preop

But, what went wrong?

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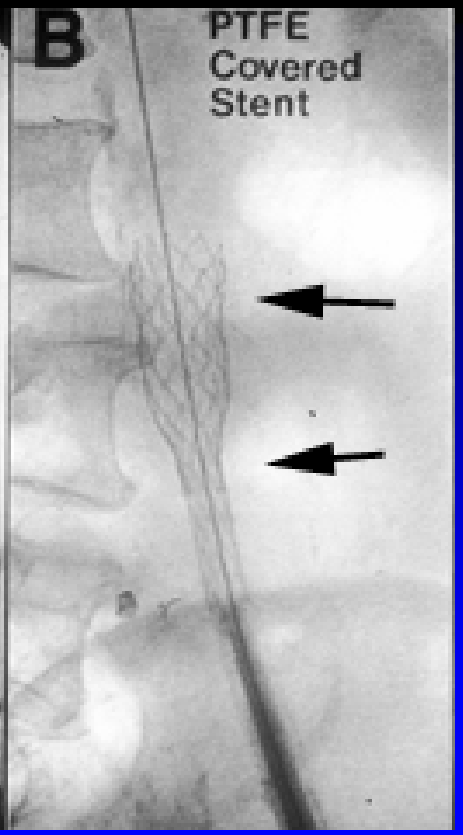
64M (ES) multiple prior vascular surgeries. an aorto-left common femoral graft with anastamotic pseudoaneurysm had endovascular graft placed which resulted in occlusion of the graft, and an ischemic leg, which required fem-fem graft.



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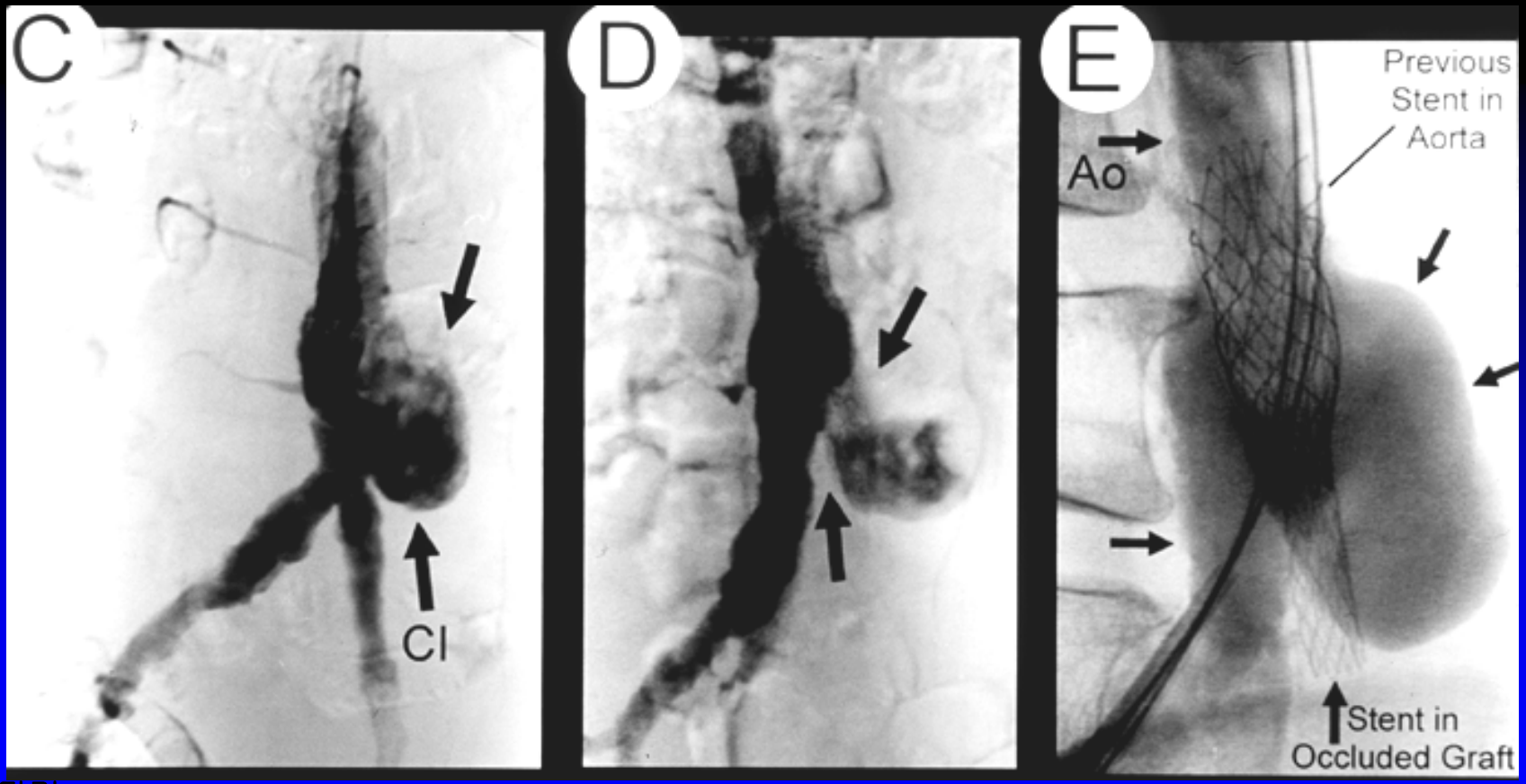
2-yrs later: a large pseudoaneurysm had developed. NB: large stent lying across the aorta without any PTFE covering.



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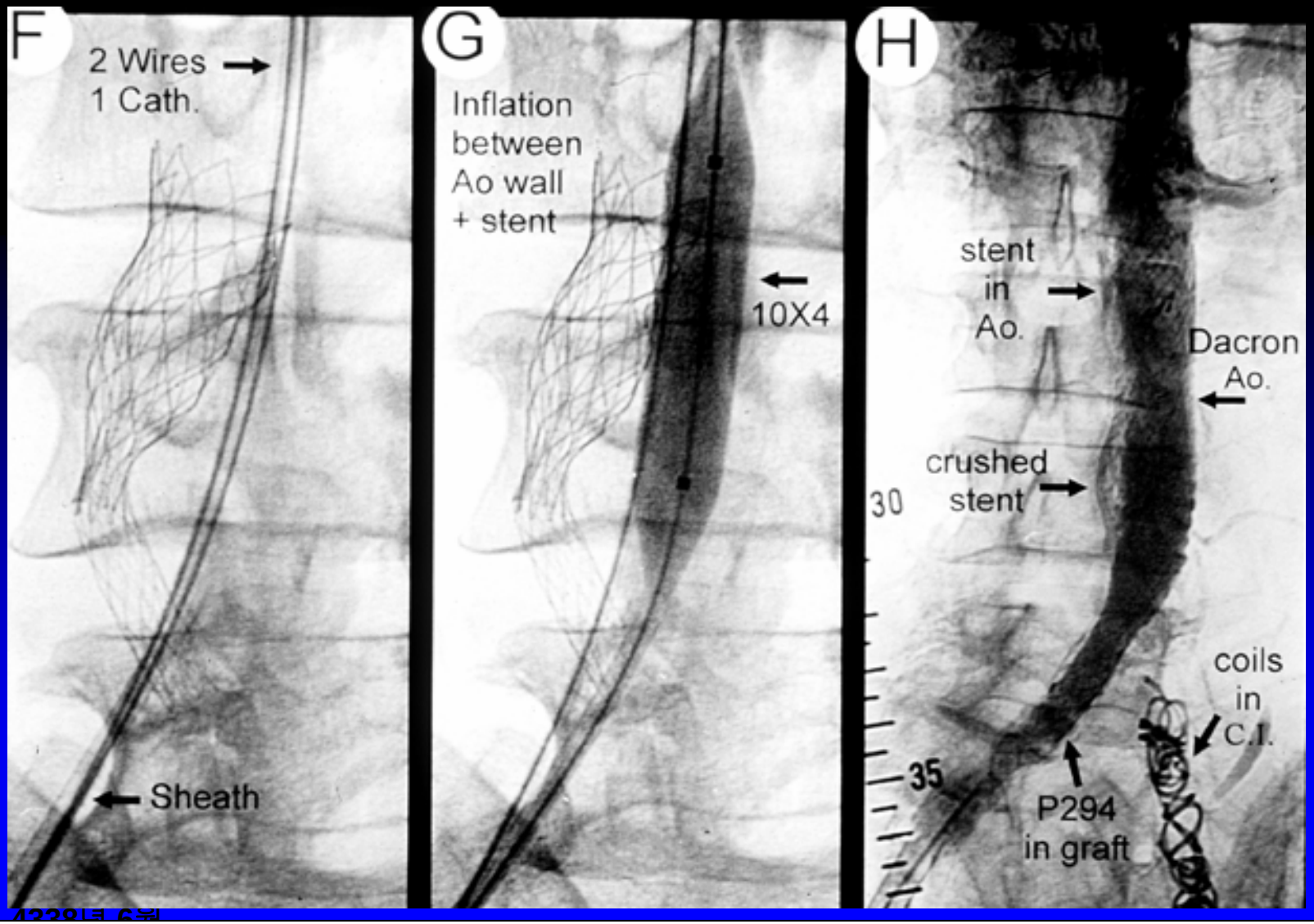
In-vivo: crushing of stent with a balloon, which was followed by stent-graft deployment



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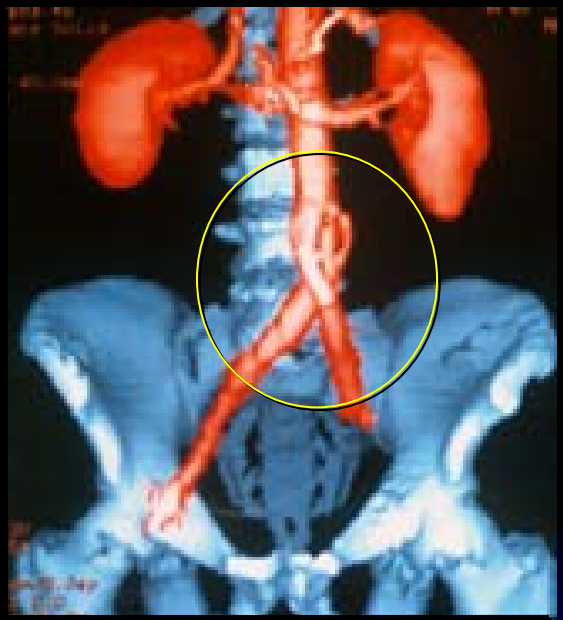

3D CT of the pseudoaneurysm pre- and postop

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Endovascular AAA repair:

Baxter bifurcated device

(73M LW with CHF, CVA, cardiomyopathy, EF <25%)

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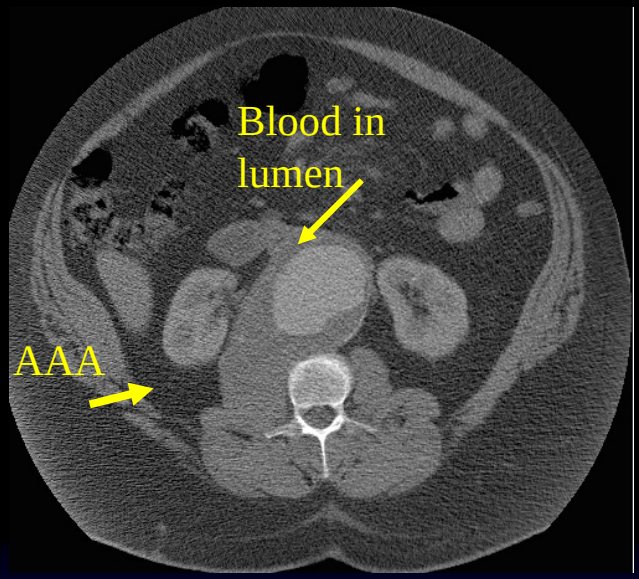
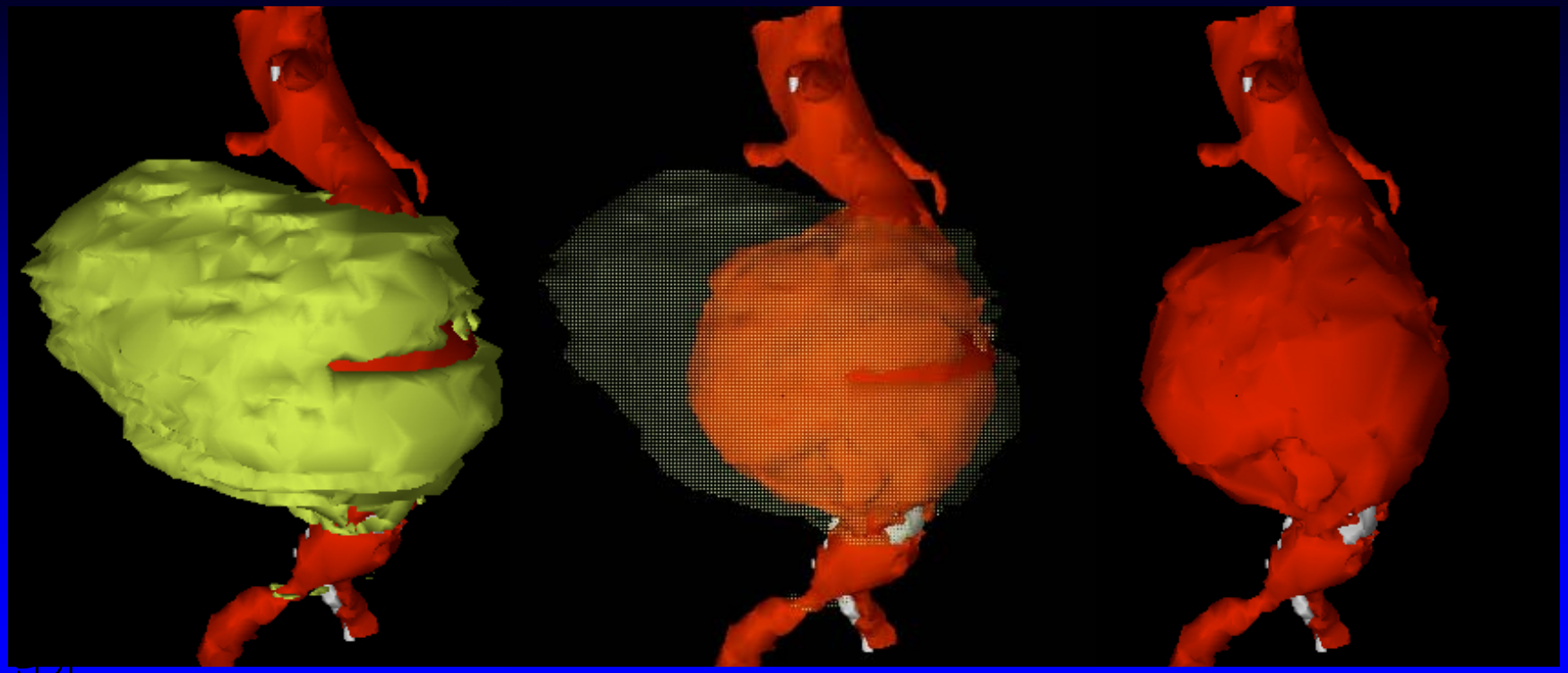


Endovascular AAA repair:

changes seen with helical CT 3-D reconstruction (JH 70M)



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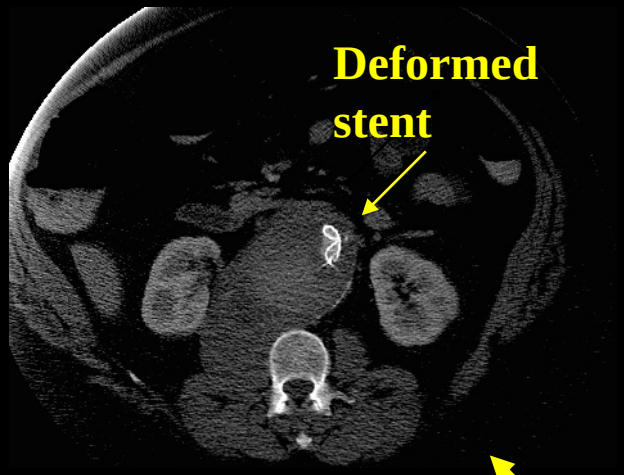
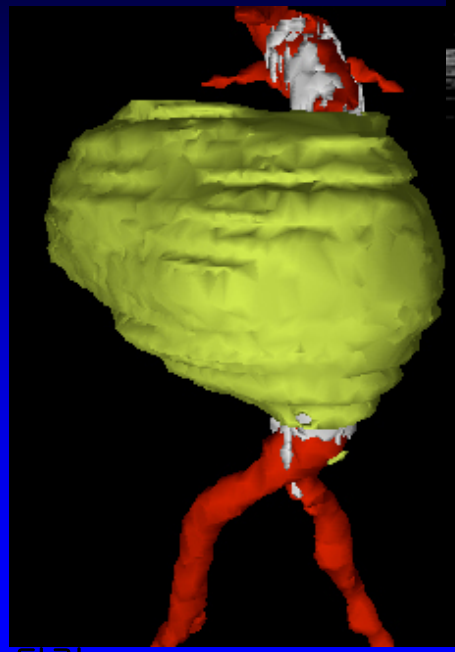
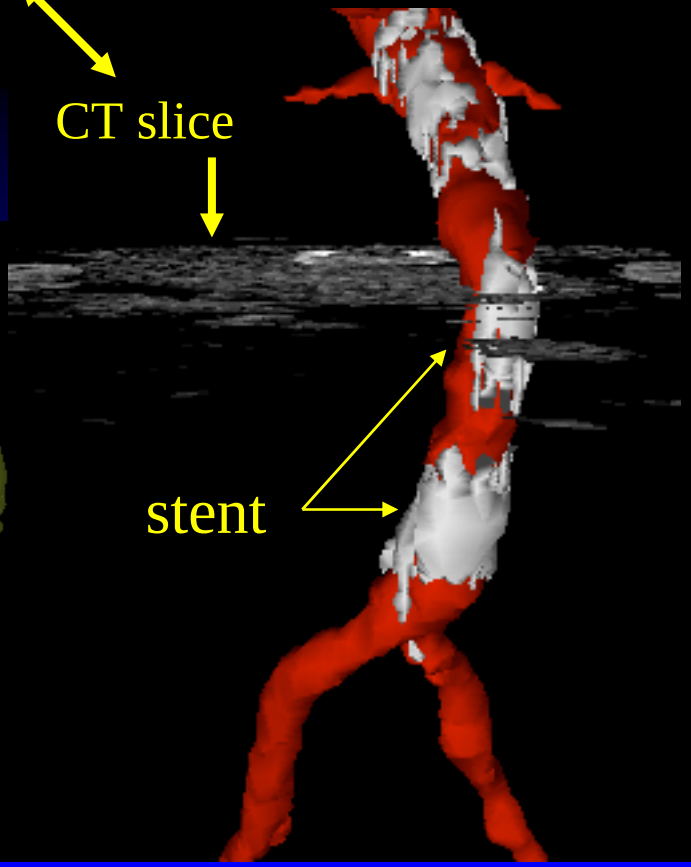
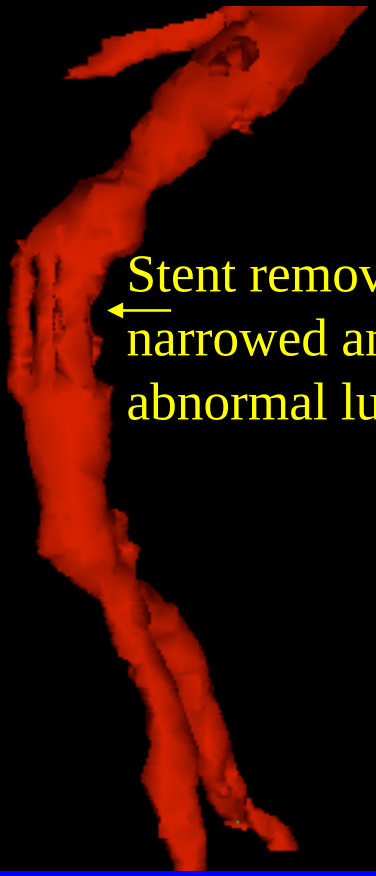
Endovascular AAA repair:
changes seen 5 months after reconstruction (JH 70M)



CT slice







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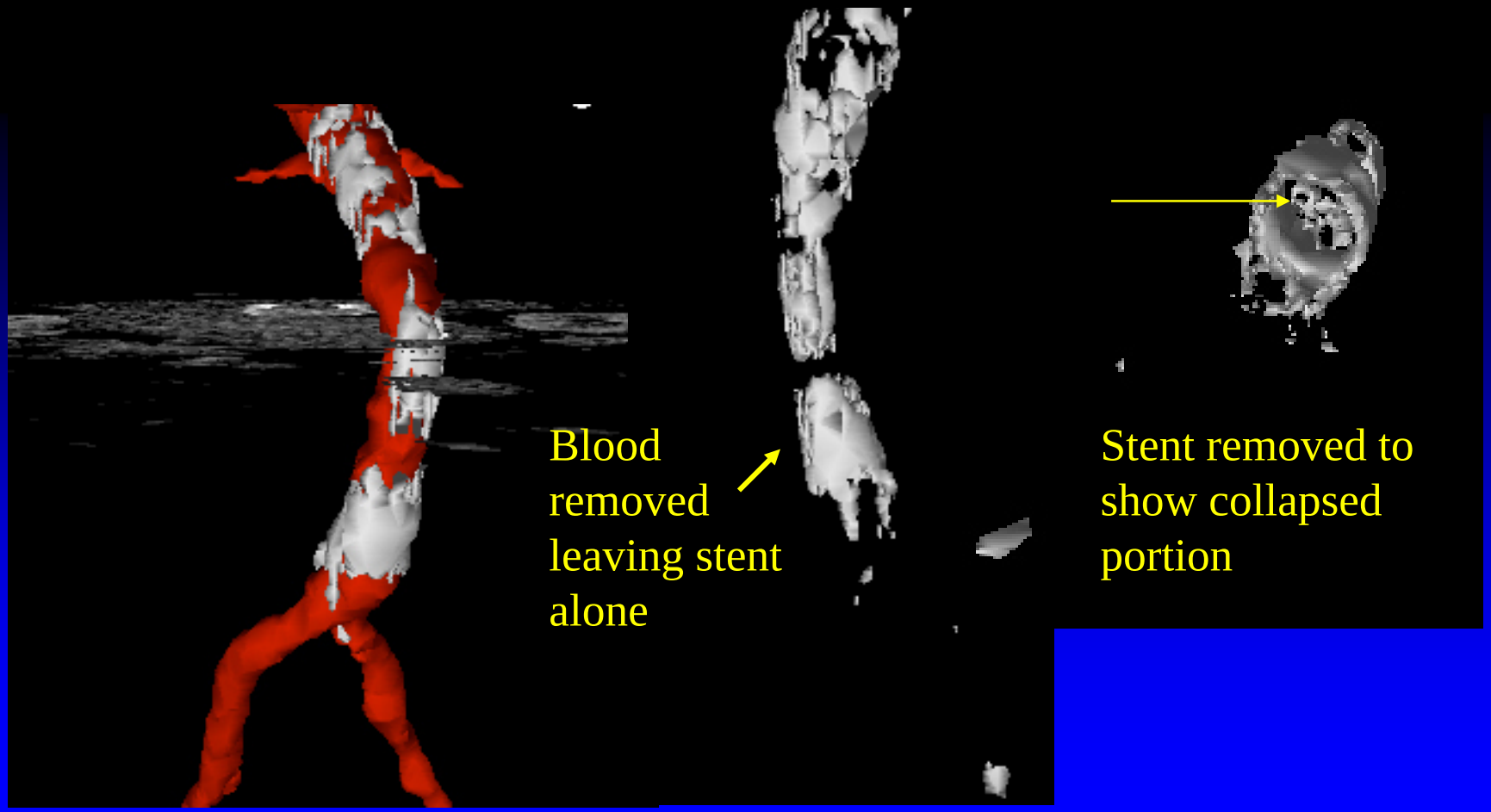
Endovascular AAA repair:
CT 3-D follow
(JH 70M; 5 months post repair)



Blood removed leaving stent alone

Stent removed to show collapsed portion

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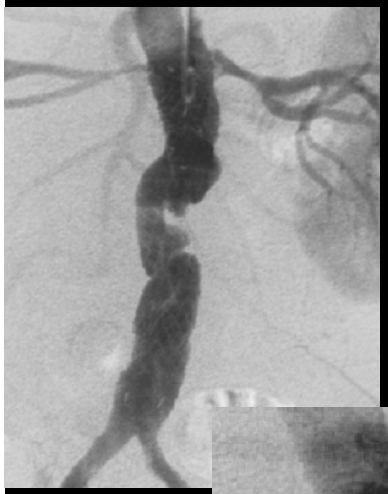
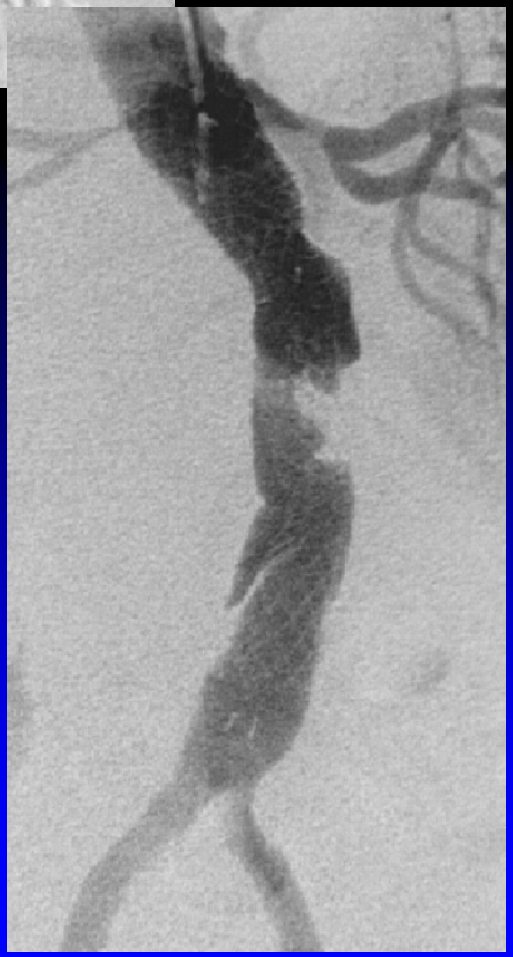
Endovascular AAA repair:
CT 3-D follow showing stent deformation

(JH 70M; 41 months post repair)





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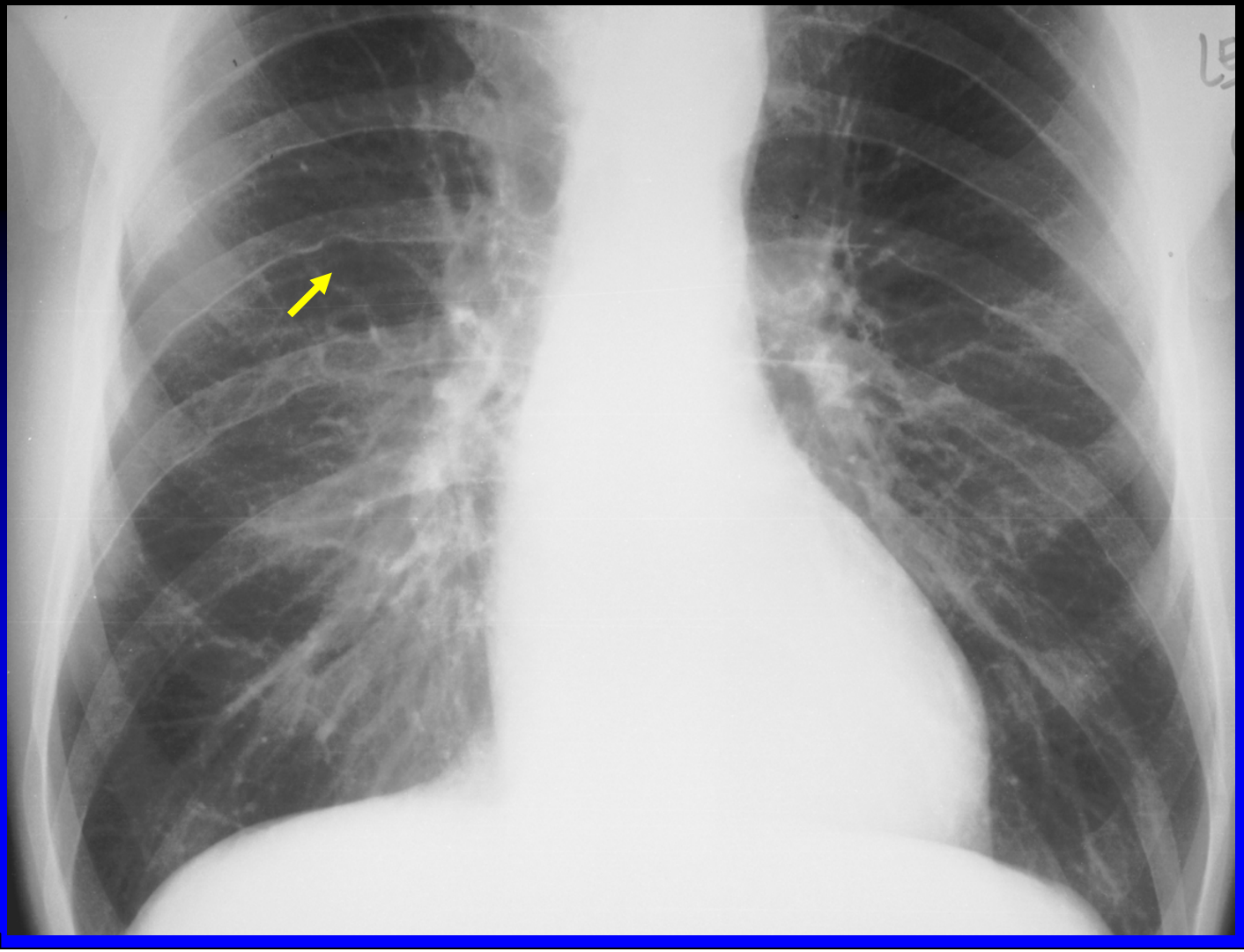
Post-ductal coarctation:
uncontrolled hypertension in 51y/o Bolivian male



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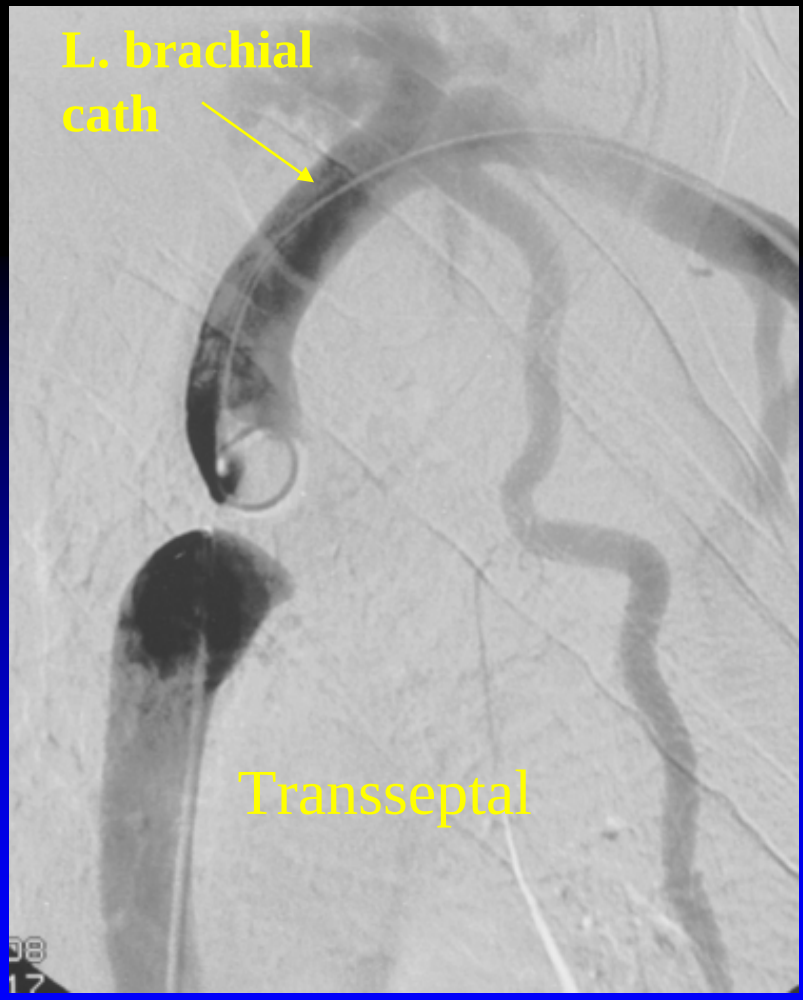
Post-ductal coarctation:

uncontrolled hypertension in 51y/o Bolivian man

Unable to cross lesion with wires from above or below

Transseptal needle crossed occluded aortic segment, balloon dilatation with 4mm, 6mm, 8mm, 10mm,12mm,14mm stent deployed, 16mm, 18mm, and 20mm



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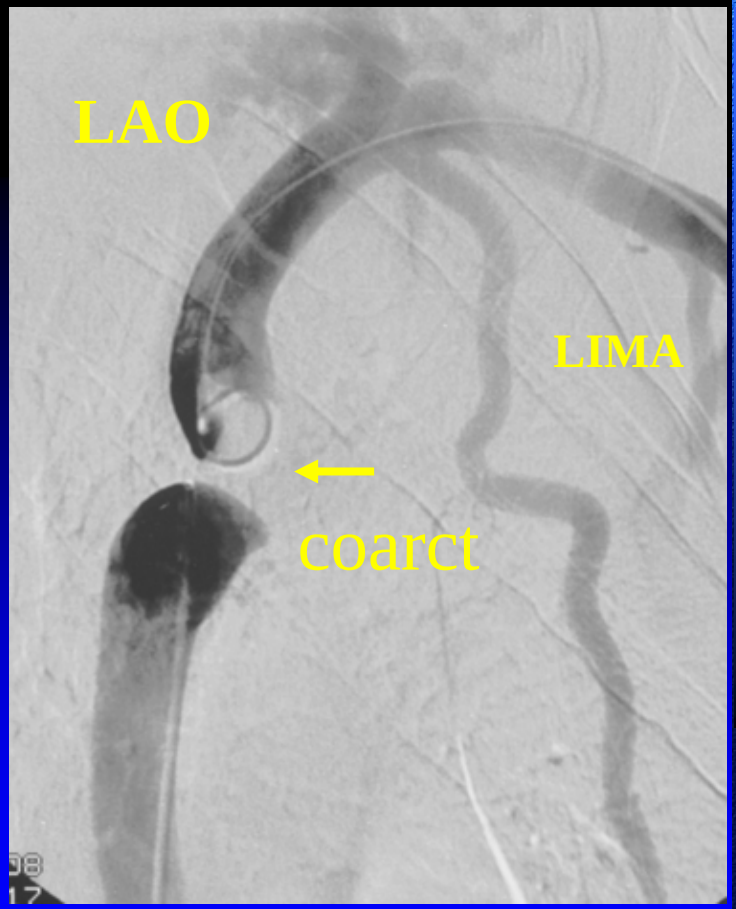
Post-ductal coarctation:
uncontrolled hypertension in 51y/o Bolivian man



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Post-ductal coarctation:

uncontrolled hypertension in 51y/o Bolivian man

Large Palmaz stent ultimately expanded to 20mm

1-yr. p/o patient remains asymptomatic

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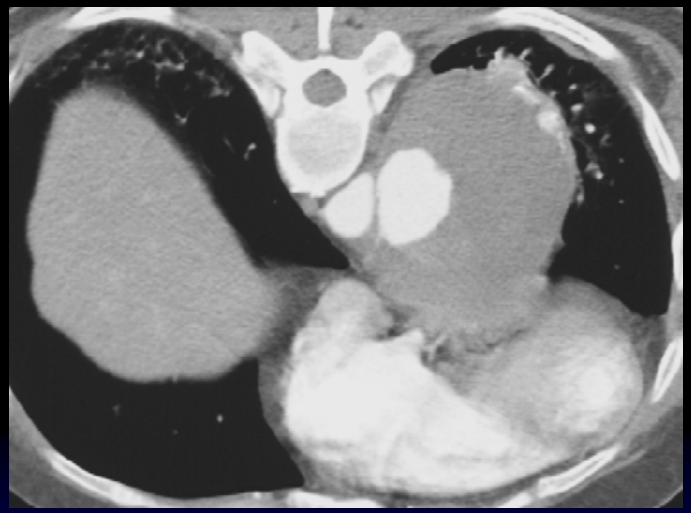

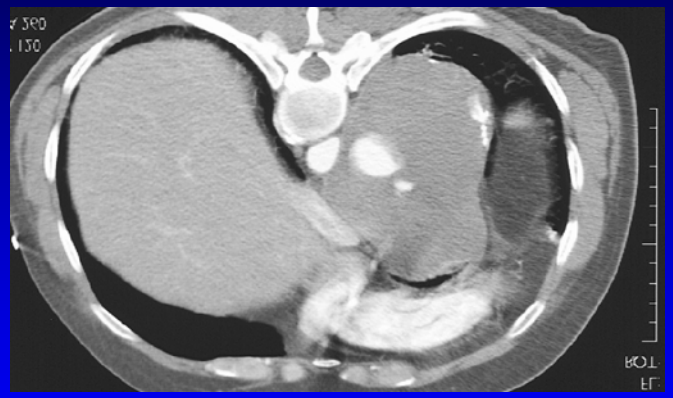

DTA pseudo-aneurysm: angiography just shows the contrast not the thrombus which has displaced and compressed the esophagus (49 Saudi M)

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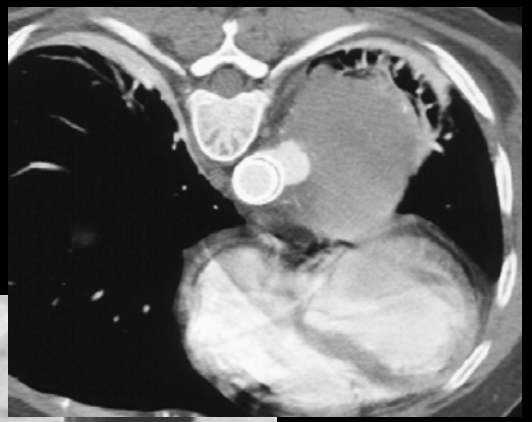
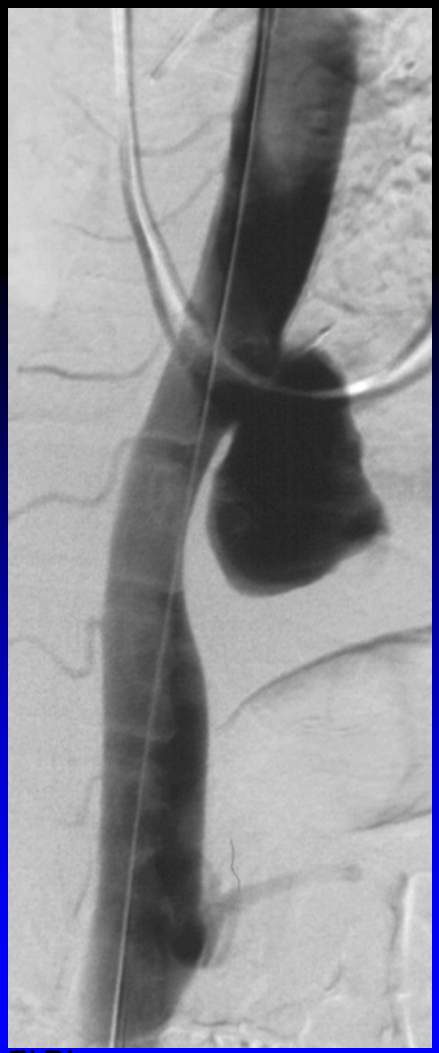
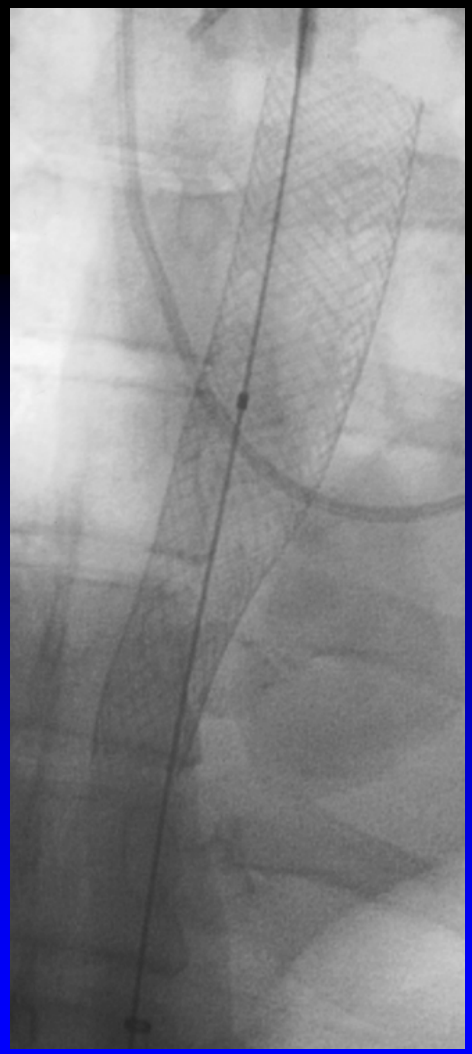
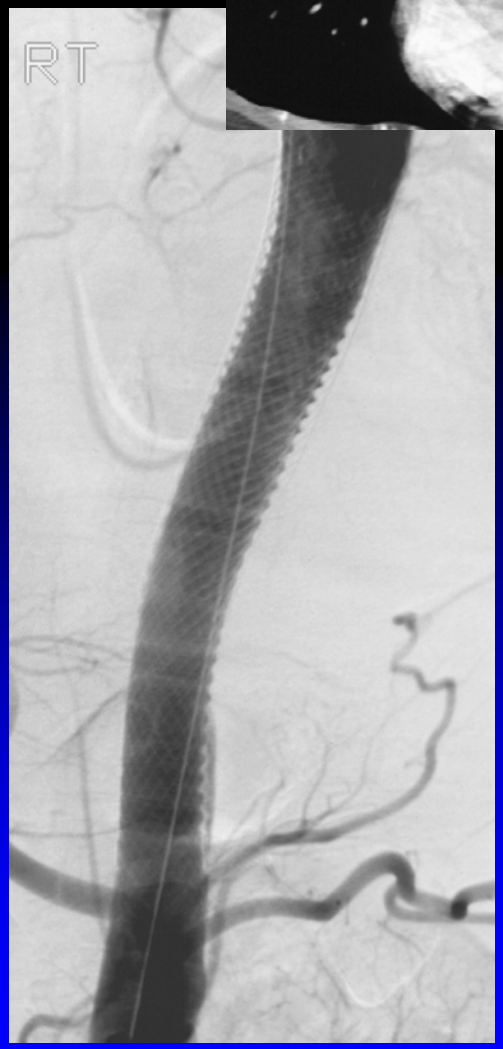
Repair of Descending Thoracic 13cm Pseudoaneurysm









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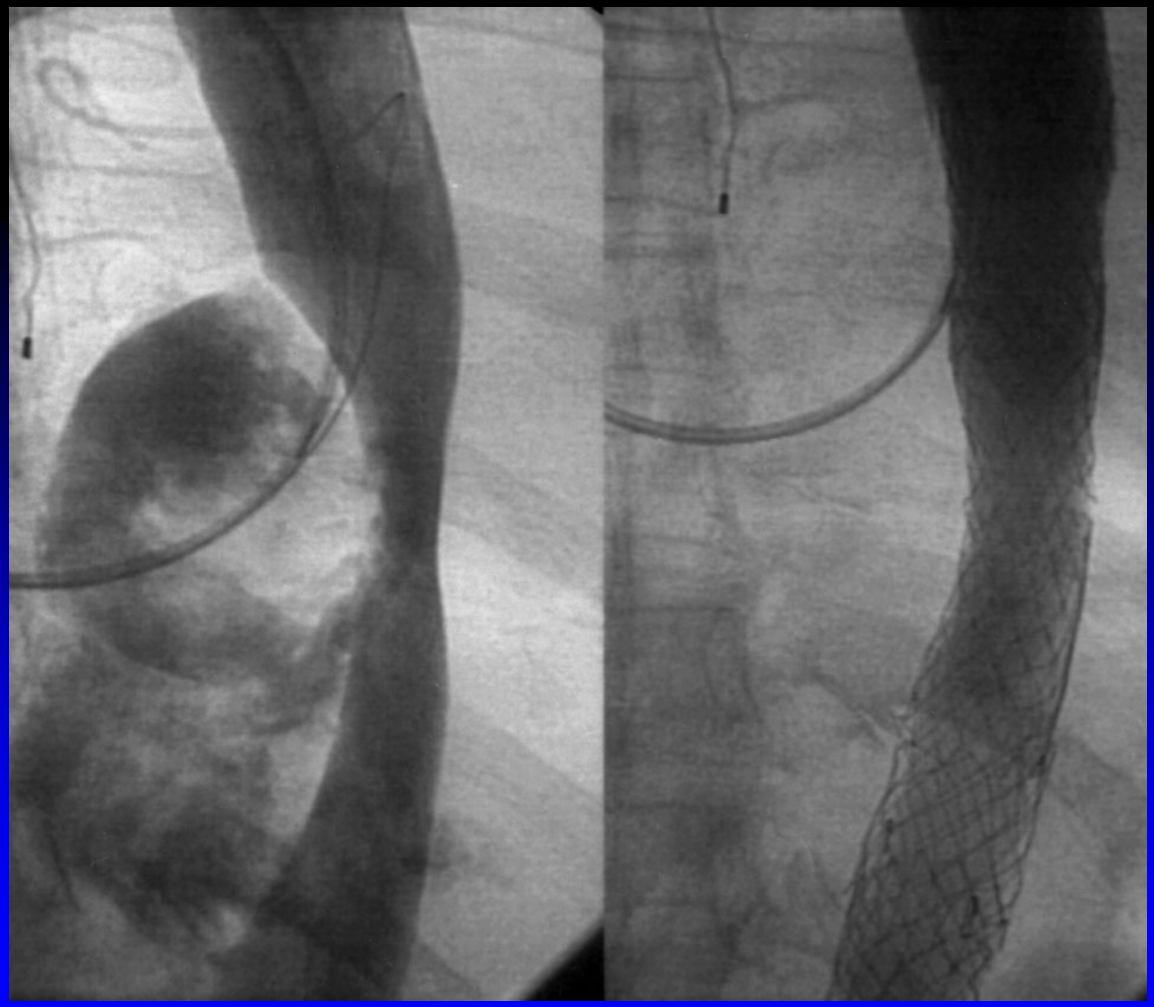
Repair of thoraco-abdominal aneurysm:
leaking into abdomen and chest in a moribund Jehovah's witness (LM 70F,Atlanta,1998)



Clinical:

moribund

hypotensive

hct 23%

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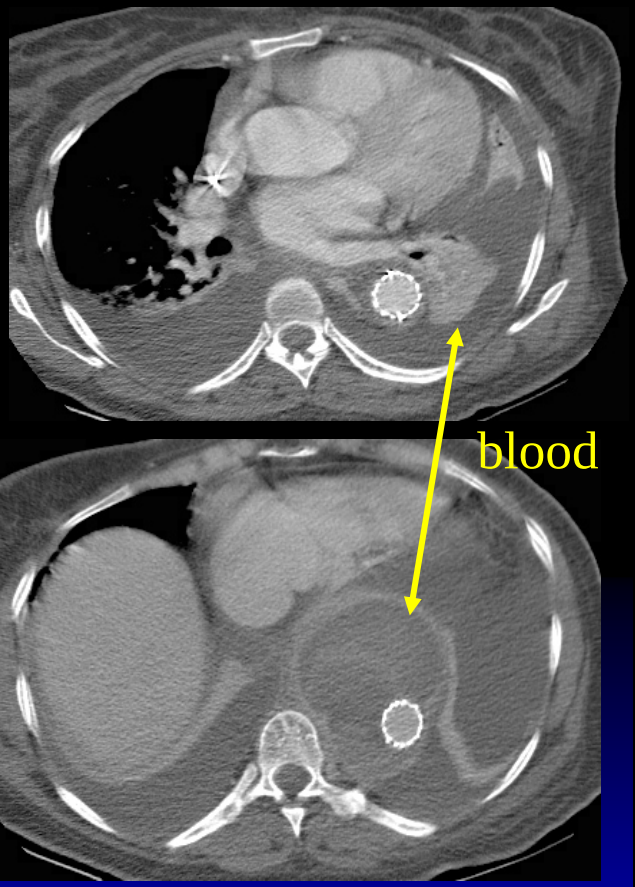
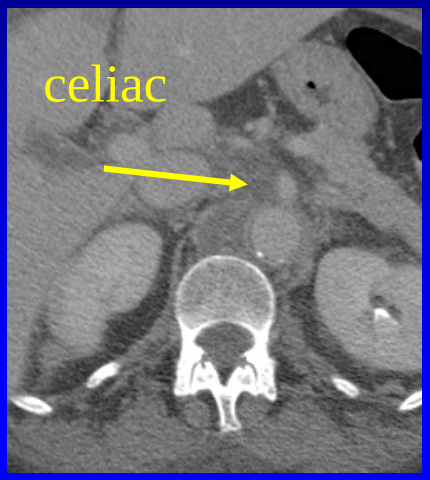
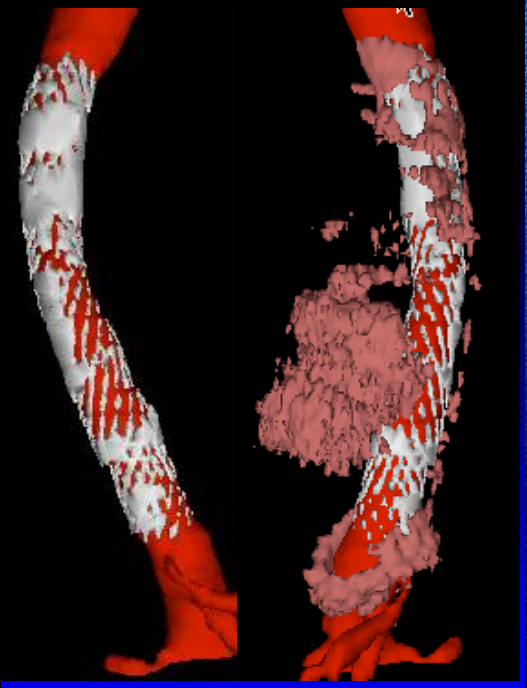
Leaking thoraco-abdominal aneurysm

(LM 70F Jehovah's witness)







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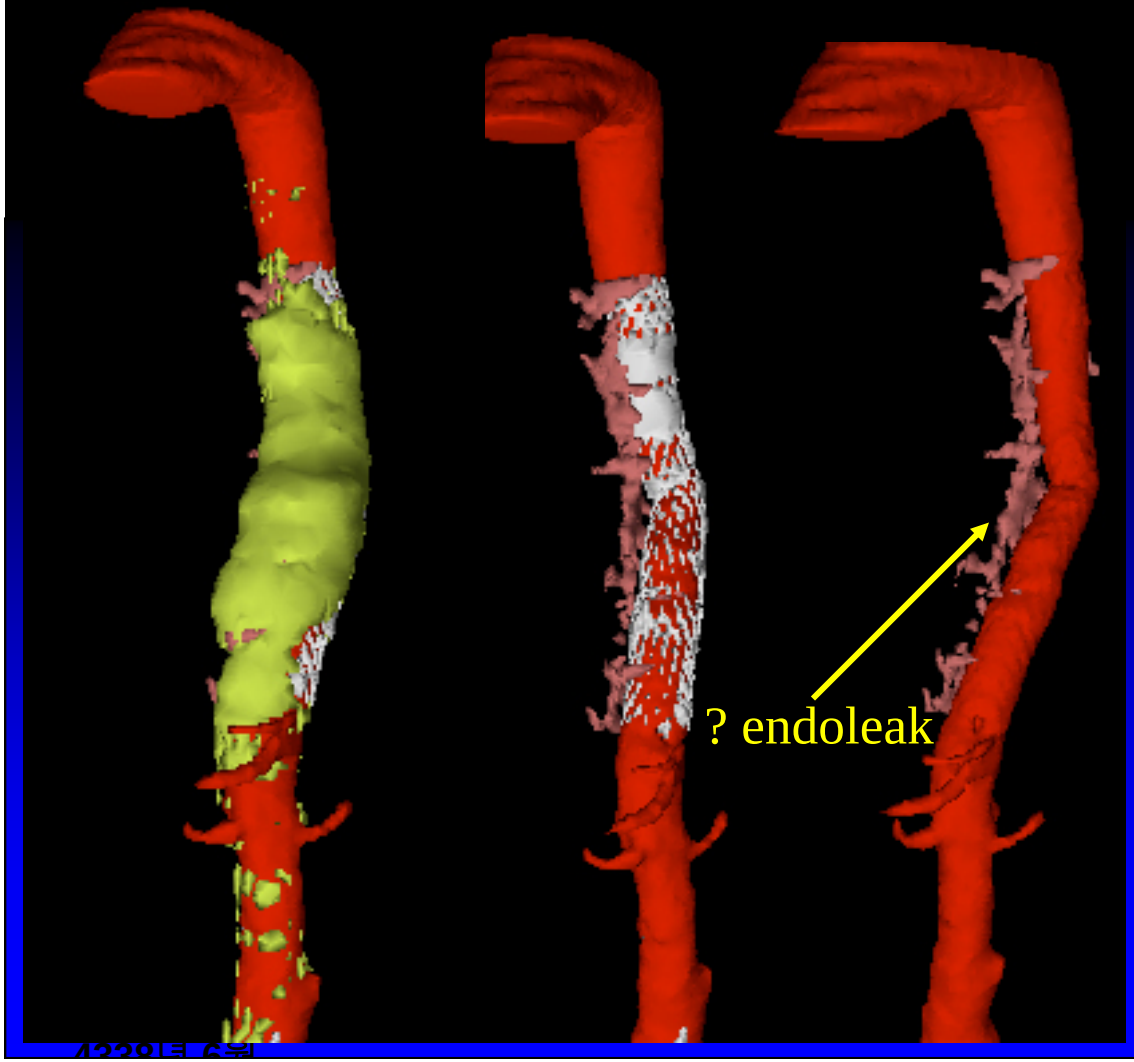
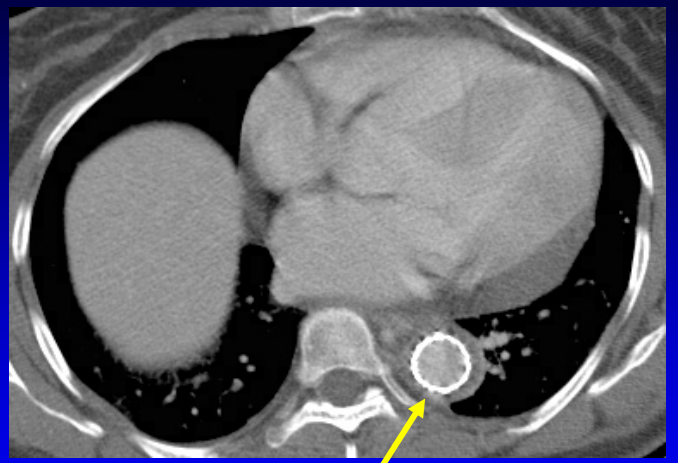
Leaking thoraco-abdominal aneurysm
I year later

(LM 70F Jehovah's witness)





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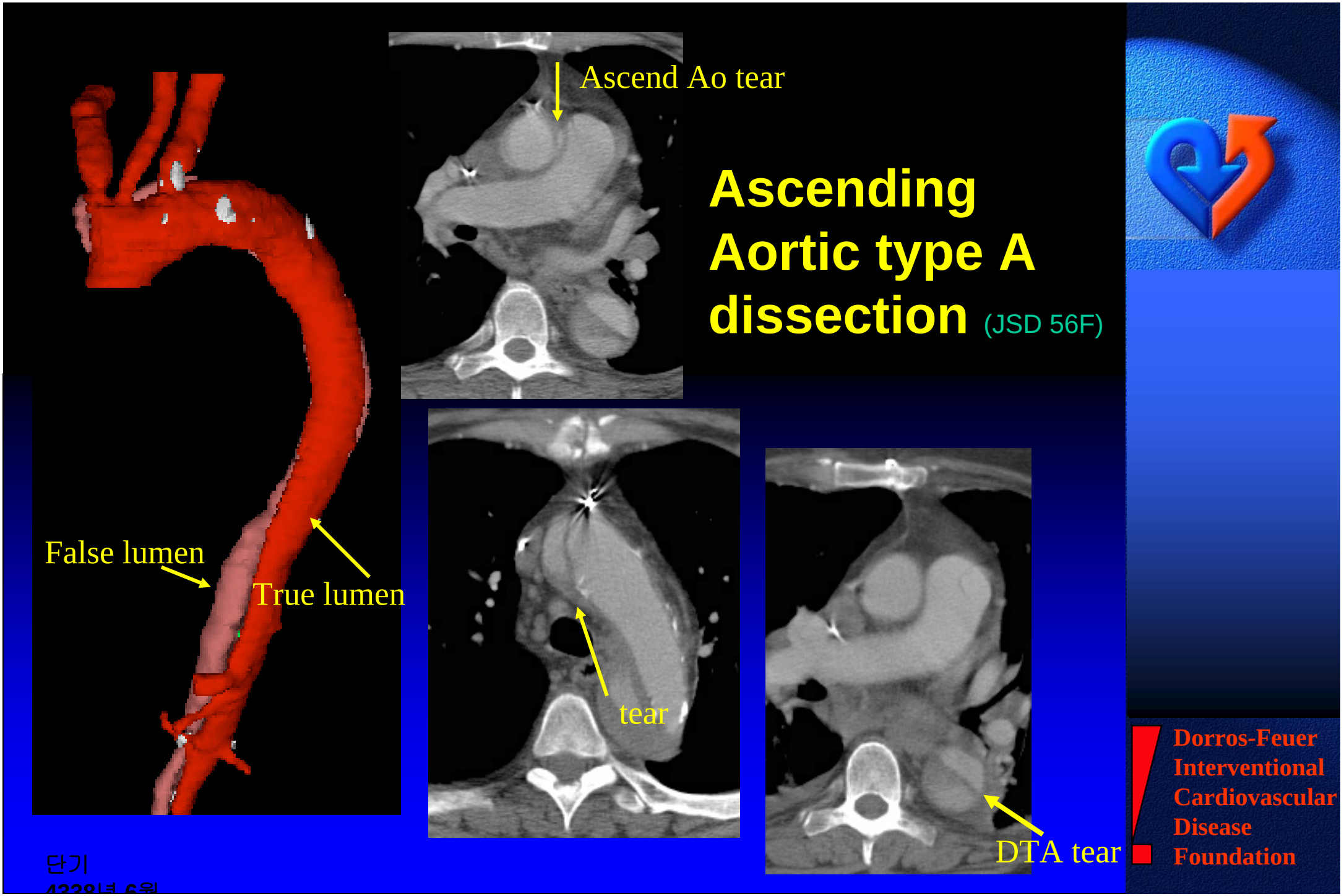
Ascend Ao tear
Ascending
Aortic type A
dissection (JSD 56F)
False lumen
True lumen
tear
DTA tear
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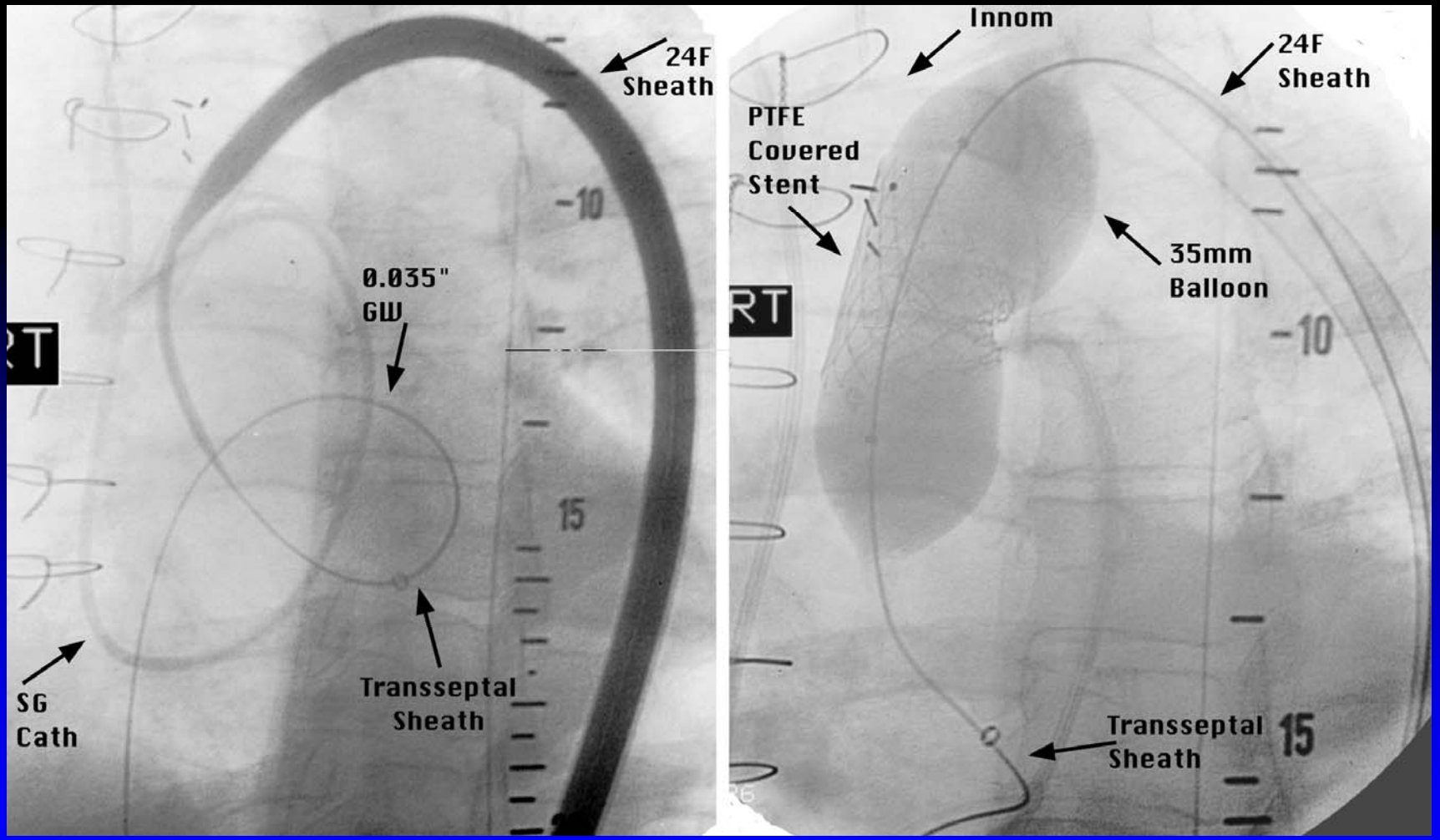
Ascending Aortic Dissection DeBakey Type I:

method of endovascular repair (JSD 65F, 10/97)



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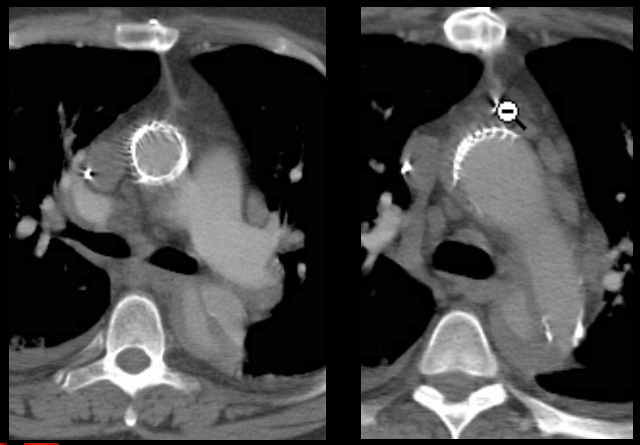
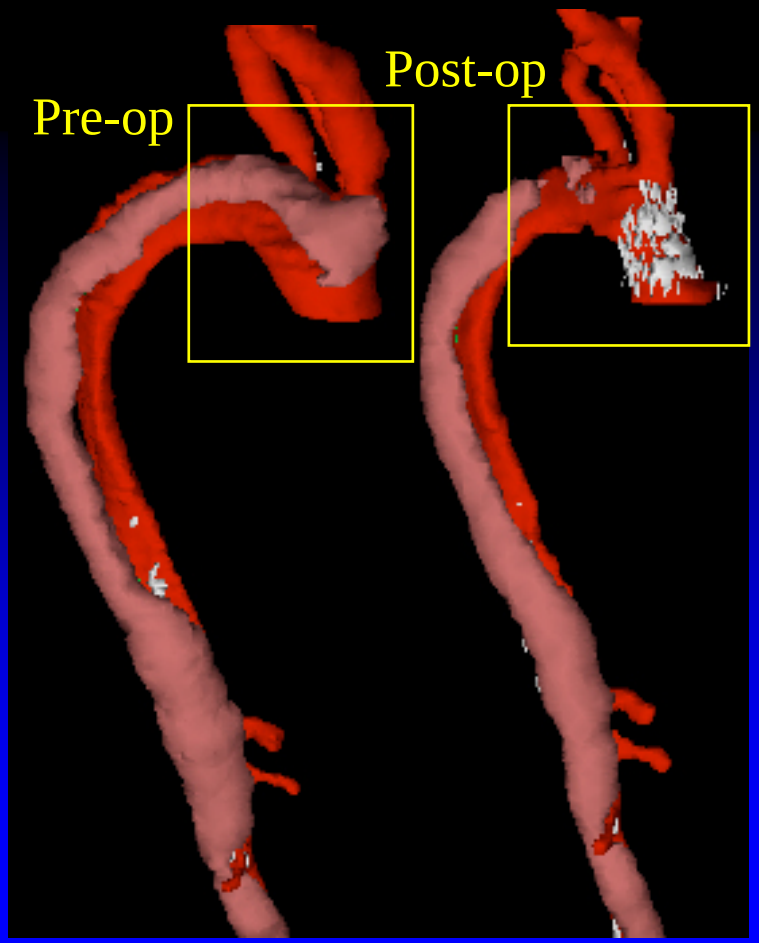
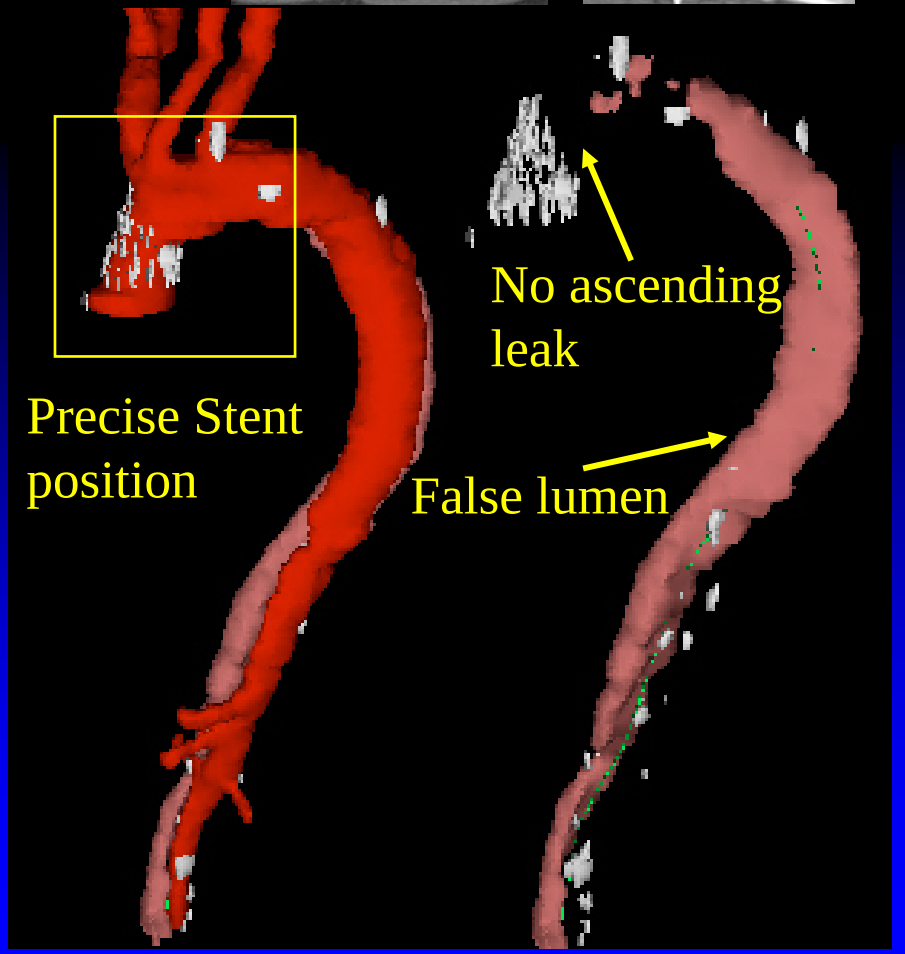
Ascending Aortic or Stanford type A dissection:

endovascular repair of proximal tear (JSD 56F)







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