



CONTROVERSIES & UPDATES IN VASCULAR SURGERY

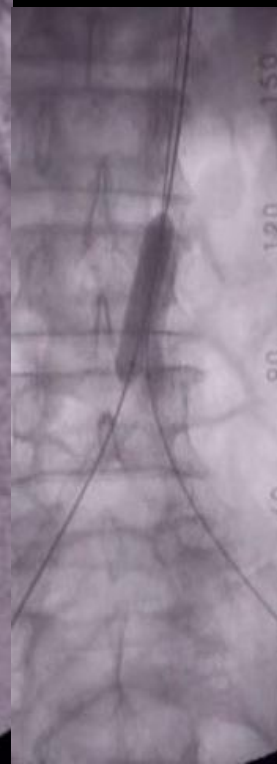
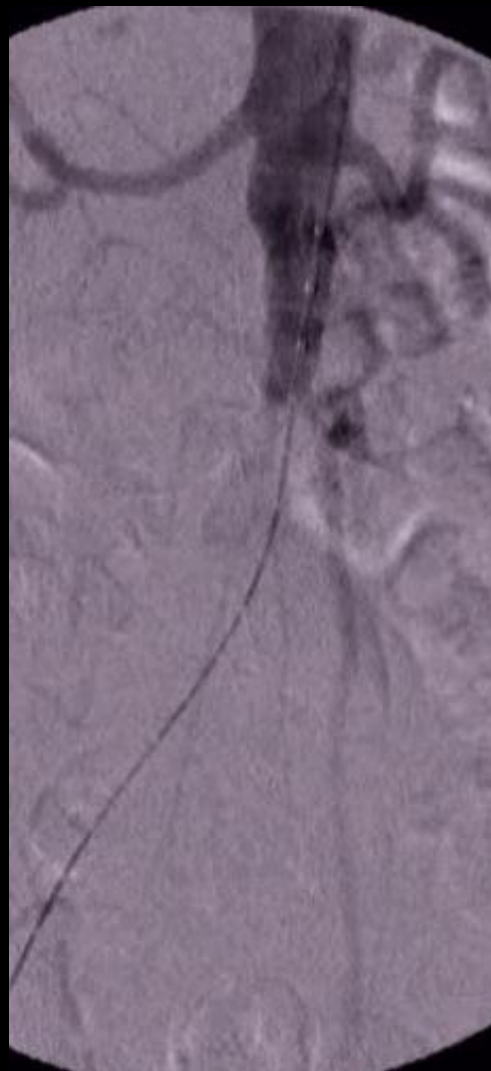
Endovascular repair of totally
occluded infrarenal aorta and iliac
arteries

N. Mangialardi

Unit of Vascular Surgery - San Filippo Neri Hospital- Rome, Italy.

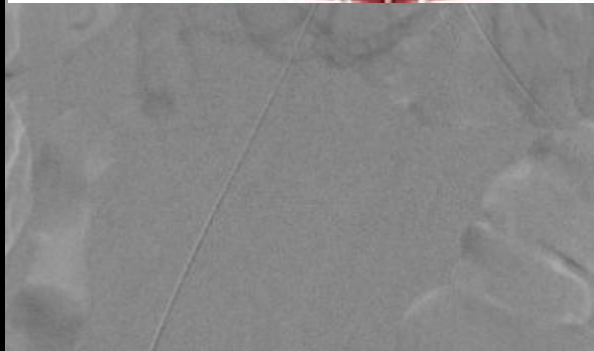


Leriche syndrome



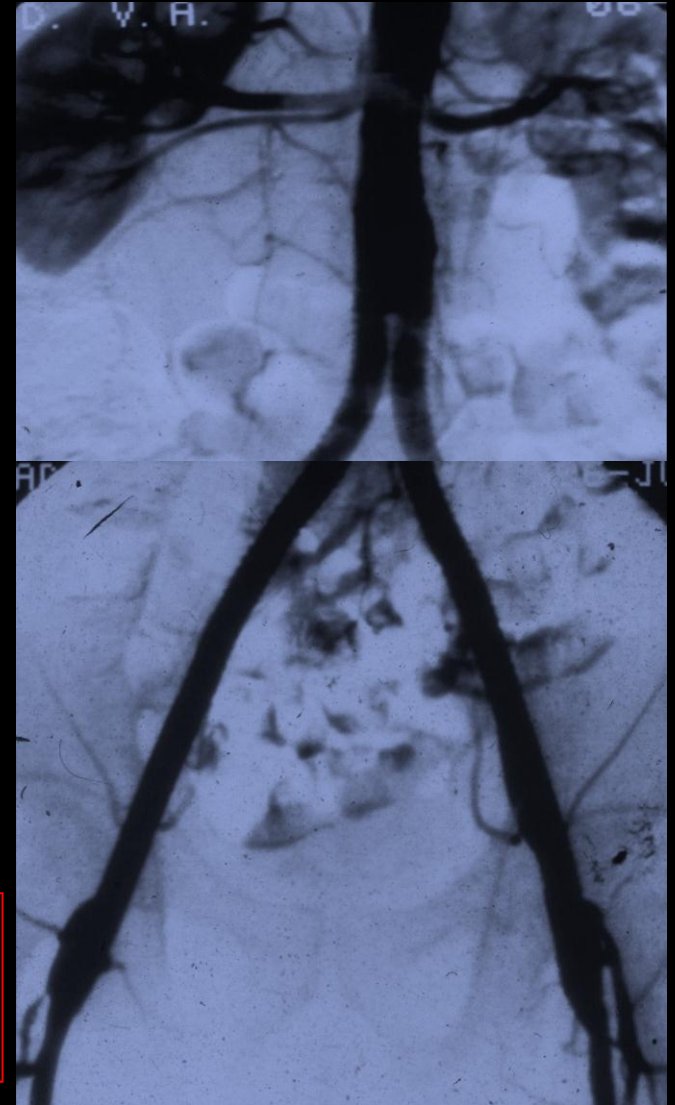
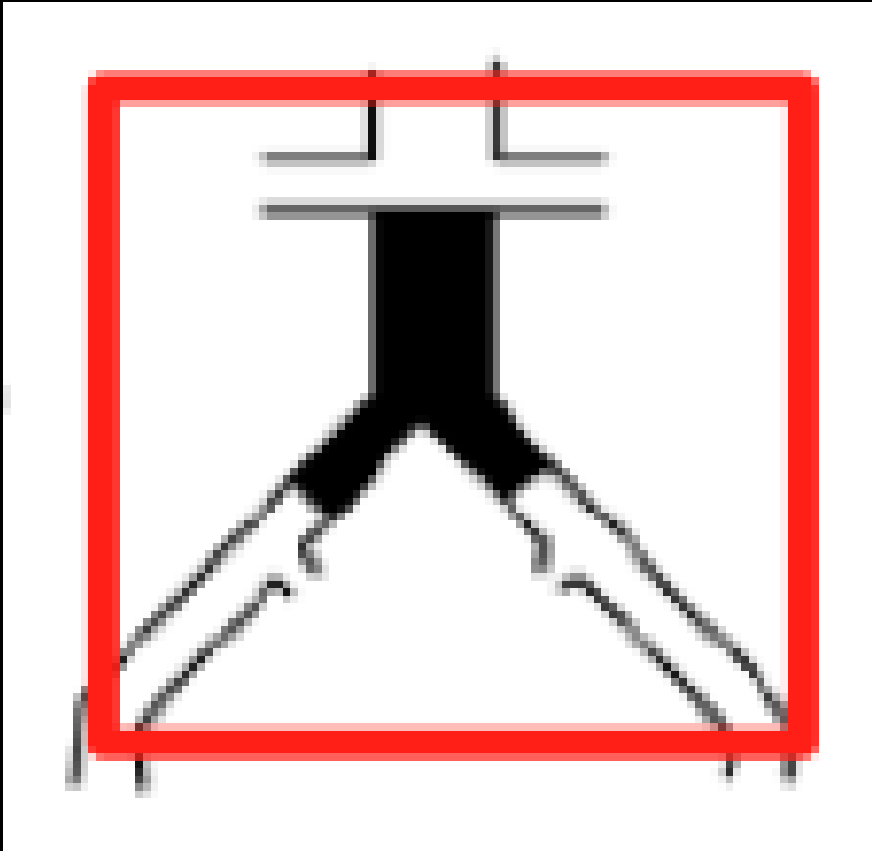


Leriche syndrome





TASC D Leriche syndrome



surgery is the treatment of choice for type D lesions [C].



The management of severe aortoiliac occlusive disease: Endovascular therapy rivals open reconstruction

(J Vasc Surg 2008;48:1451-57.)

Vikram S. Kashyap, MD,^a Mircea L. Pavkov, MD,^a James F. Bena, MS,^b Timur P. Sarac, MD,^a Patrick J. O'Hara, MD,^a Sean P. Lyden, MD,^a and Daniel G. Clair, MD,^a *Cleveland, Ohio*

Long term data of endovascularly treated patients with severe and complex aortoiliac occlusive disease

J CARDIOVASC SURG 2012;53:291-300

J. SCHMALSTIEG ¹, T. ZELLER ², T. TÜBLER ¹, S. SIXT ¹, C. SCHWENCKE ¹,
J. SANDSTEDE ³, H. KRANKENBERG ¹

Endovascular approach to Leriche syndrome.

Setacci C, Galzerano G, Setacci F, De Donato G, Sirignano P, Kamargianni V, Cannizzaro A, Cappelli A.

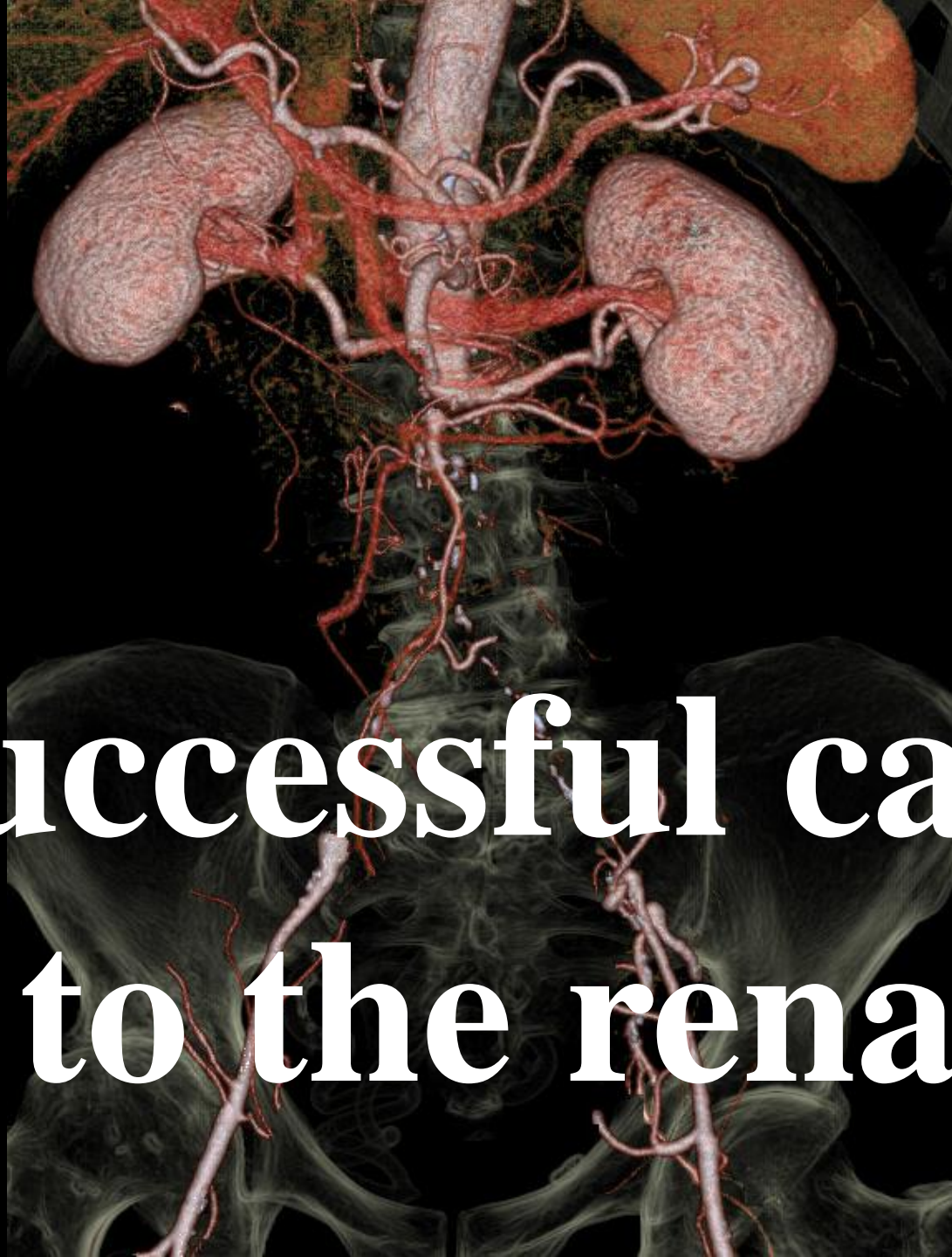
Department of Vascular and Endovascular Surgery University of Siena, Siena, Italy - setacci@unisi.it.

J Cardiovasc Surg (Torino). 2012 Jun;53(3):301-6.



ESC Guidelines on the diagnosis and treatment of peripheral artery diseases

endovascular approach ...in
aorto-iliac TASC D lesions in
pts with severe comorbidities if
done by expertized team
(grade II lev C)



**13 successful cases
up to the renals**



Leriche Syndrome 13

high risk pts

- Men 11
- Mean age 59
(min42-max74)
- Smoke 11
- Hypert 7
- Dislip 4
- RI 3





Leriche Syndrome 13

high risk pts

- obstile abdomen 5
- severe COPD 3
- dilated cardiom. 1
- angina – prev BAC 2
- repeated PE in BAC 1
- k under chemiot. 1
- **Solitary Kidney 3**



Leriche Syndrome 13

high risk pts

SYMPTOMS

SEVERE CLAUDICATION	11
CLI (BILAT SEA OCCLUSION)	2



Key points

1. Preliminary angio CT and duplex
2. Multiple access (2 femoral, 1 brachial)
3. Antegrade aorto-iliac recanalization
4. **Protective measures: renal, SMA**
(guide, filters, occl balloon)
5. Angioplasty (sub optimal)
6. Stenting
7. **Renal artery patency**
8. Femoral artery involvement



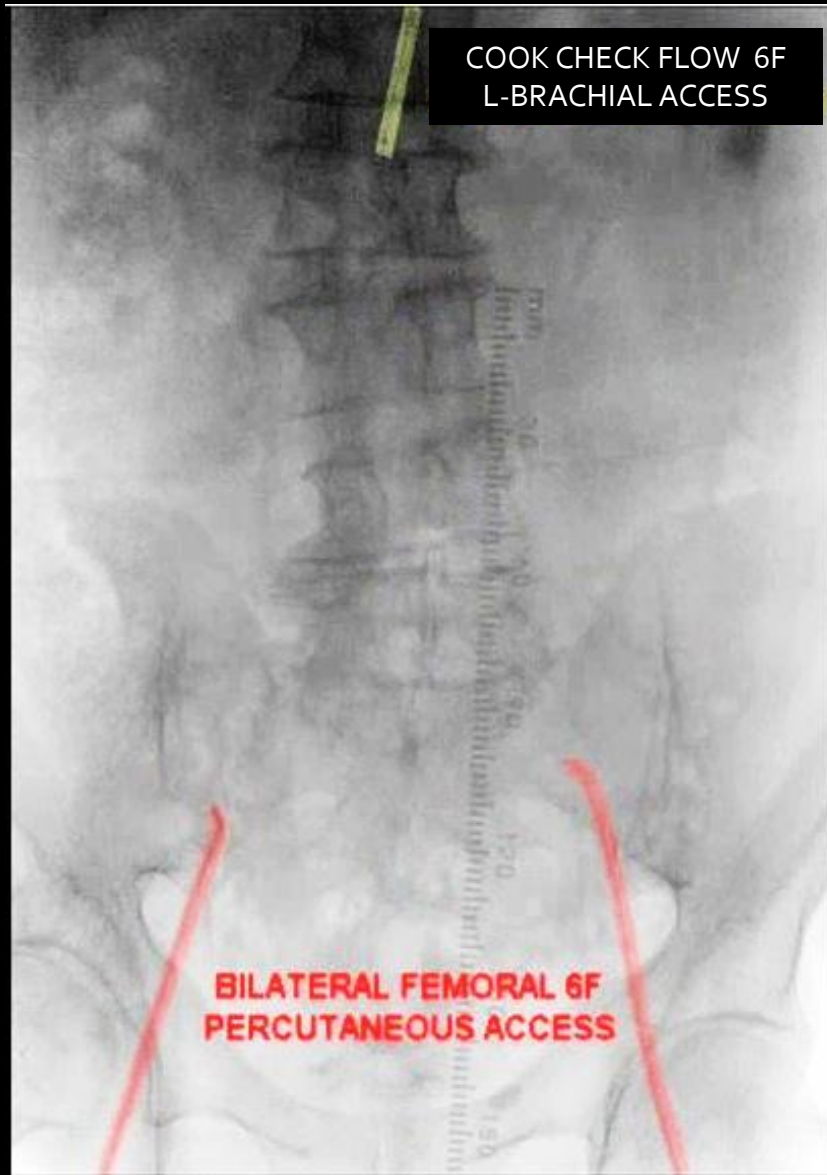
1 failure \rightarrow associated AAA

FAILURE!!!





ACCESS



- **L-Brachial**
micropuncture
- **2 femoral**
Duplex/angio guidance
Closure system



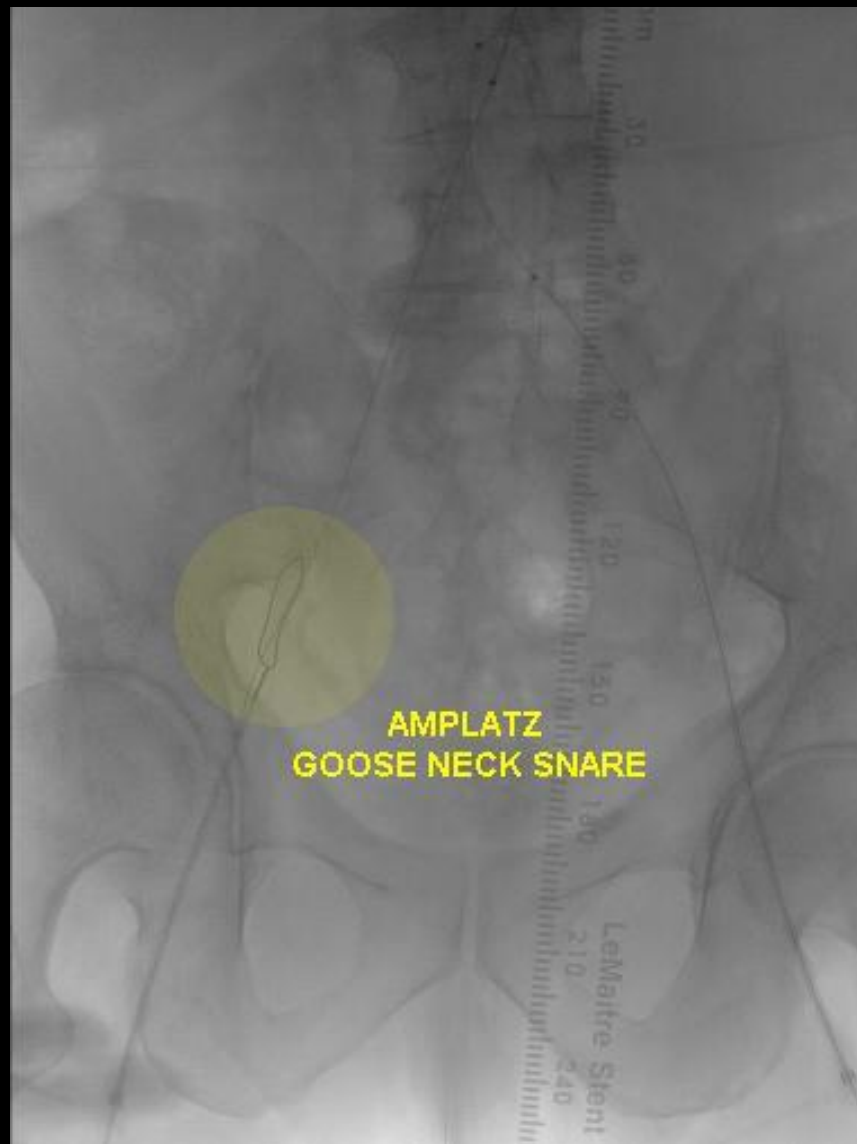
....Facilitate distal re-entry...



RENDEZ-VOUS



...recuperate the wire...stenting...





ANGIOPLASTY

Avoid!!!



➤ Suboptimal angioplasty
Iliac level (to reduce risk of rupture)



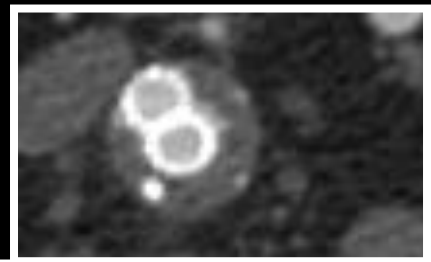
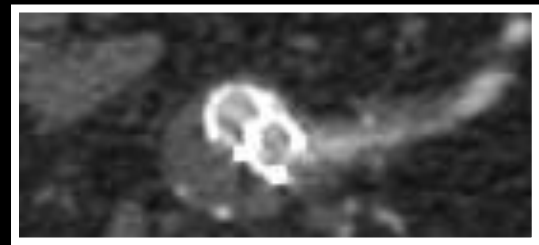
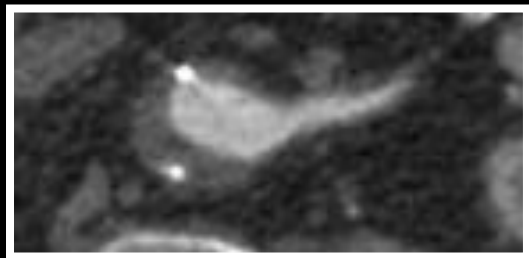
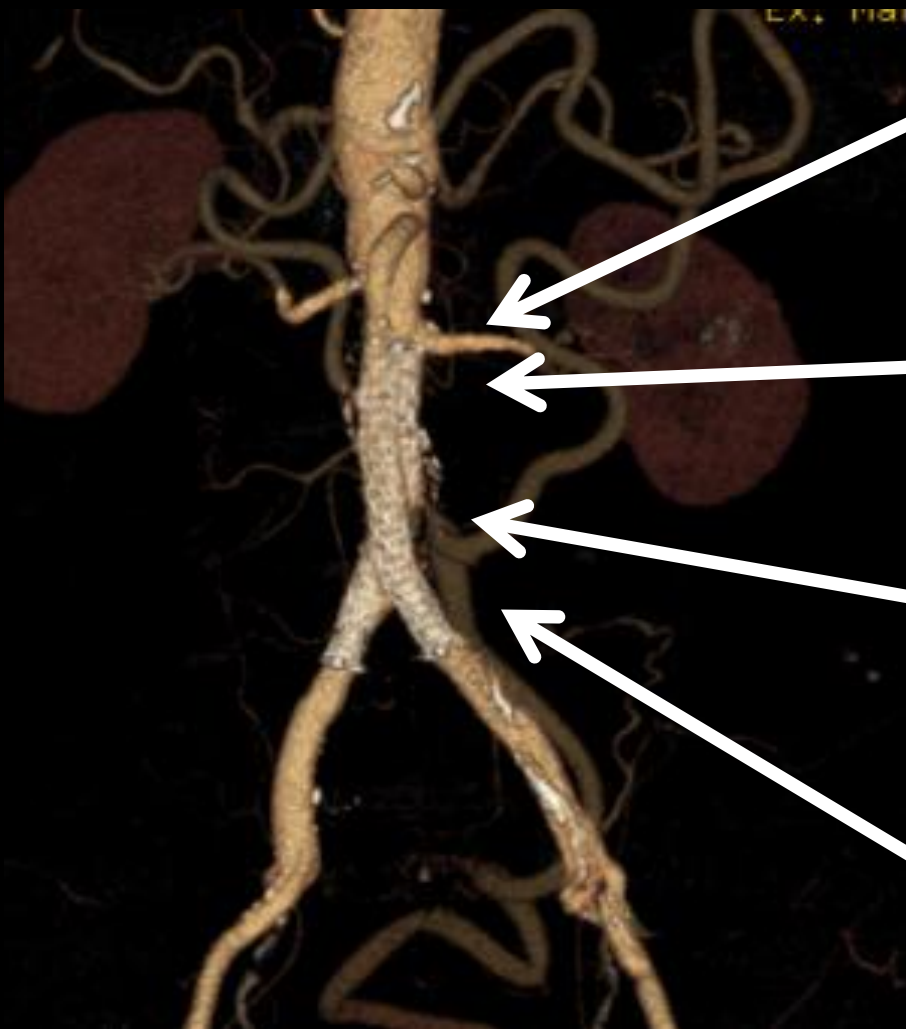
STENTING

- Aortic stent + kissing stent
- **Hugging stents**

- One shot procedure
- Reduce thrombus dislodgment
- Lower profile introducer (6F)



Hugging stent





COVERED STENT

- Lower risk of embolism?
- Collateral coverage
- Larger sheath size (8-9F)
- Higher cost

USED IN COMPLICATION



FEMORAL ARTERY INVOLVEMENT

OCCLUSION CLOSE TO THE CFA

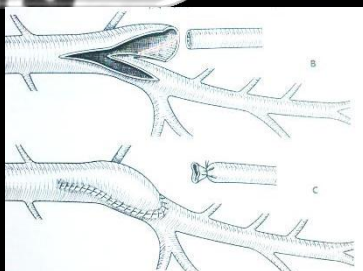
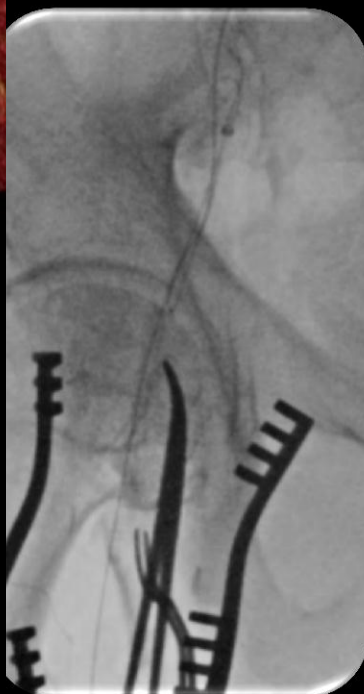


SFA puncture
DFA puncture





FEMORAL ARTERY INVOLVEMENT



Hybrid surgery
SFA patch



Issue

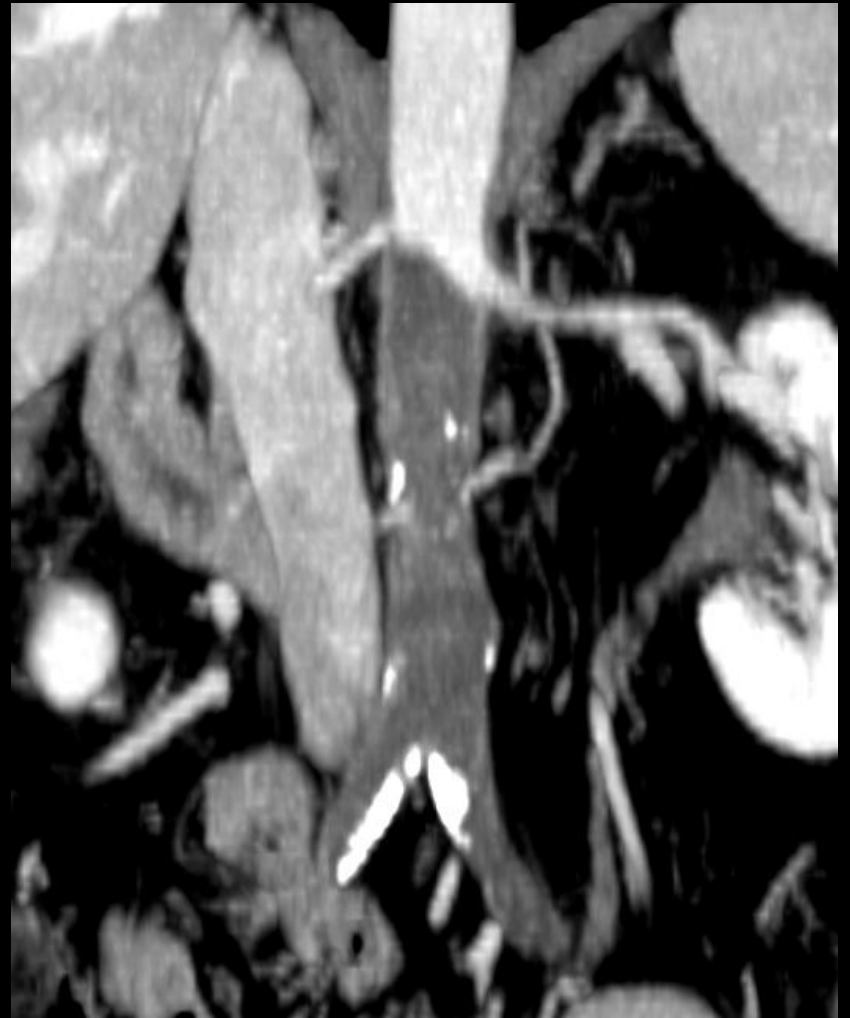
Renal artery involvement





Key points

- Renals protection
- Renals patency





Key points

Renal artery protection

Brachial antegrade recanalization

- higher pushability
- less thrombus
dislodgment





Key points

Renal artery protection

- ~~Wire~~
- Filter
- Ballon





Protective measures: balloon



Solitary kidney

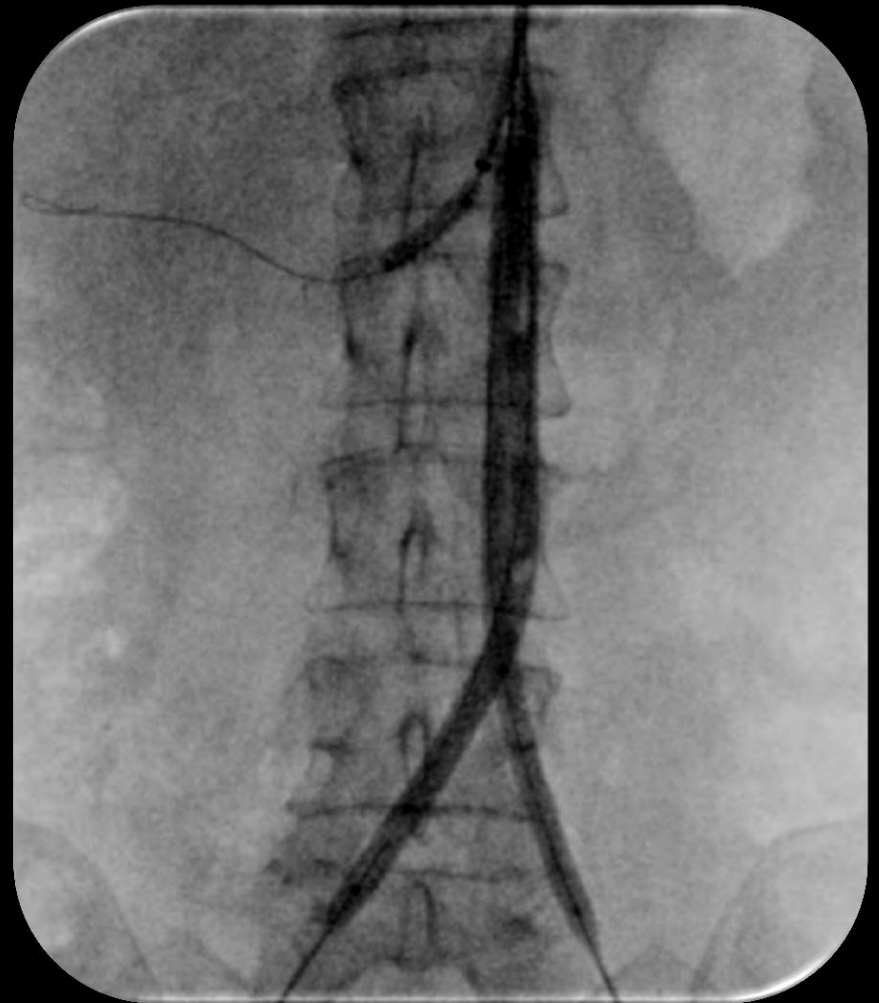




Protective measures: balloon



Solitary kidney

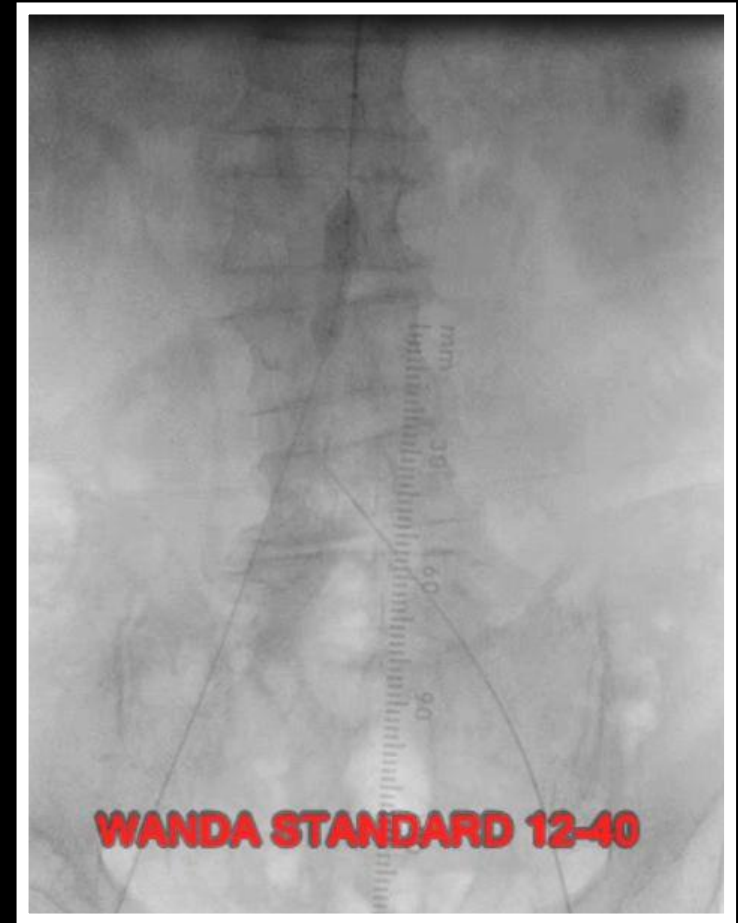




Key points

Renal artery protection

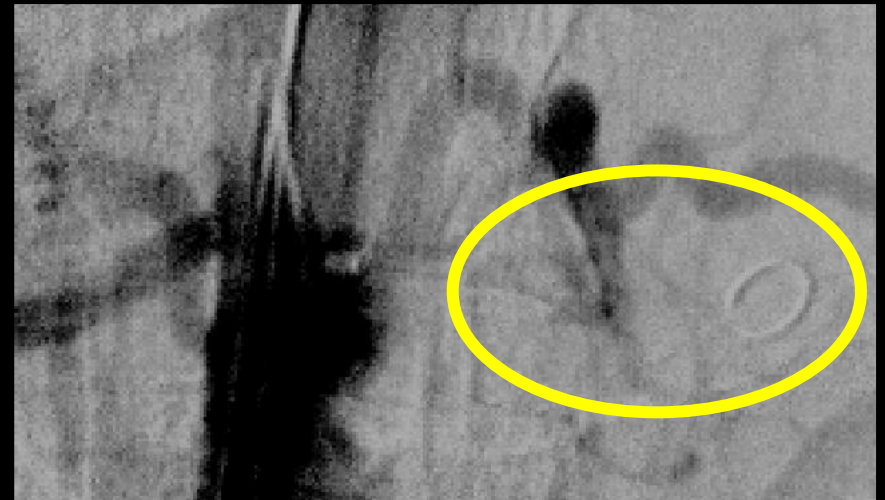
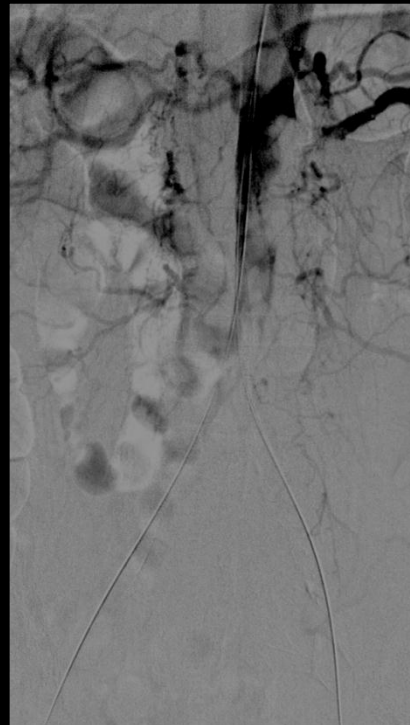
➤ Suboptimal prox angioplasty to reduce thrombus squeezing





Protective measures: filters

- Thrombus displacement





Protective measures: filters

- Thrombus displacement

(Left renal stenting, femoral embolectomy)





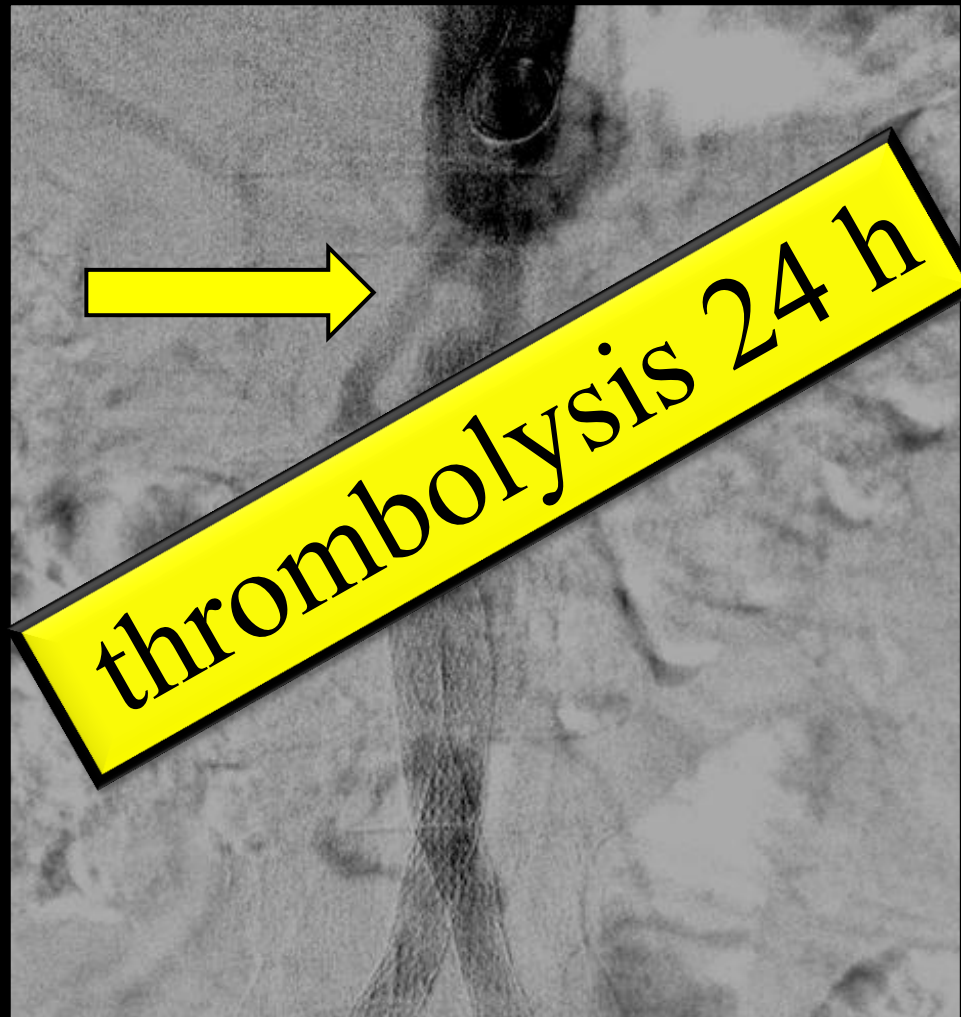
Key points

Renal artery patency

- Aortic stents up to the renal
- Aortic stent above the renal (open cells)
- Chimney technique
- Renal stenting (rescue)

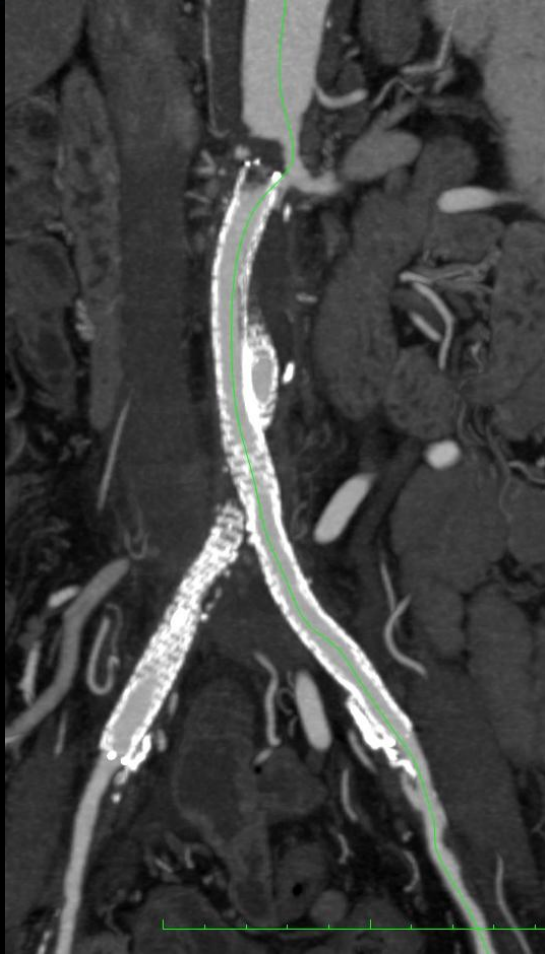


Up to the renal when feasible





Stents above renal arteries



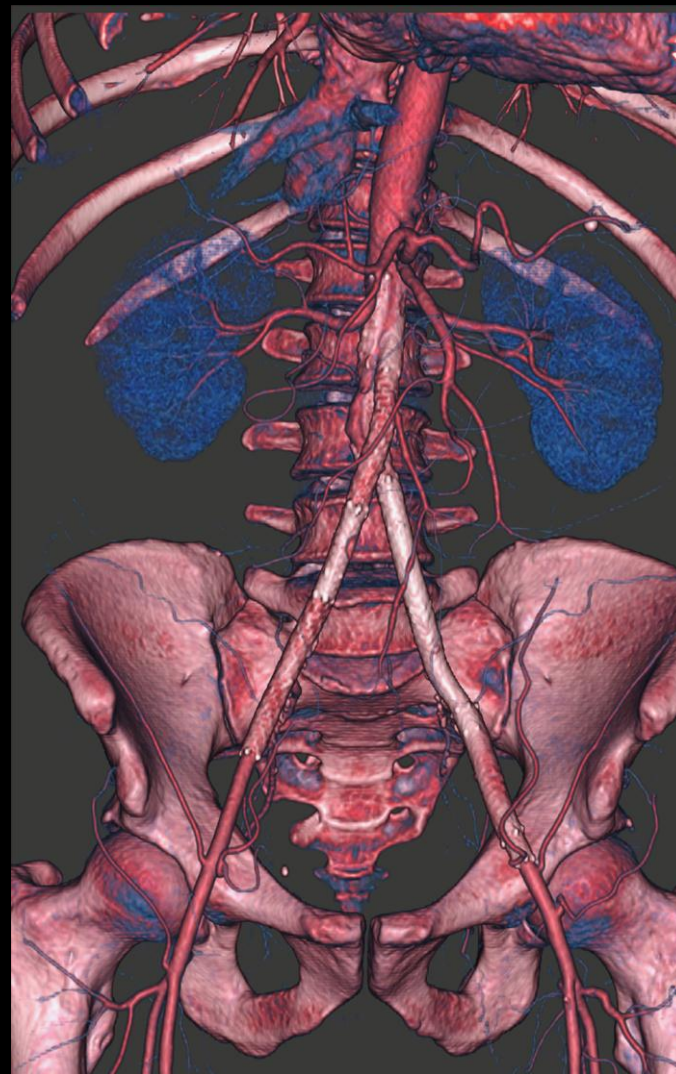
CT post
Thrombolysis



Aortic bare stents above the renals



1 mth



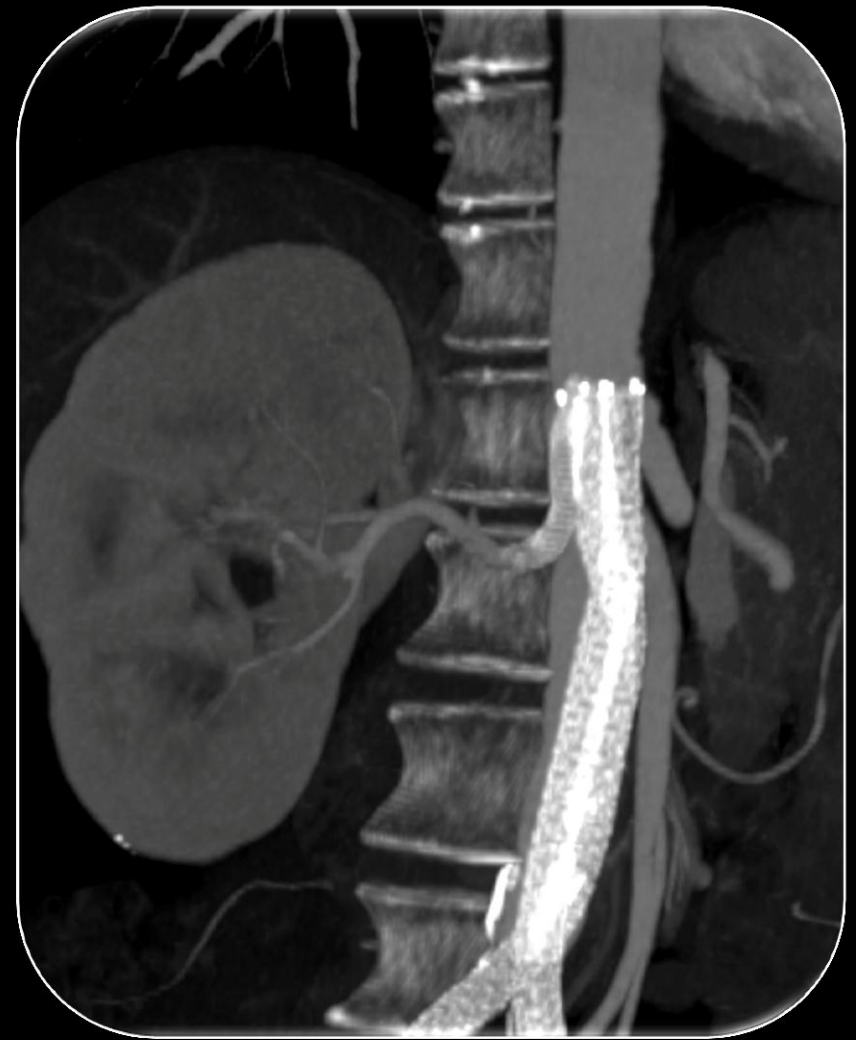
24 mths



Chimney technique # 1



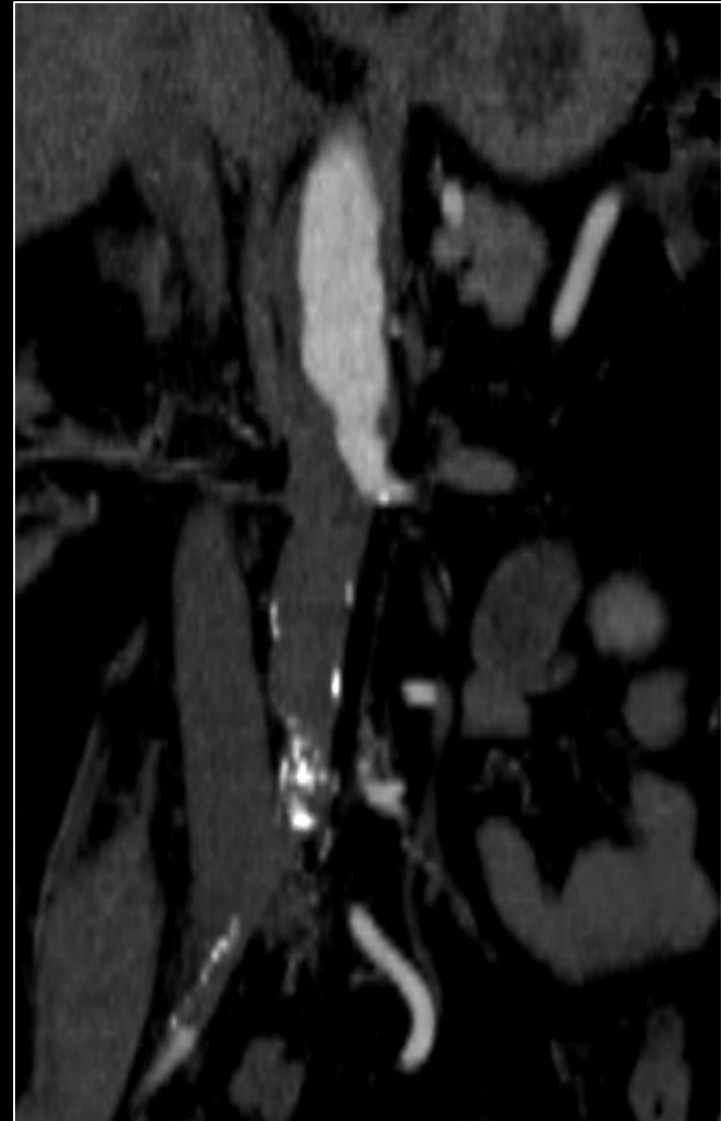
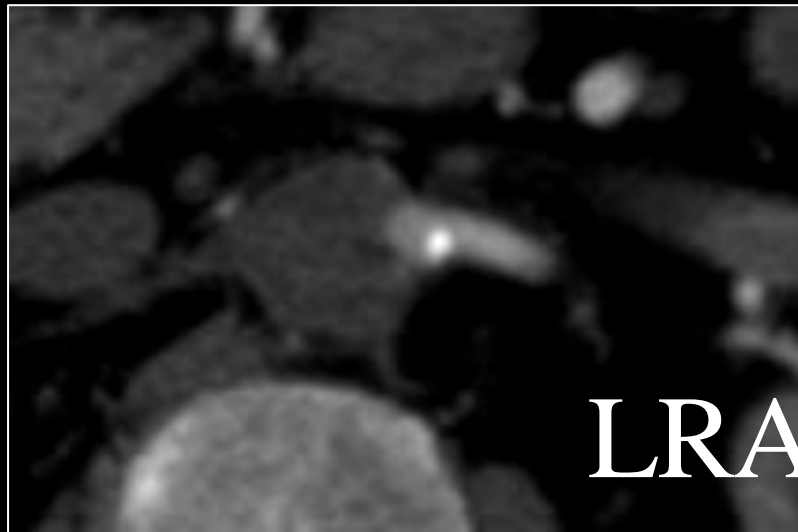
preop



4 mths

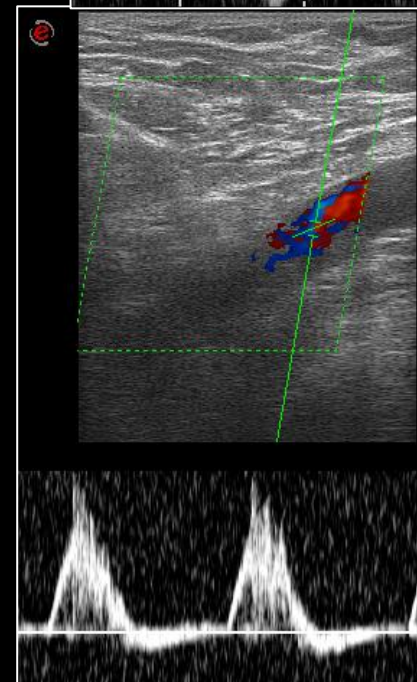
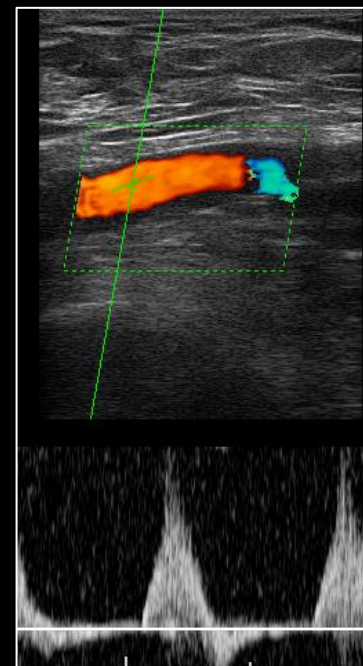
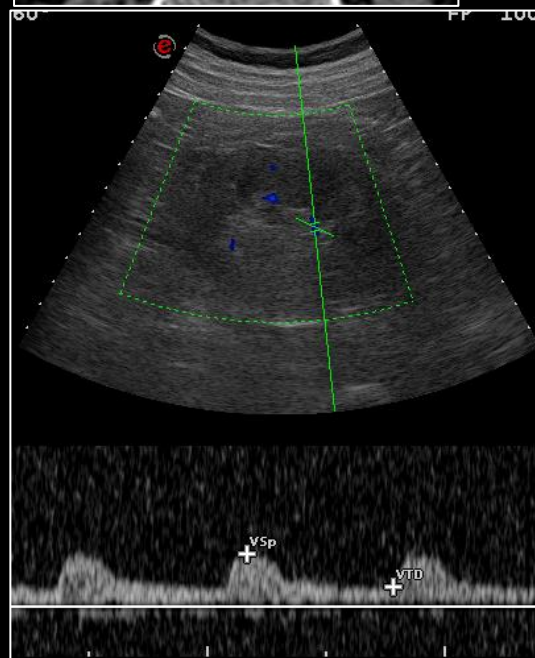
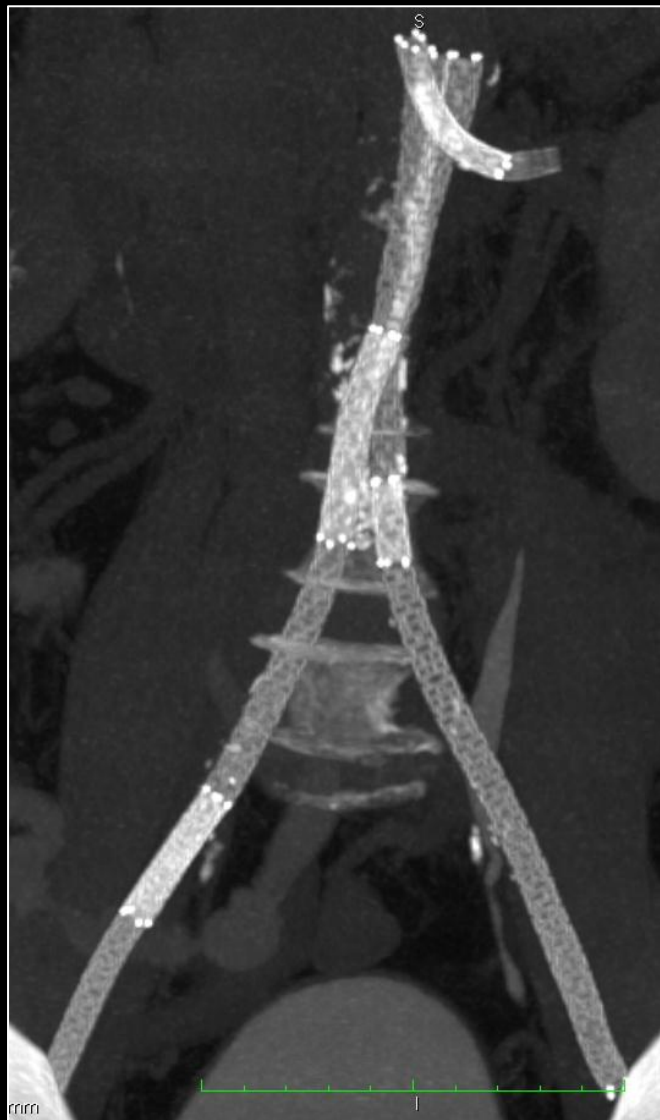


Chimney technique # 2



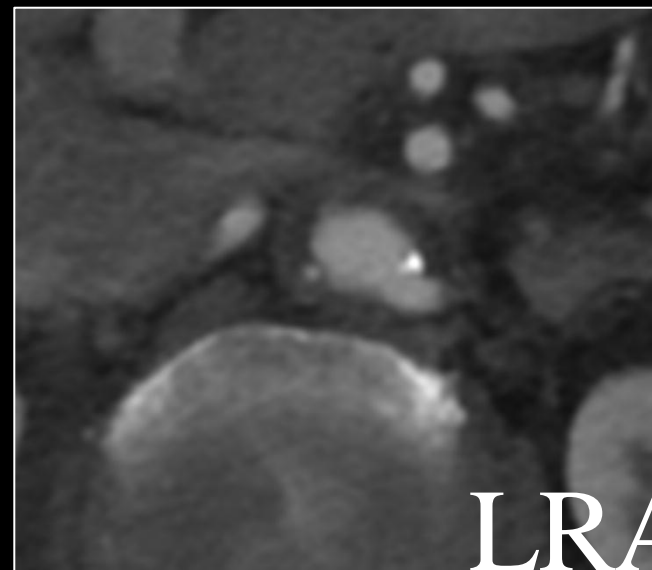
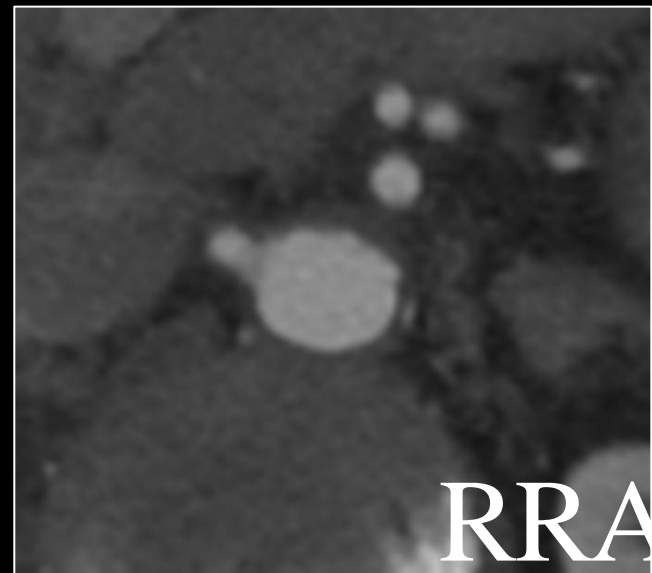


Chimney technique



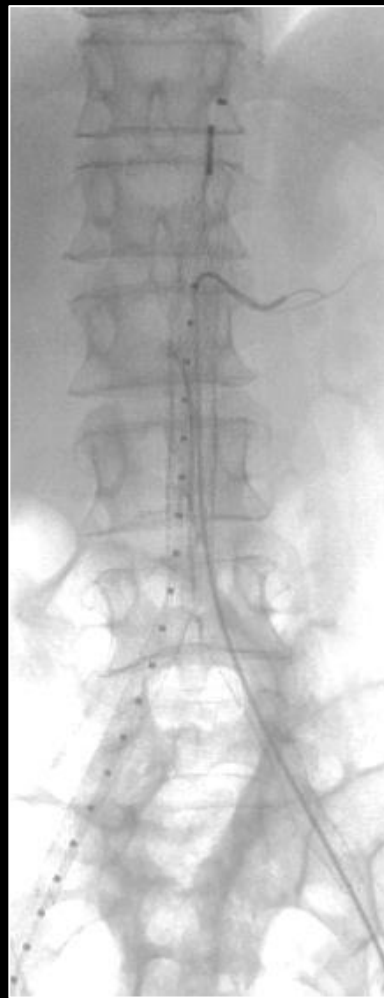
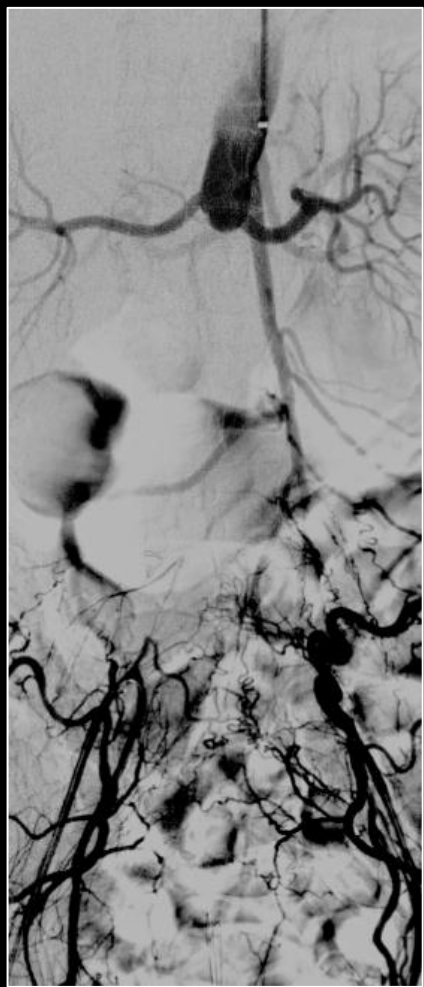


Stenting (rescue)



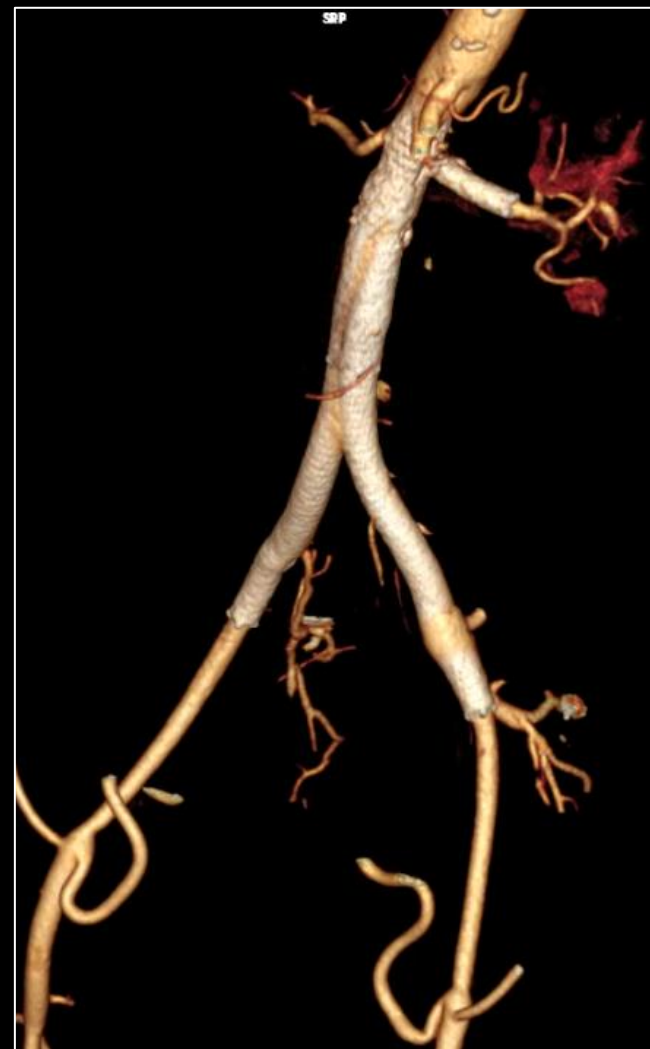
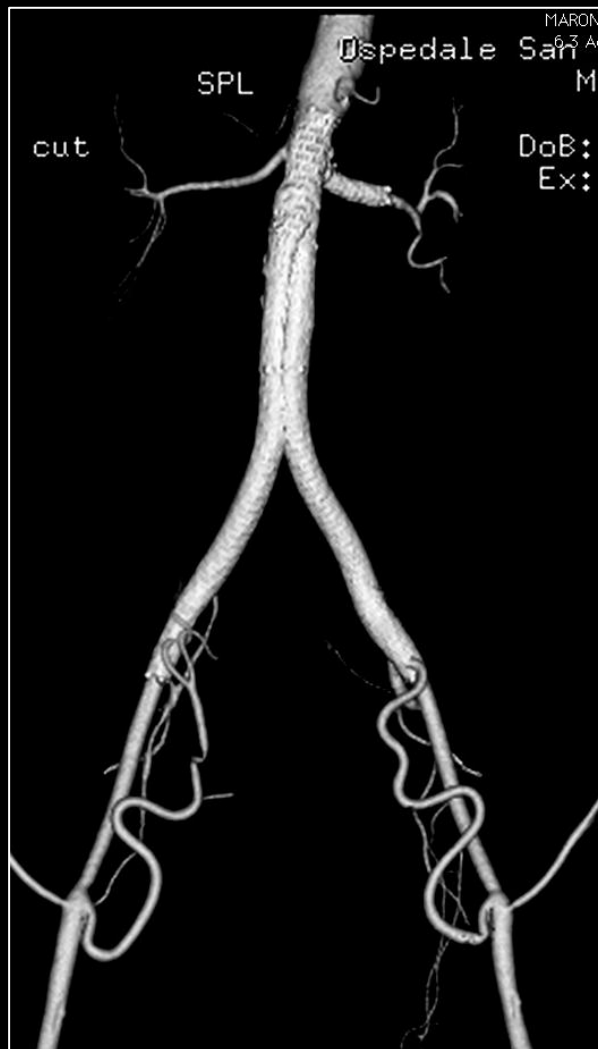


Stenting (rescue)





Stenting (rescue)





RENAL ARTERY PATENCY

7/13

**AORTIC STENT
ABOVE RENALS**

- EV 3 - Protegè

CHIMNEY

- 2 viabhan
- 1 viabhan + EV3

RESCUE

- 2 Zilver (FENESTR)

2



Protection for SMA and CT?

- Splenic infarction





13 cases (high risk pts)

IMMEDIATE RESULTS

- | | |
|---------------------------------|----|
| ▪ Distal pulses ($ABI > 0,9$) | 11 |
| ▪ ABI increase ($> 0,4$) | 2 |



13 cases (high risk pts) IMMEDIATE RESULTS

- Death
- Renal embolism
- Renal+Dist⁺ 1
- Splc 1
- Splc (puncture) 1
- ARF (temporary dialysis) 1

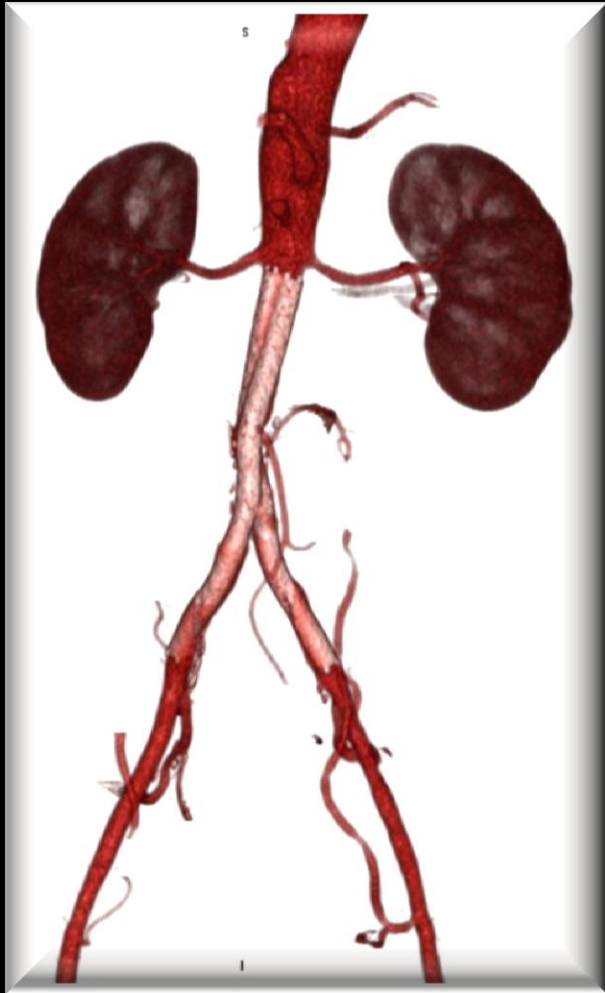
No sequelae!!!





13 cases (high risk pts)

follow-up 18 mths (6-30 mths)



- Death (6 mths) 1 (IMA)
- Prim patency 91,7%
- Sec patency 100%
- Ren art patency 100%
- **CAD – PTCA 1**
- **CEA 1**



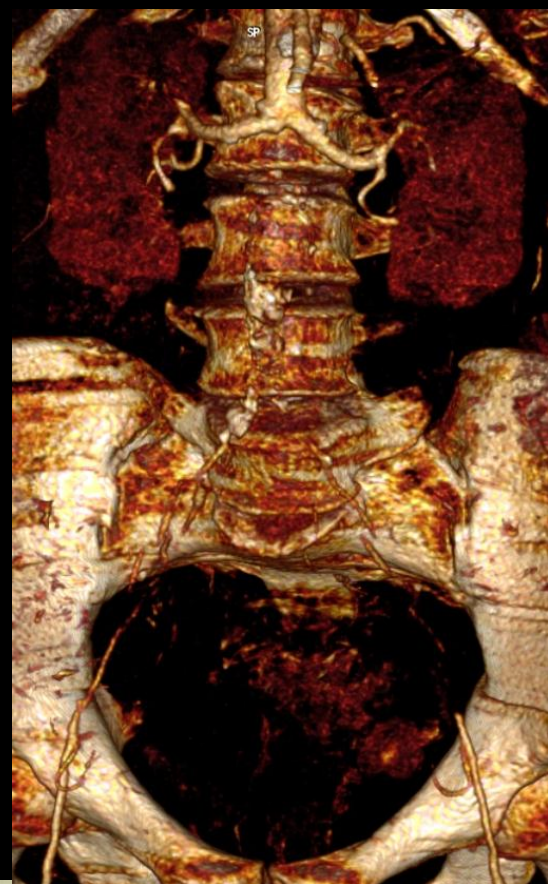
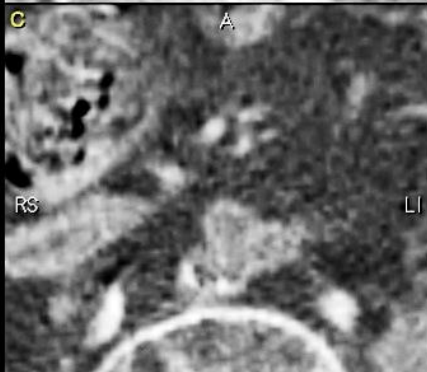
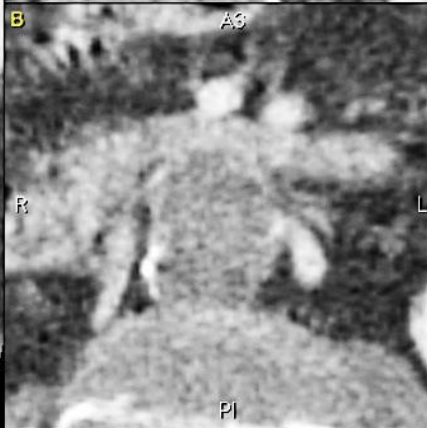
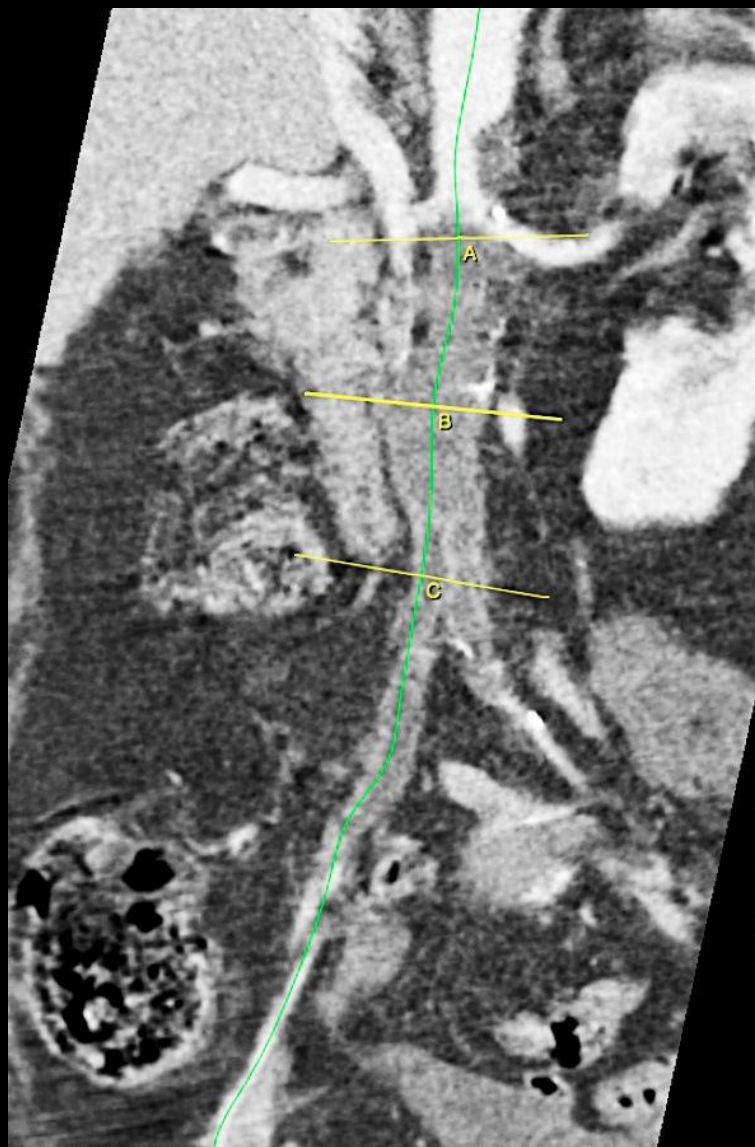
Leriche syndrome

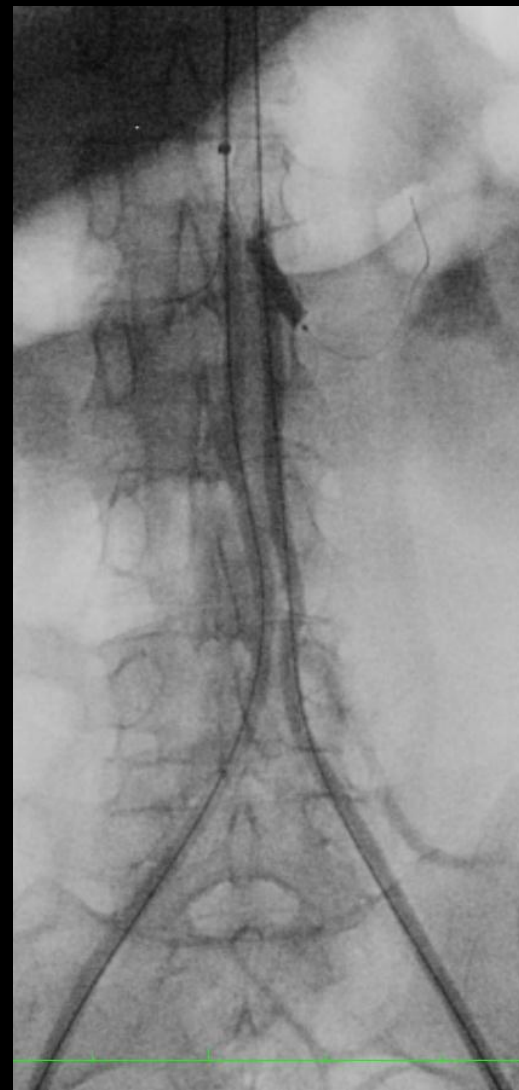
- Recanalization should always be possible
- Protective measures... always!!!
- > 50% adjunct for patency → renal art

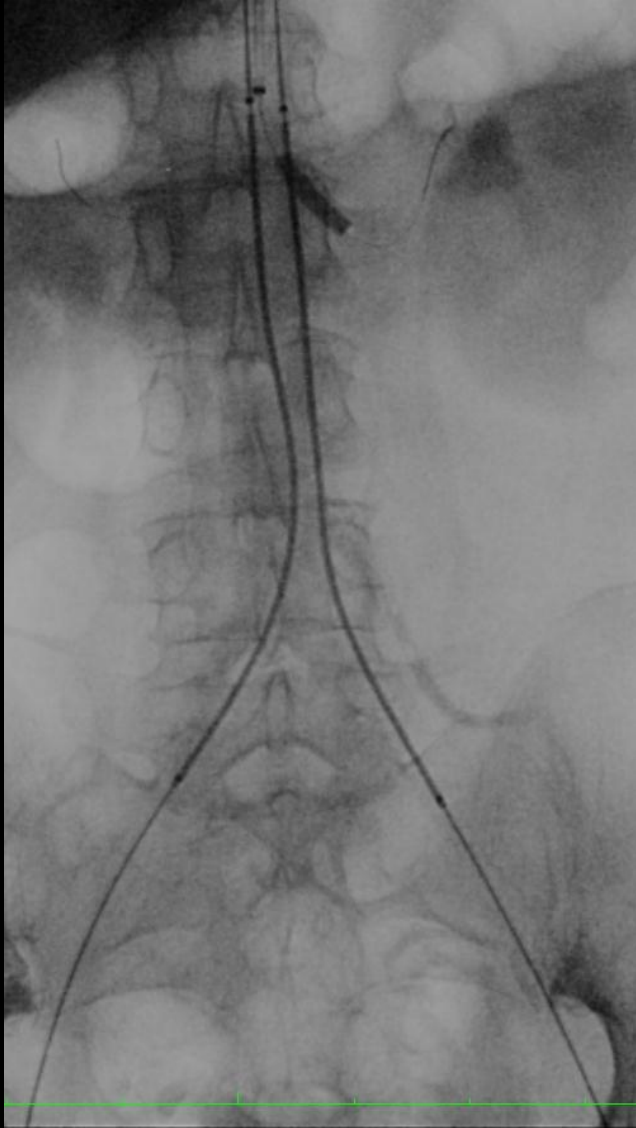




.. An option for acute cases









GOOD - MID TERM RESULTS

