Tips & tricks

Internal iliac branch device

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Conflicts of interest

Disclosure

Speaker name: Fabio Verzini

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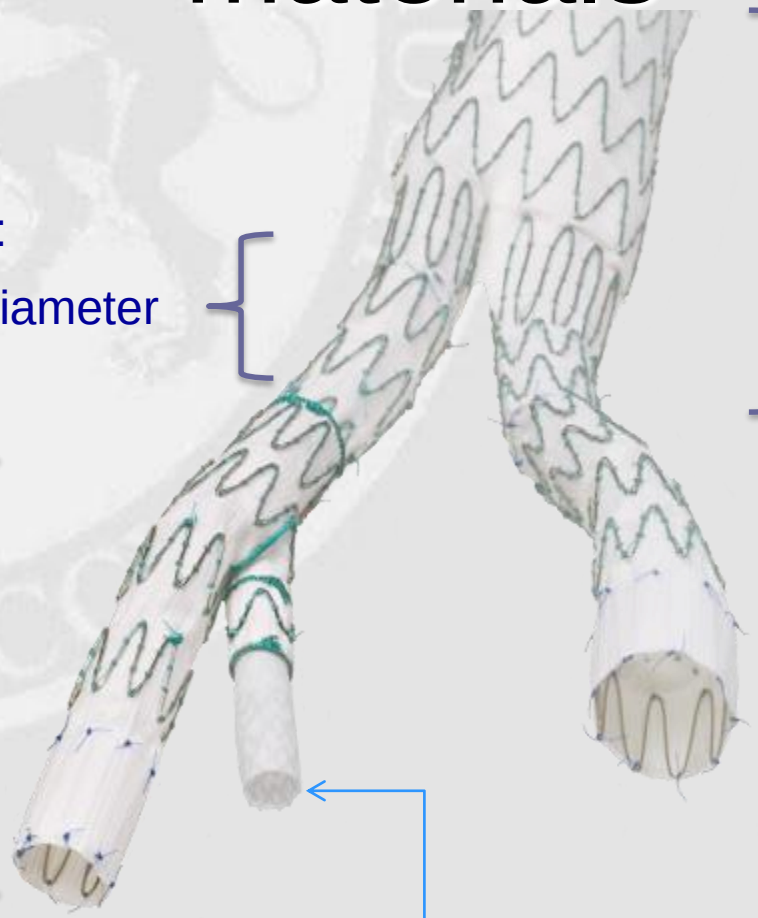
❑I have the following potential conflicts of interest to report:

X

- ❑ Receipt of grants/research support
- ❑ Receipt of honoraria and travel support

From: Abbott, Cook, Gore, Medtronic

Standardised Procedure & materials



Zenith AAA Endovascular Stent Graft

Bridging Stent:

Spiral-Z Leg 16 mm diameter

Zenith Branch Iliac Device

Covered Stent

Surgical versus endovascular repair by iliac branch device of aneurysms involving the iliac bifurcation

Konstantinos P. Donas, MD, PhD,[a] Giovanni Torsello, MD, PhD,[a] Georgios A. Pitoulias, MD, PhD,[b] Martin Austermann, MD, PhD,[a] and Dimitrios K. Papadimitriou, MD, PhD,[b] *Münster, Germany; and Thessaloniki, Greece*

(J Vasc Surg 2011;53:1223-9.)

"Endovascular repair by iliac branch device of aneurysms involving the iliac bifurcation can be accomplished with very low morbidity and mortality rates"

	Open (n = 54)	*Endovascular (n = 64)*	P
30-day severe morbidity (n; %)	5; 9.3%	3; 4.6%	**<.001**
30-day mortality (n; %)	3; 5.5%	0; 0%	**<.001**
30-day vascular complications (n; %)	1; 2%	2; 3.1%	.698
30-day non-vascular complications (n; %)	9; 16.7%	3; 6.3%	**.025**
Intensive care unit stay (mean ± SD in days)	2.5 ± 1.2	1.2 ± 0.4	NP
Postoperative stay (mean ± SD in days)	9.7 ± 4.1	4.1 ± 1.5	**<.001**
Operative blood loss (mean ± SD in mL)	669 ± 460	89 ± 30	**<.001**
Transfusion (mean ± SD in units of packed red cells)[a]	1.6 ± 2.0	—[a]	NP[b]
Operative duration (mean ± SD in min)	197 ± 23	89 ± 24	.234
Related death during follow-up[c]	1; 2%[d]	–	NP[b]
Primary endoleak (n; %)	—	8; 12.5%	NP[b]
Primary patency (n; %)	51; 100%[d]	63; 98.4%	.358
Buttock claudication (n; %)	3; 5.9%[d]	2; 3.1%	.473
Colonic ischemia (n; %)	1; 2%[d]	0; 0%	.263
Postoperative hernia	16; 31.4%[d]	—	NP[b]

Endovascular treatment of iliac aneurysm: Concurrent comparison of side branch endograft versus hypogastric exclusion

Fabio Verzini, MD, Gianbattista Parlani, MD, Lydia Romano, MD, Paola De Rango, MD, Giuseppe Panuccio, MD, and Piergiorgio Cao, MD, FRCS, *Perugia, Italy*

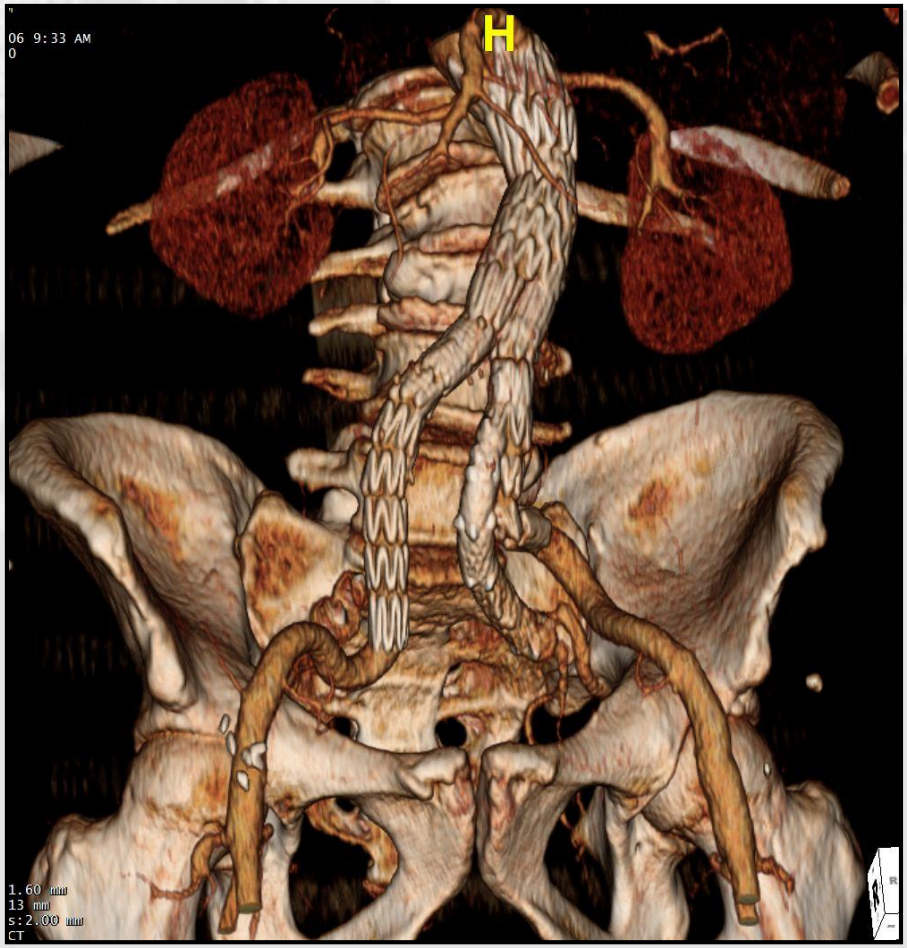


Table IV. One-year results

	Group I = 23		*Group II = 37*		
Patients	*N*	*%*	*N*	*%*	P
Unrelated mortality	1	4	3	7	1
Reinterventions	0	–	2	5	.1
Iliac endoleak	1	4	7	19	.1
Pelvic ischemia*	1	4	8	22	.1
Iliac diameter decrease	7	30	13	35	.8
Iliac limb occlusion	0	–	1	3	1

Long-term Results of Iliac Aneurysm Repair with Iliac Branched Endograft: A 5-Year Experience on 100 Consecutive Cases☆

G. Parlani[a], F. Verzini[a], P. De Rango[a,*], D. Brambilla[a], C. Coscarella[b], C. Ferrer[b], P. Cao[b]

European Journal of Vascular and Endovascular Surgery 43 (2012) 287–292

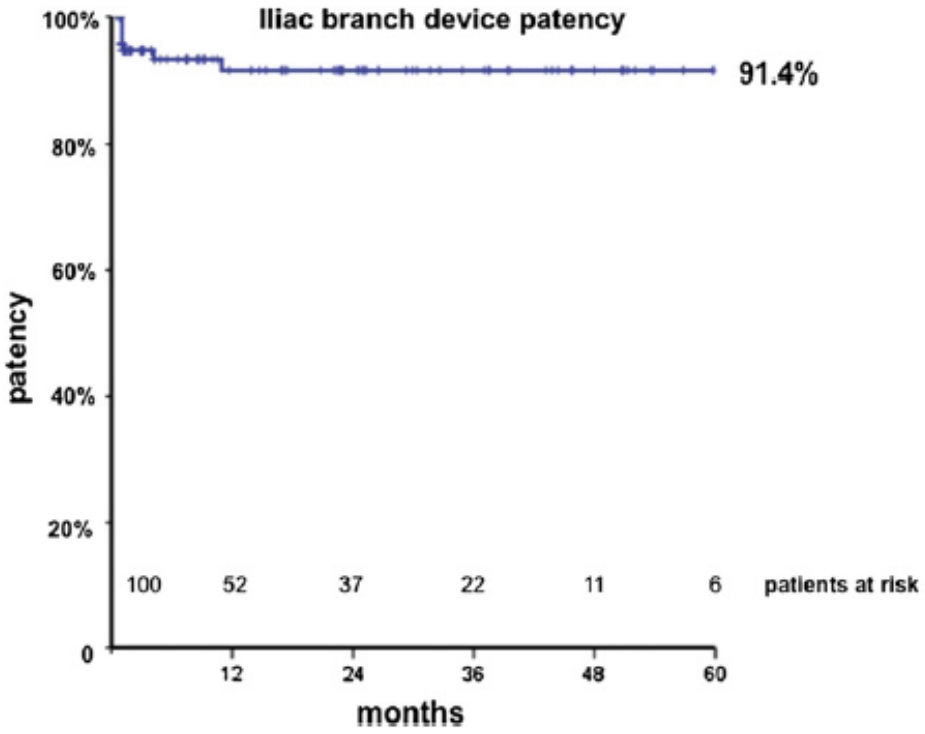


Figure 3. Kaplan–Meier estimates of internal iliac side-branch patency rate.

Long-term Results of Iliac Aneurysm Repair with Iliac Branched Endograft: A 5-Year Experience on 100 Consecutive Cases☆

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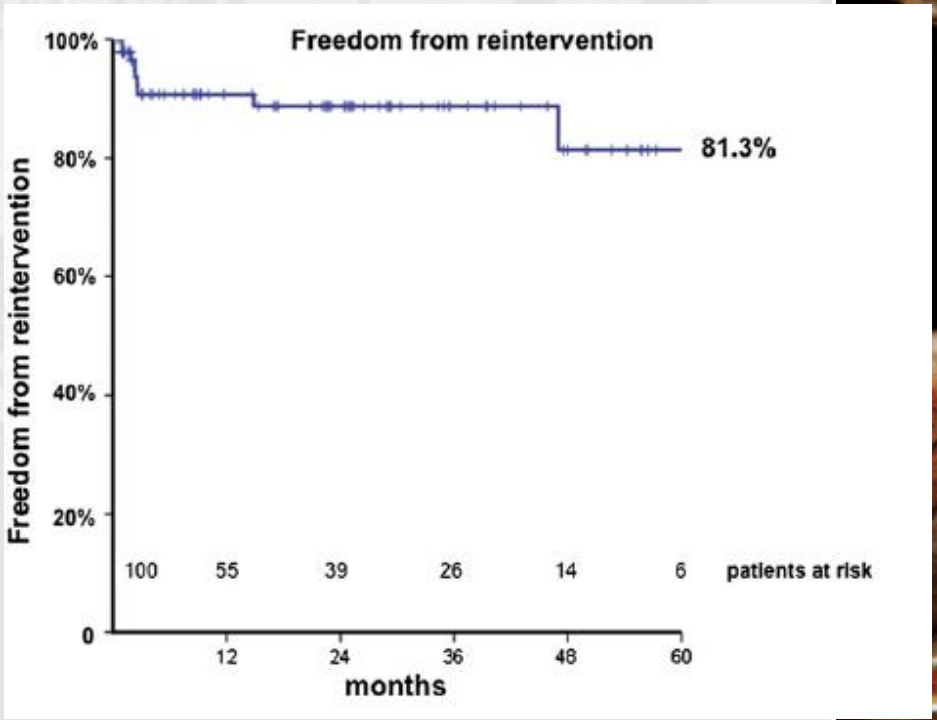
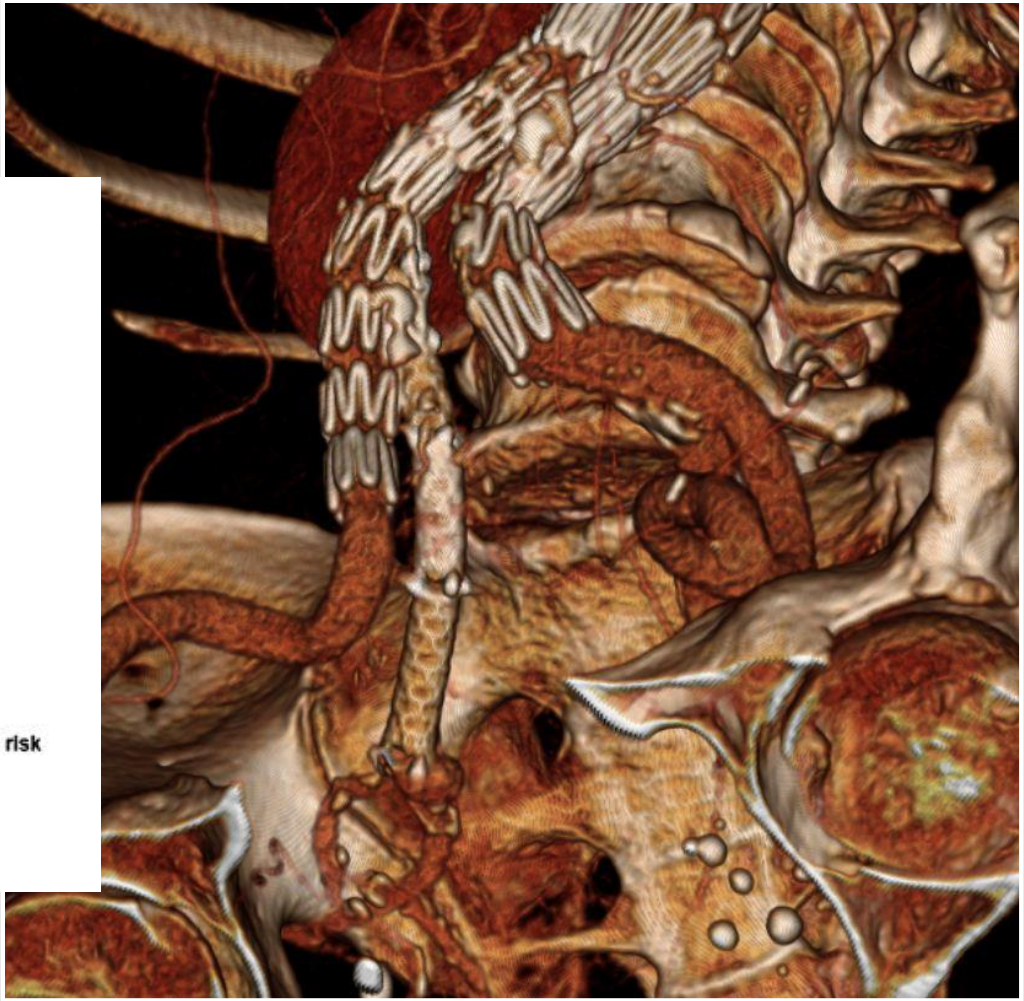




Iliac branch technology works: More than 10,000 IBD used ww

Author	N#	IB success	Early mortality	IB patency
Perugia 2015	136	95.6%	0	91%
Loth 2015	45	87%	0	81%
Noel-Lamy 2015	20	100%	5%	100%
Chowdhury Serracino-Inglott 2015	28	100%	3.7%	94%
Pratesi 2013	85	98.7%	0	98%
Wong, Greenberg 2013	138	94%	0.8%	82%
Karthikesalingam review 2010	196	85-100%		88%

What we have learnt

1. Anatomical Suitability

Early possible complication

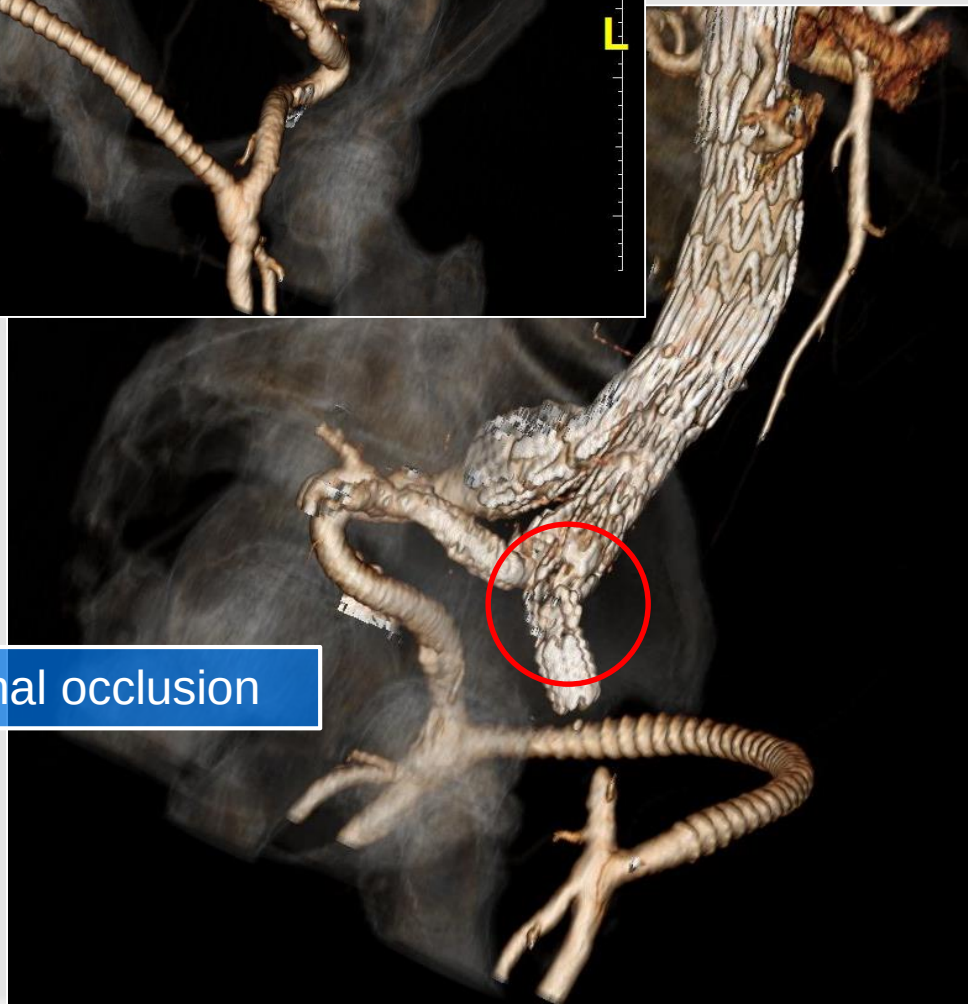
Lesson 1: avoid/treat external iliac kinking

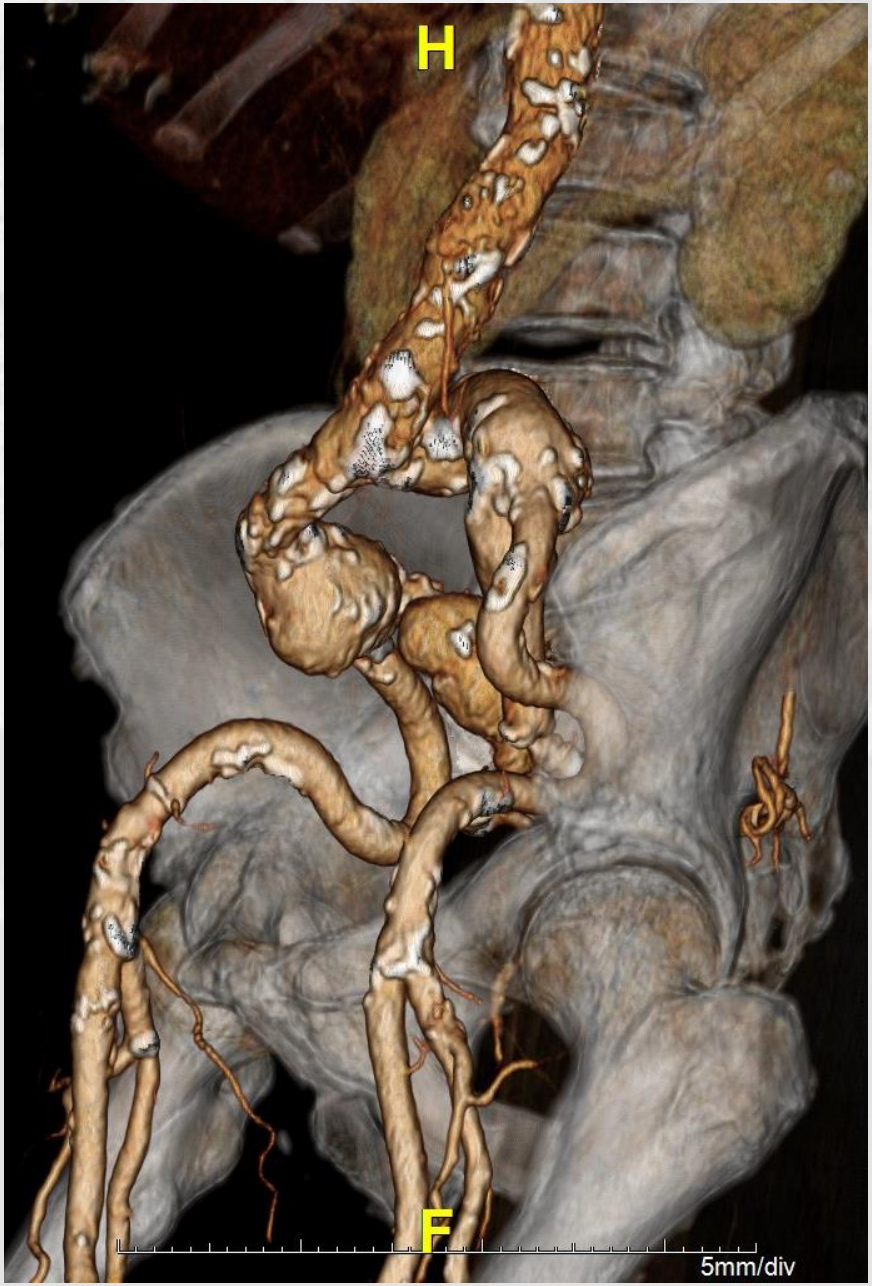
Occlusion

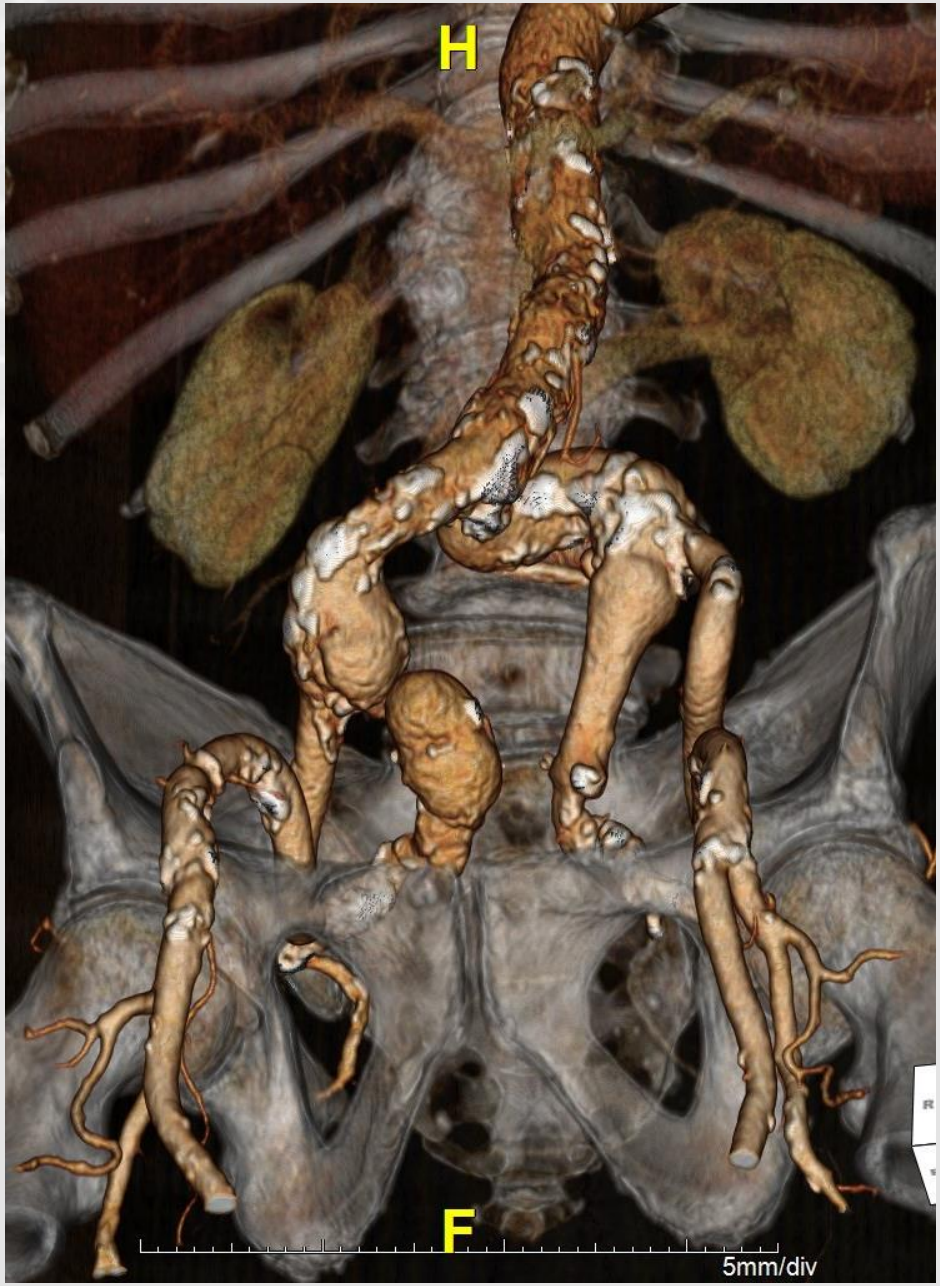
Long term possible complication

Lesson 1: avoid/treat external iliac kinking

External occlusion




H
F
5mm/div


H
F
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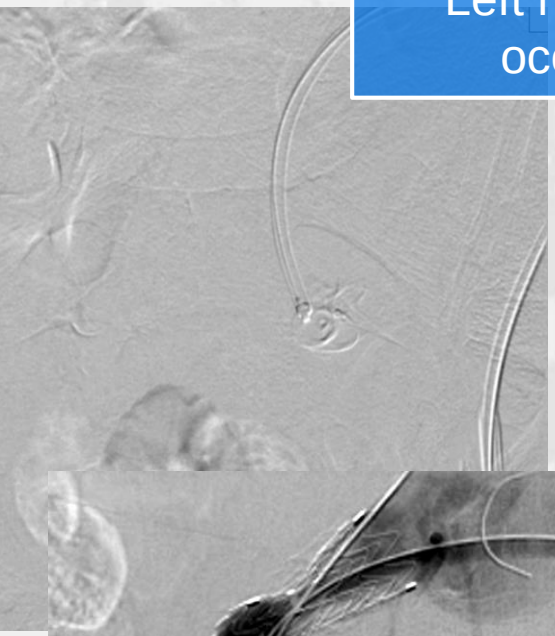
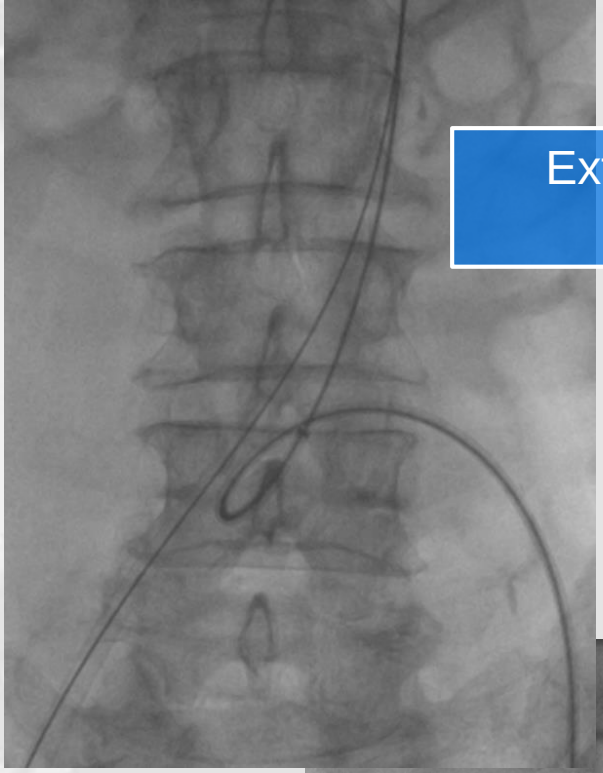
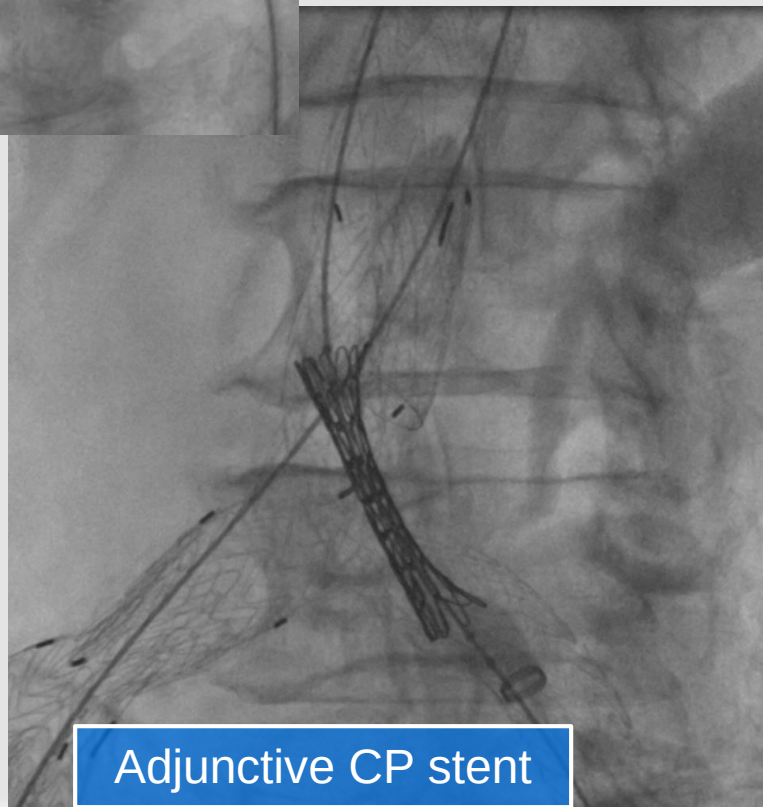
Left hypgastric occlusion



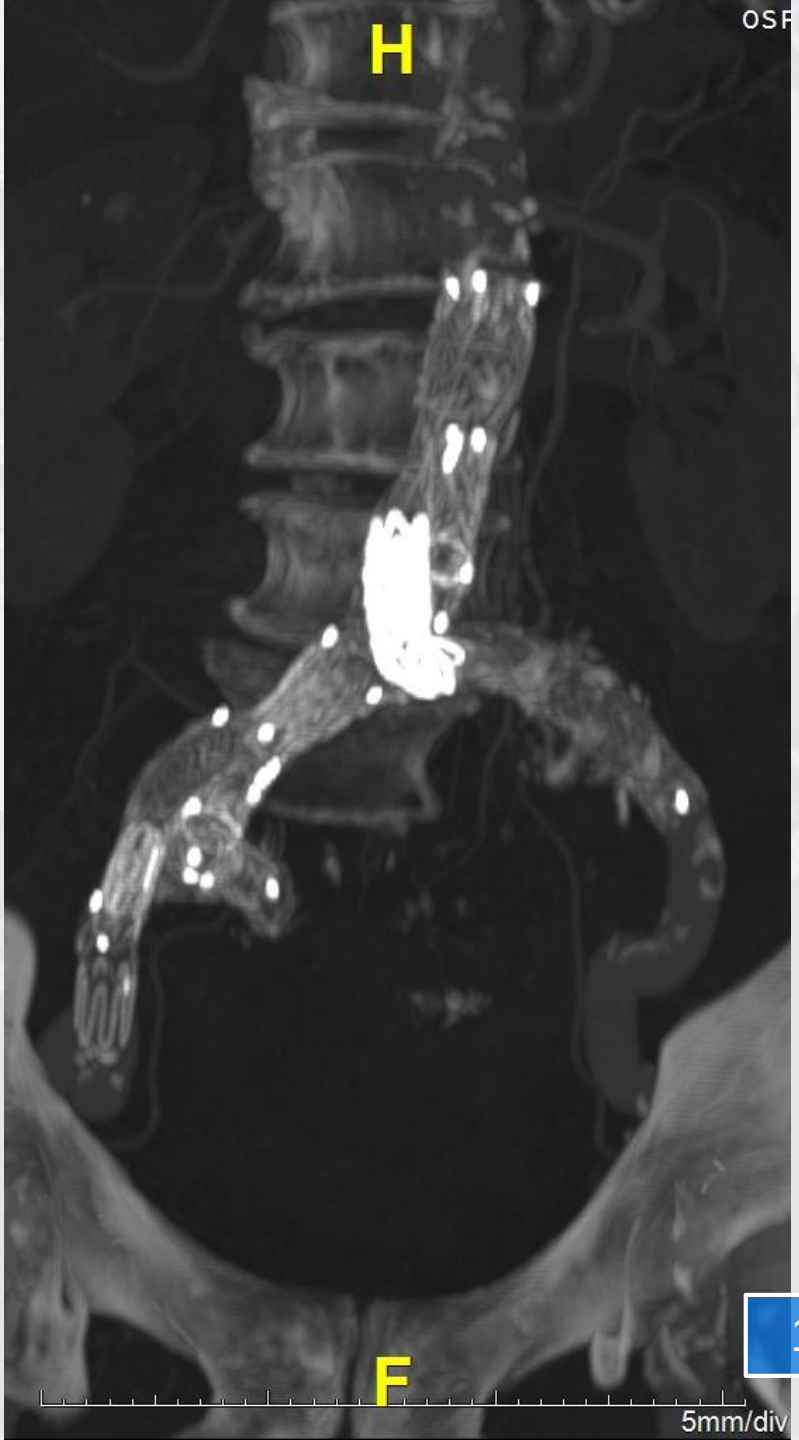
Right side branch

Extreme aortic tortuosity





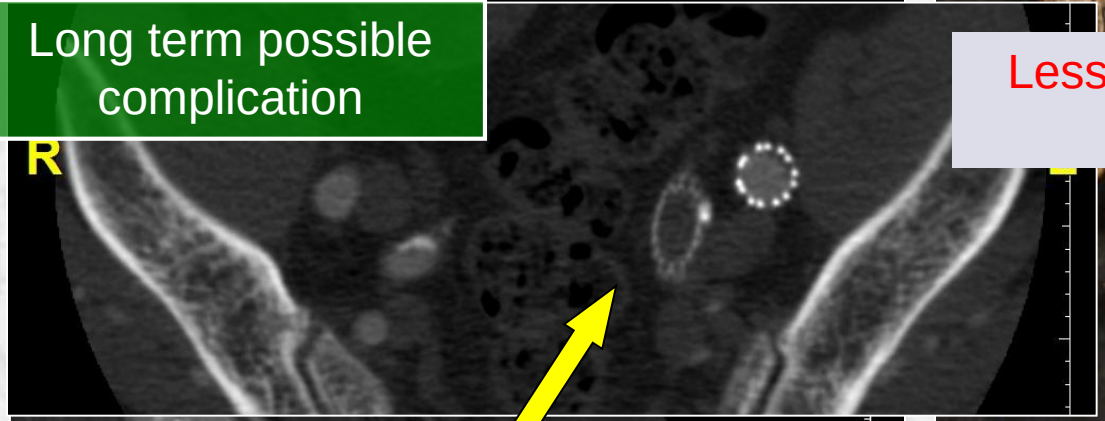
Adjunctive CP stent

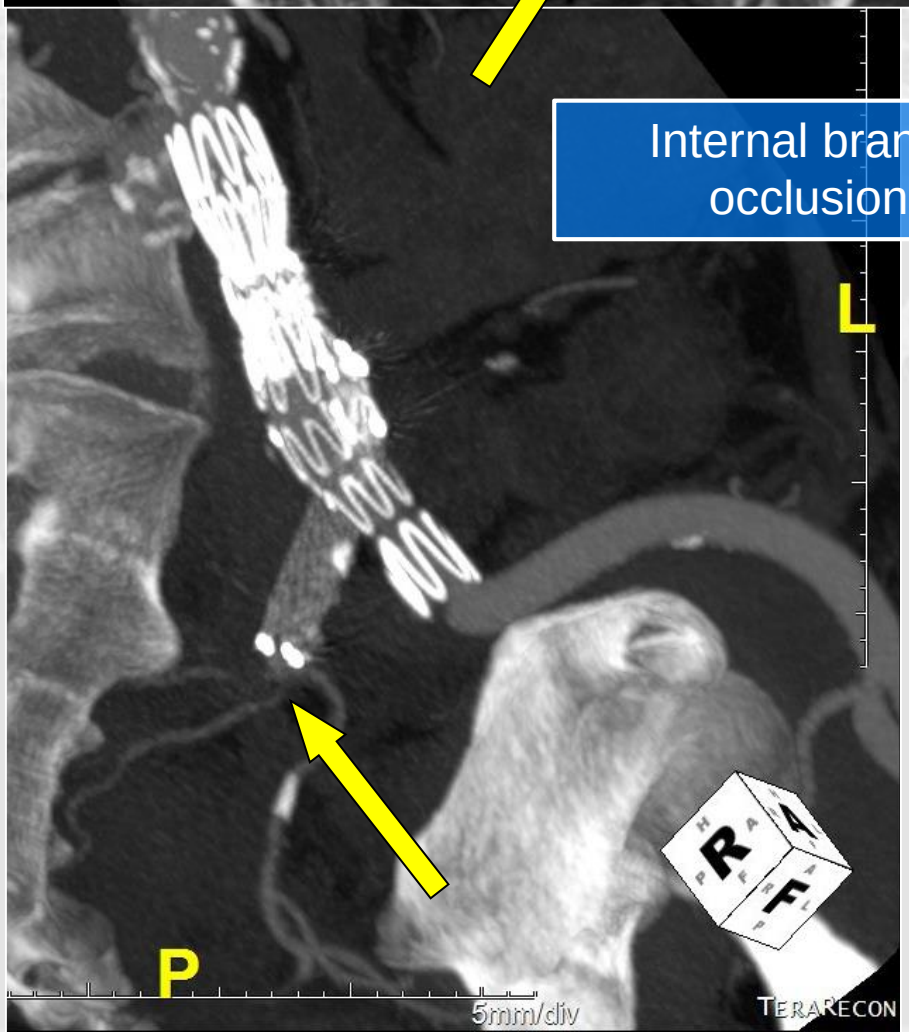


1 month CT control

Long term possible complication

Lesson 2: reinforce kinked hypogastric limbs





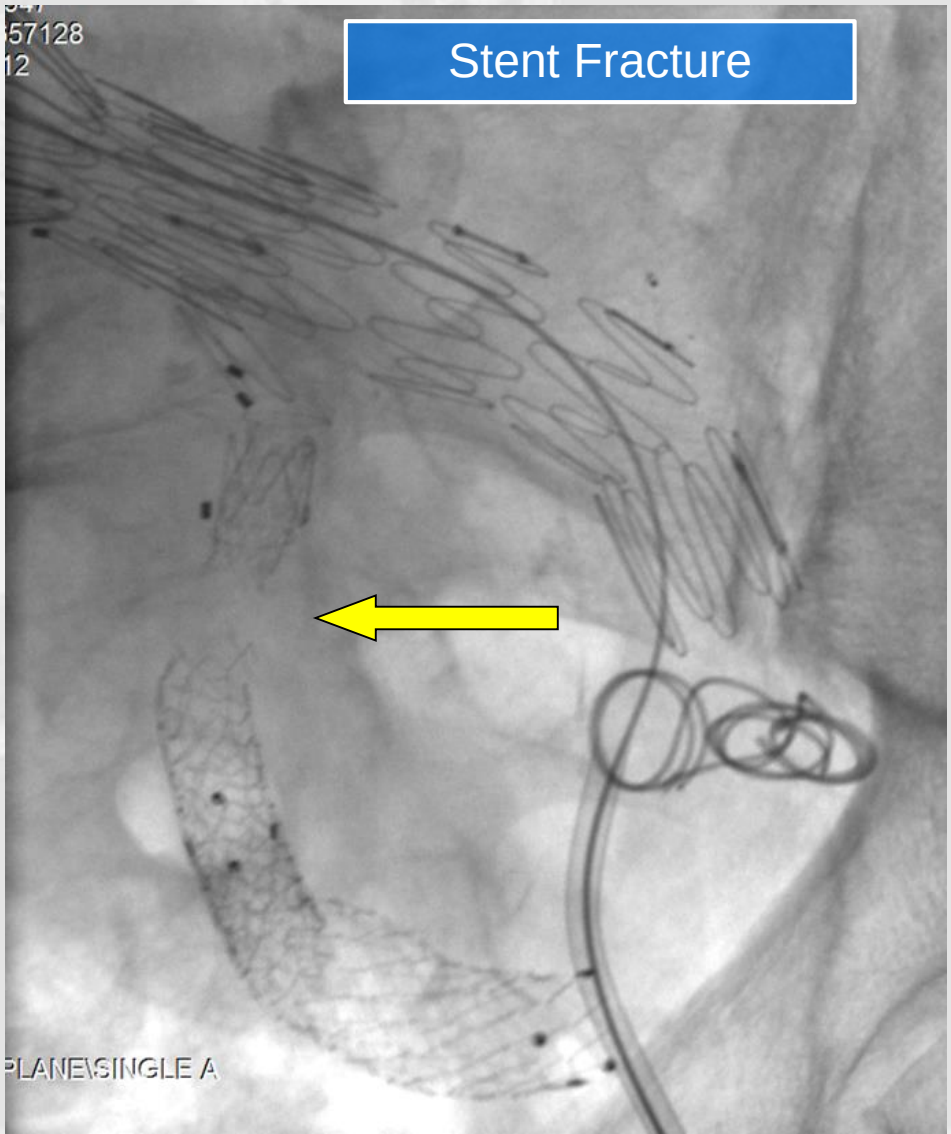
Internal branch occlusion

What we have learnt

1. Anatomical Suitability
2. Hypogastric aneurysm

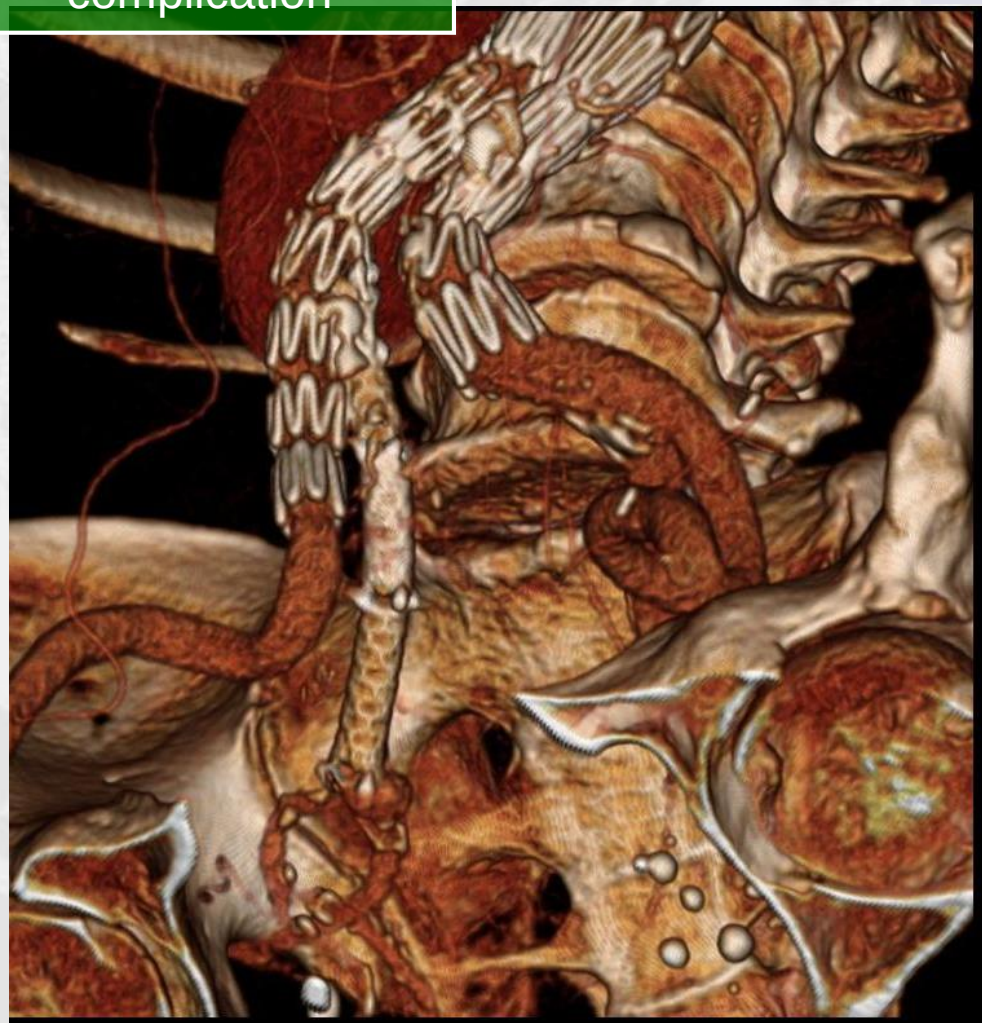
Long term possible complication

Lesson 3: extensive hypogastric aneurysm =predictor of complications



Long term possible complication

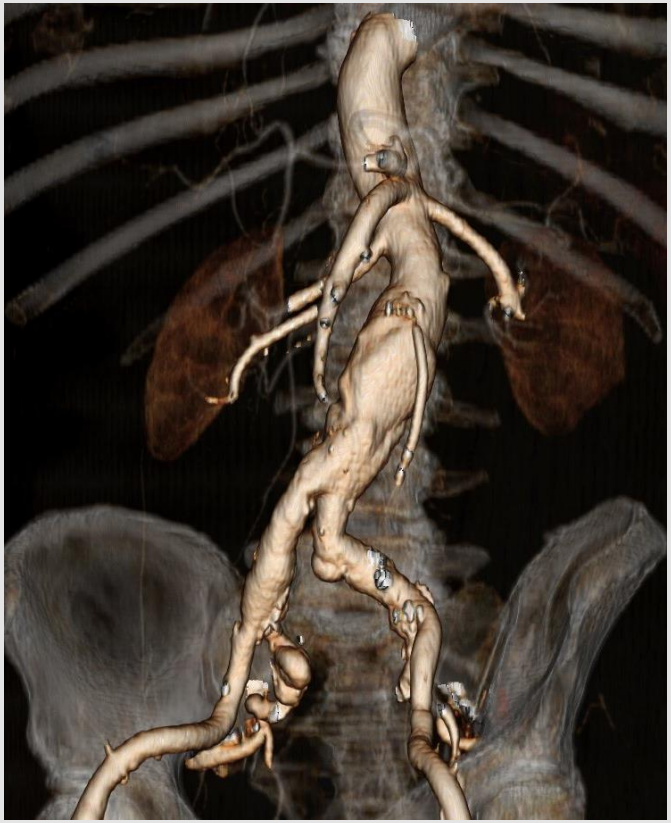
Lesson 4 avoid short distal landing zones



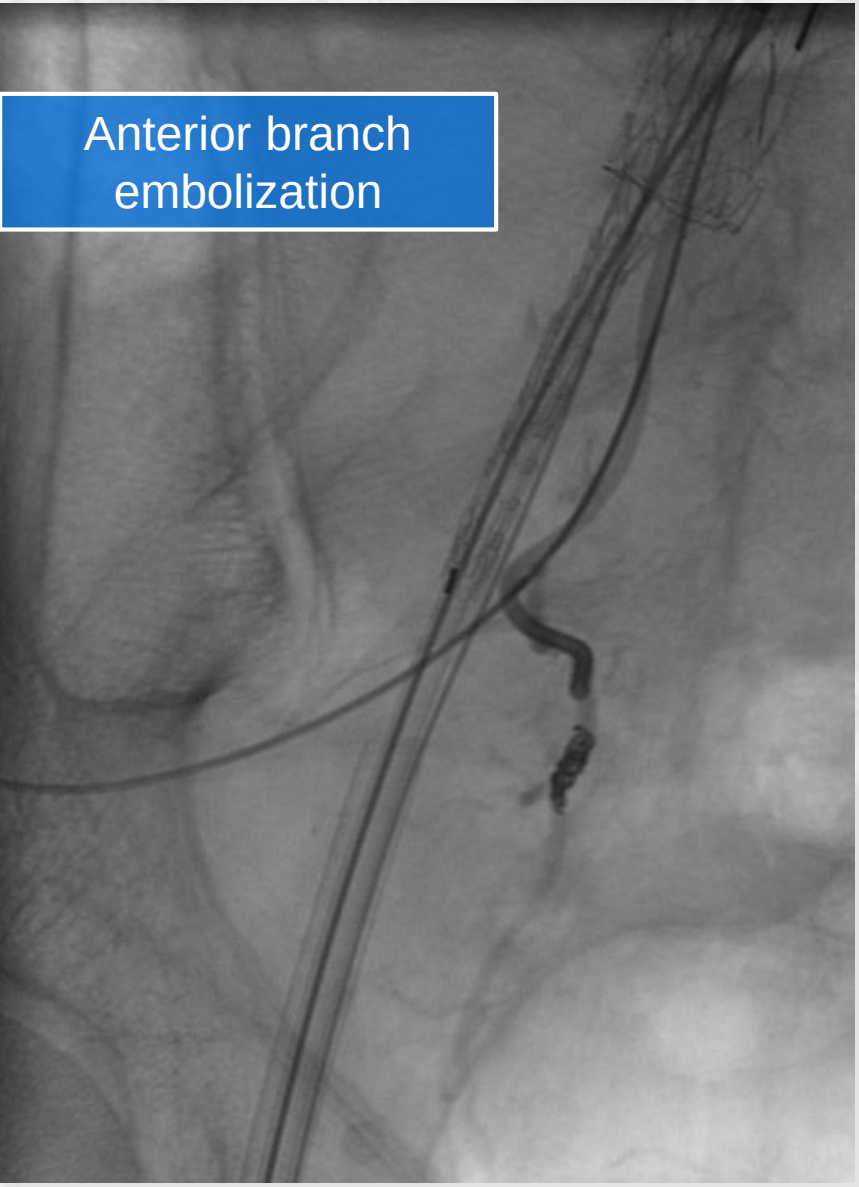
Distal type 1 endoleak

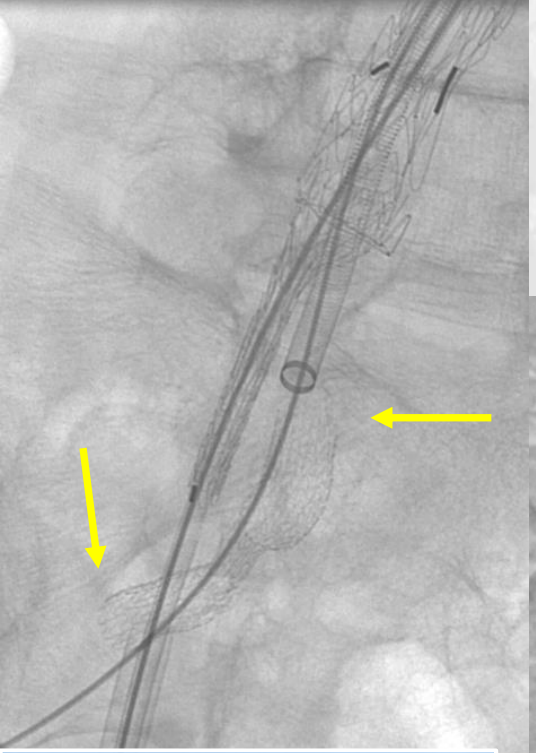
Male, 69 y.o.

AAA 50 mm+ right hypogastric aneurysm 30 mm



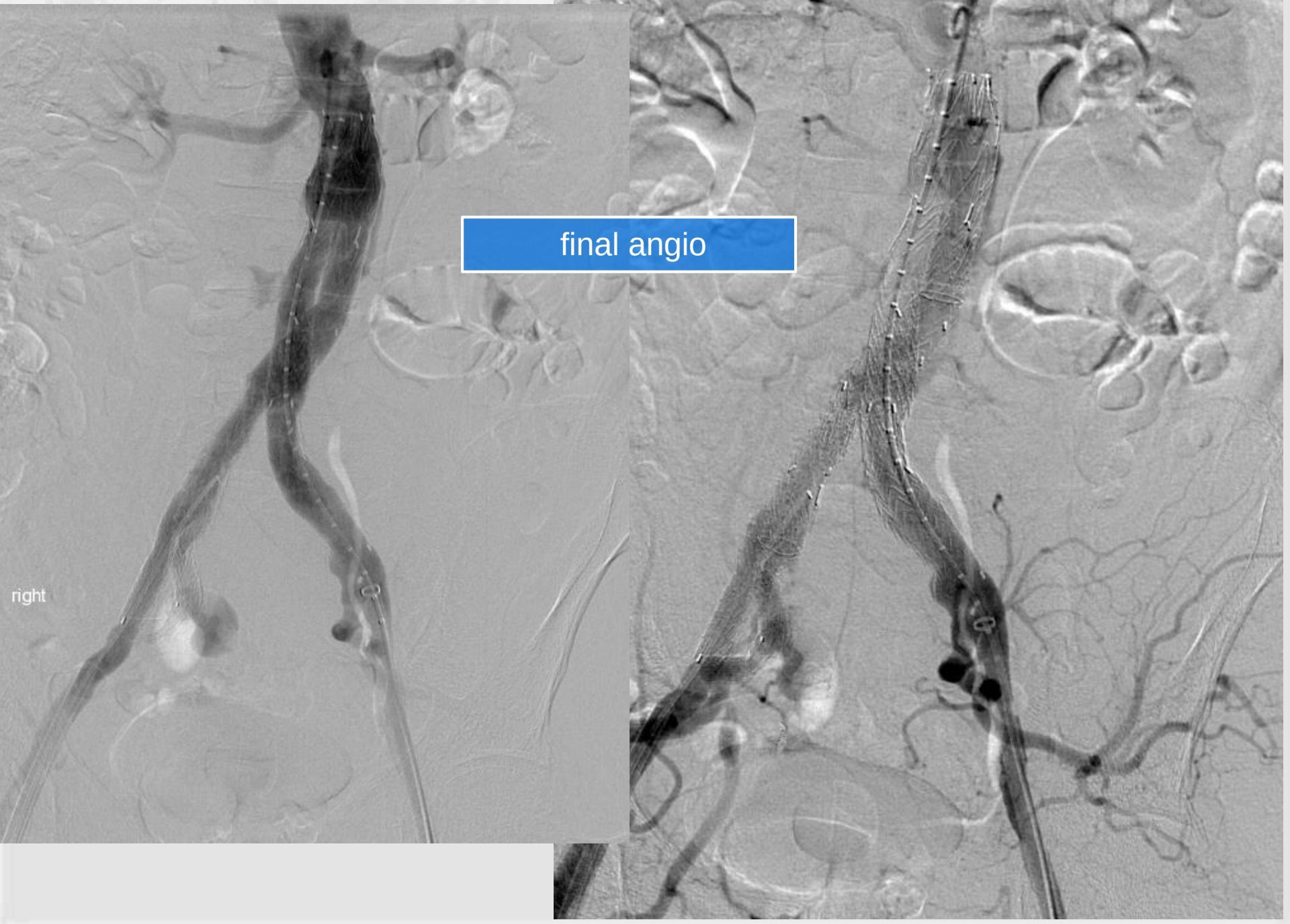
Anterior branch embolization





distal viabahn

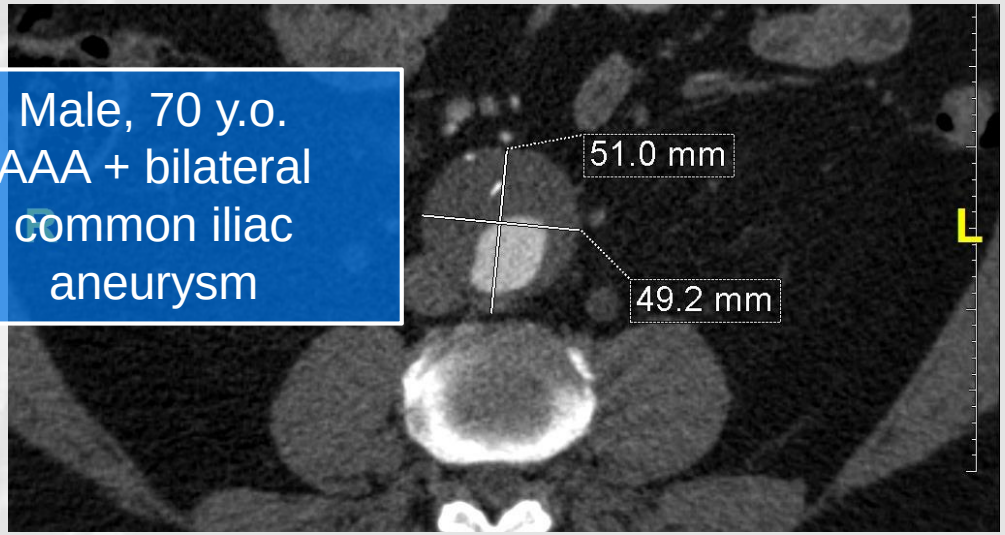
proximal internal iliac component

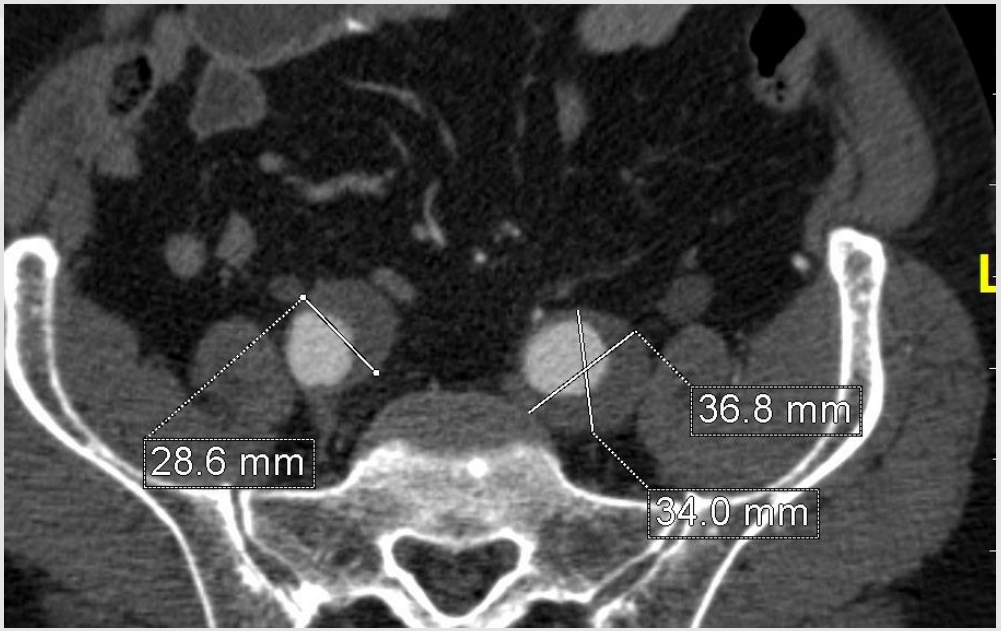

final angio
right

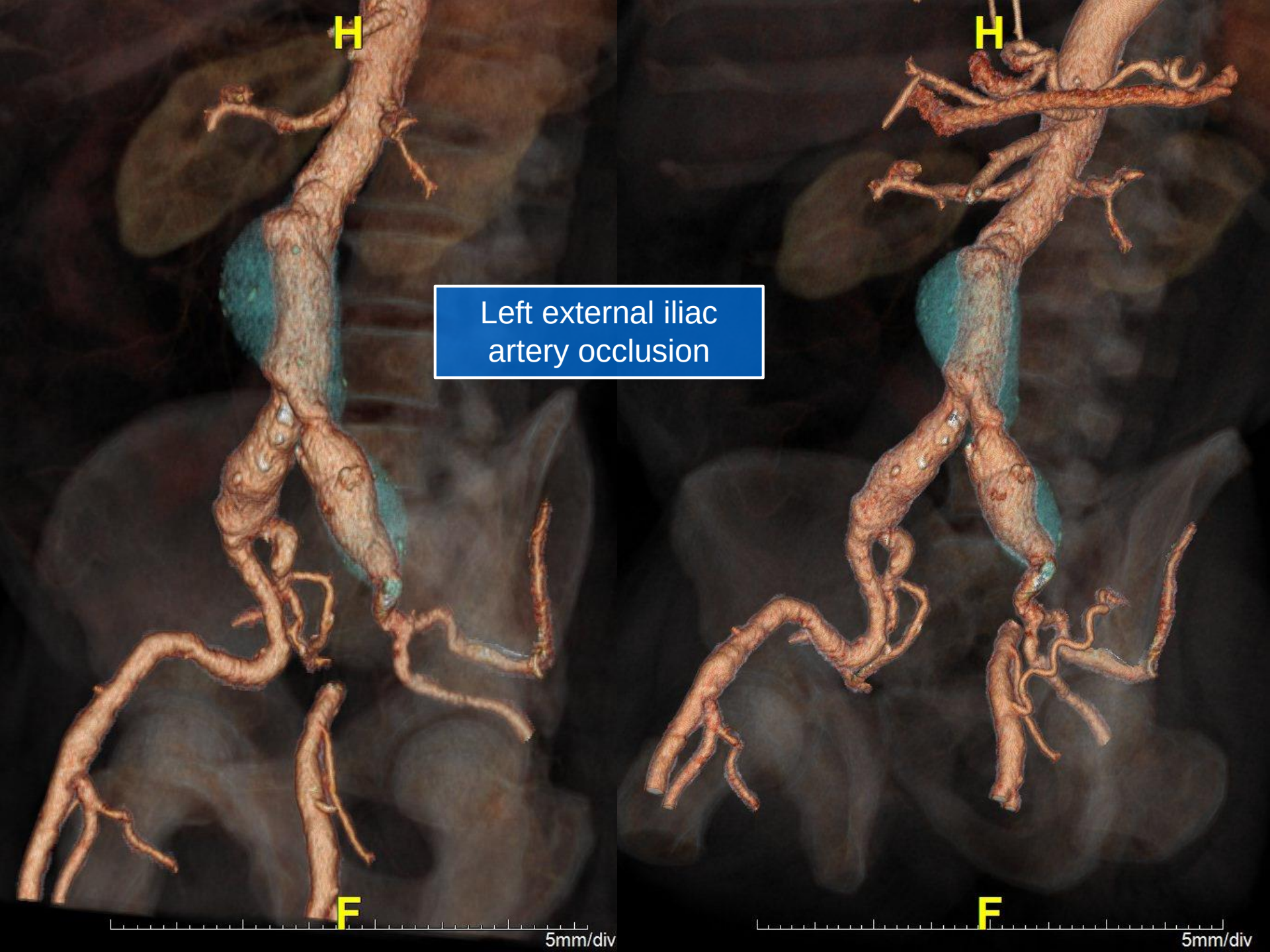
What we have learnt

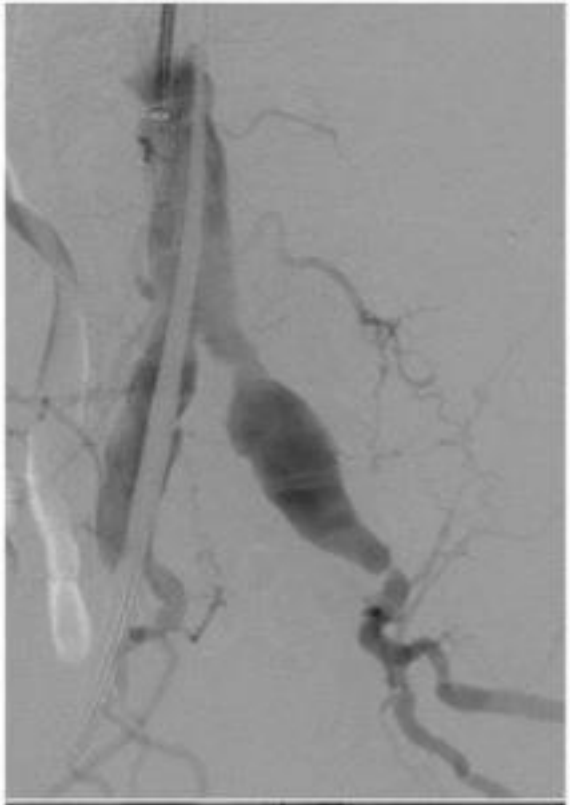
1. Anatomical Suitability
2. Hypogastric aneurysm
3. Brachial access

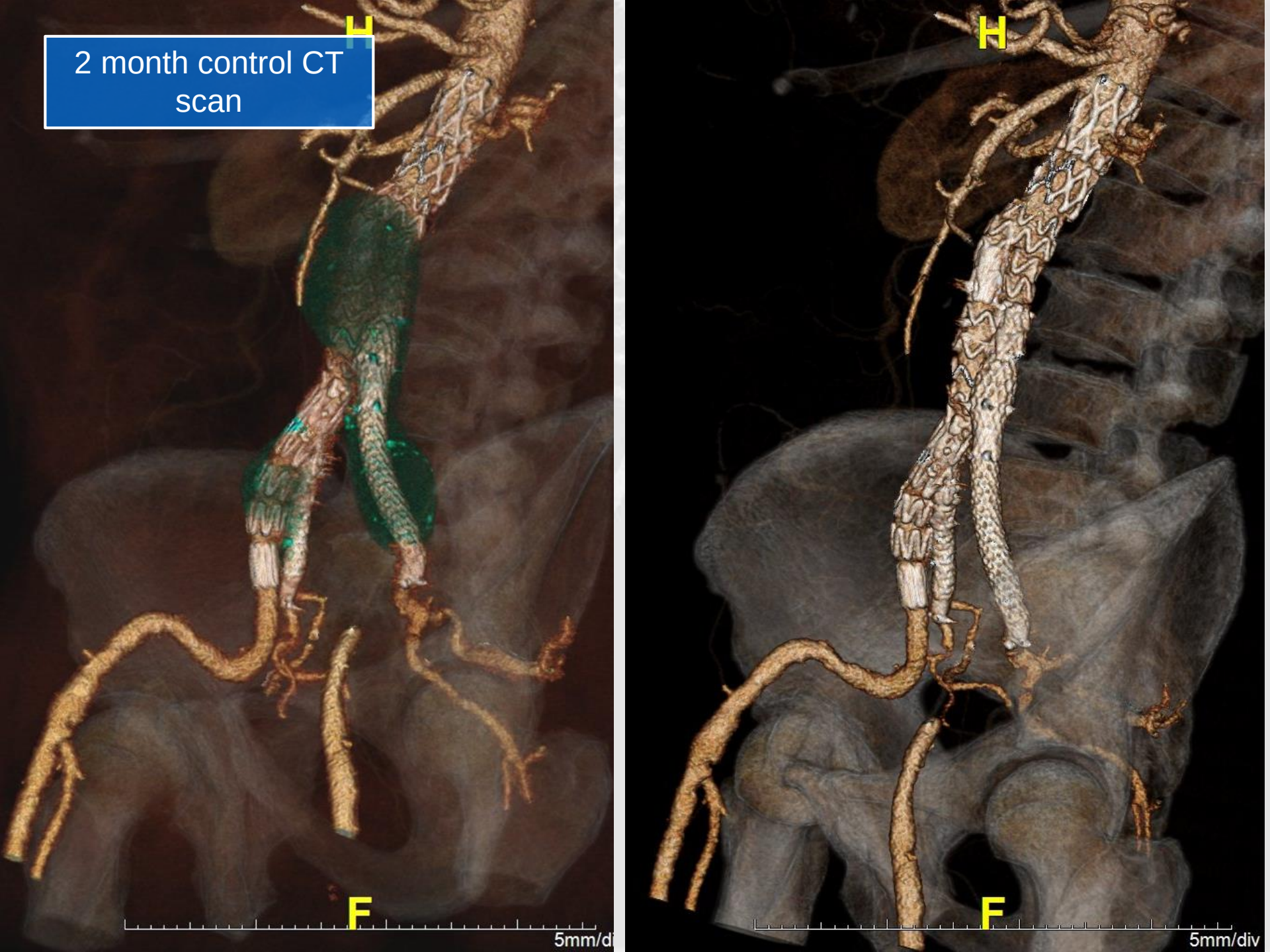
Male, 70 y.o.
AAA + bilateral common iliac aneurysm






H
H
Left external iliac artery occlusion
F
F
5mm/div
5mm/div

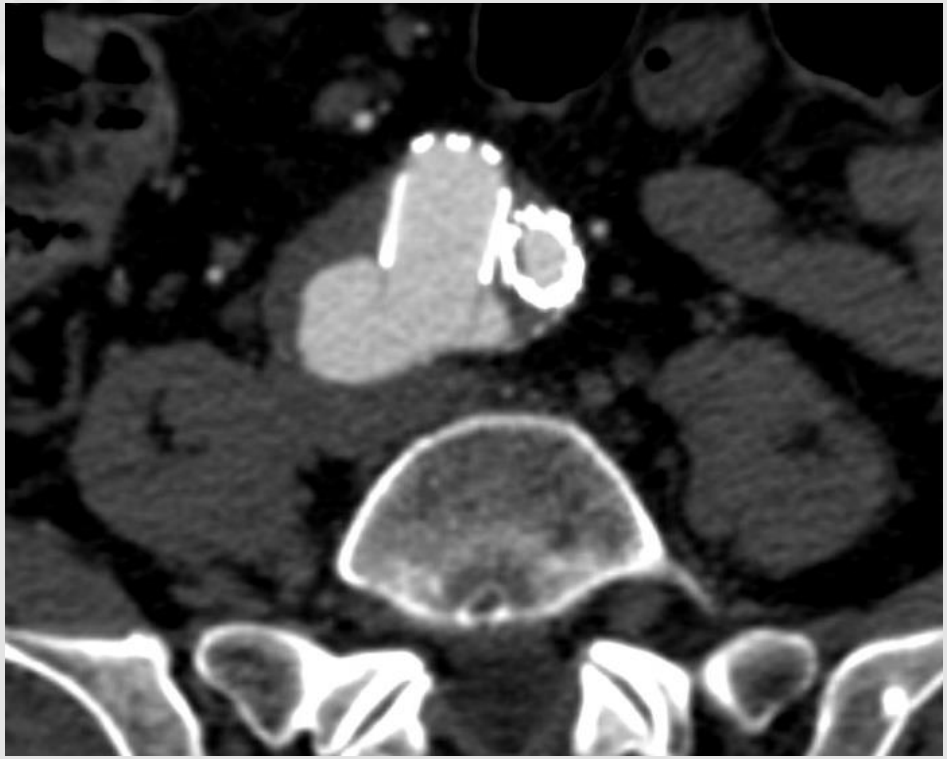


2 month control CT scan
H
F
5mm/div
H
F
5mm/div

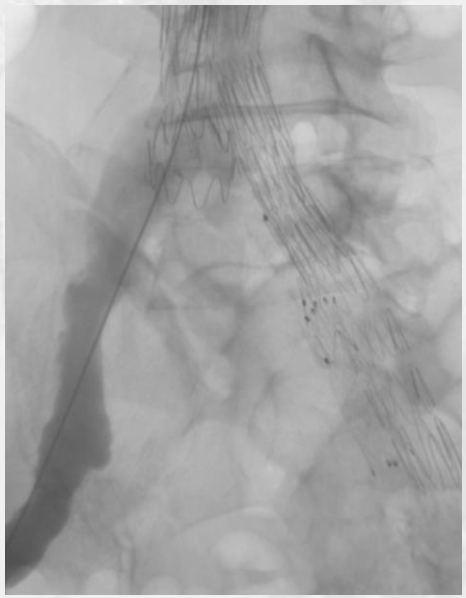
Type Ib Endoleak

M, 83 y.o.
COPD,
CAD

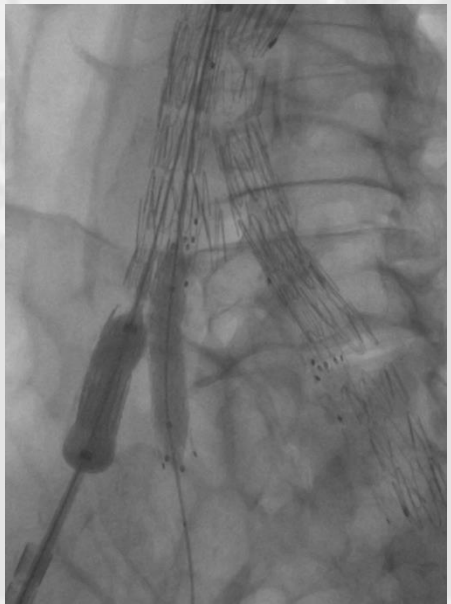
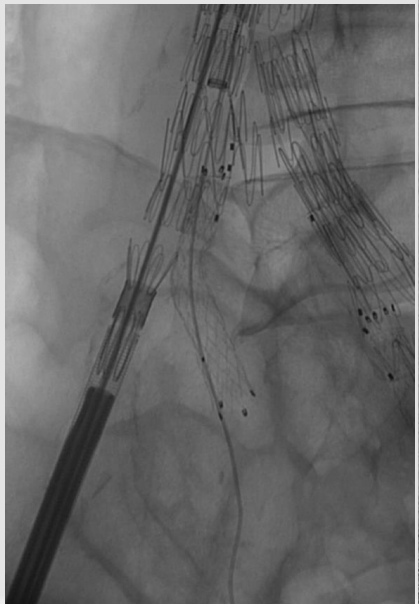
EVAR +L IBD (2011)

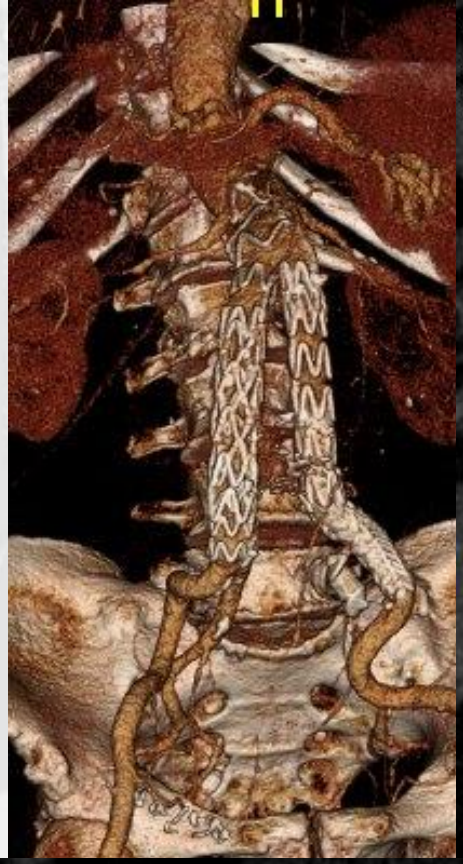
Type IB Endoleak

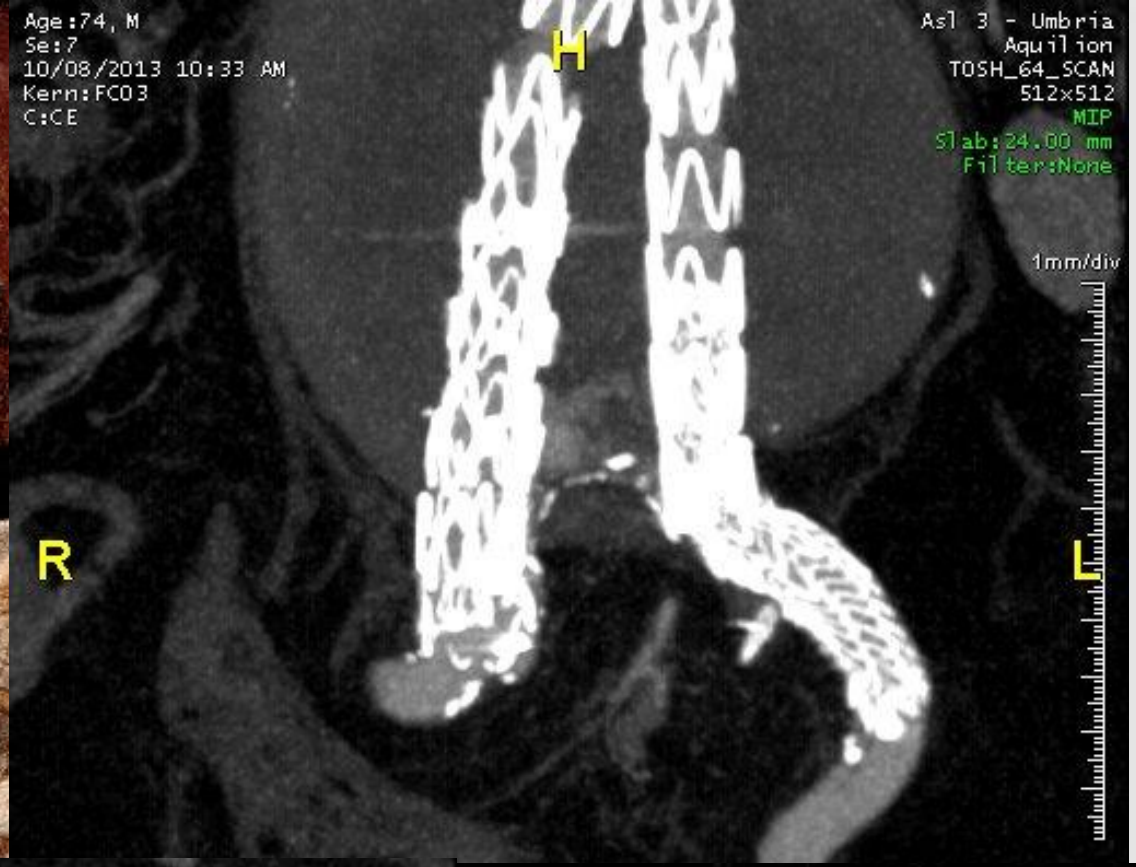




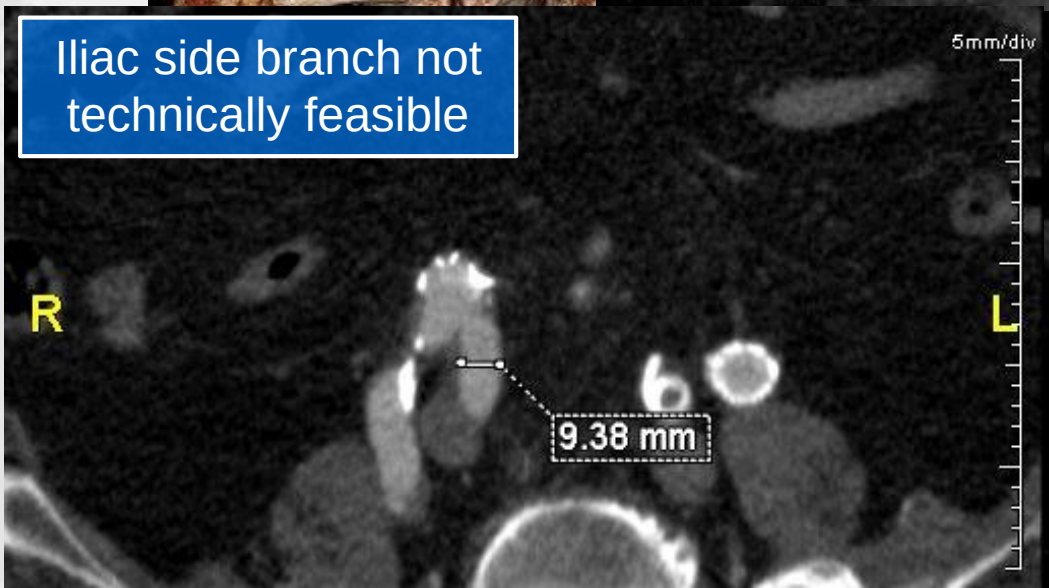

FINE

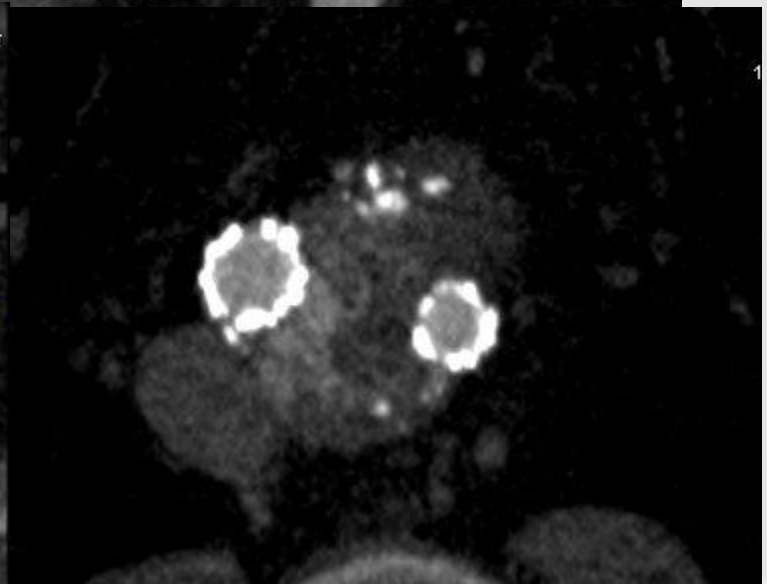







Iliac side branch not technically feasible





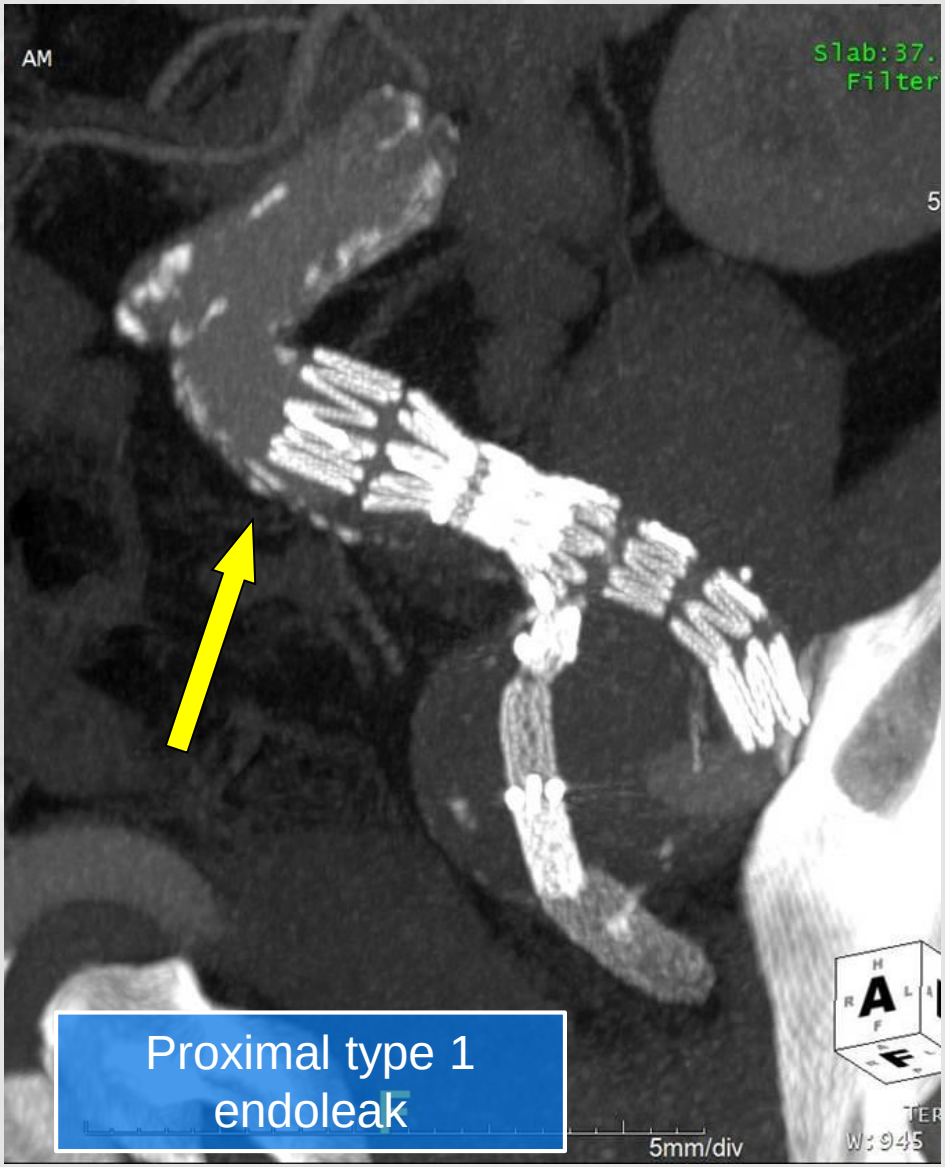
Double barrel technique

What we have learnt

1. Anatomical Suitability
2. Hypogastric aneurysm
3. Brachial access
4. Isolated Common iliac aneurysm

Long term possible complication

Lesson 5: Isolated IBD prone to common iliac enlargement & type I EL



Conclusion

- IBD: proven safety and efficacy in the long term
- Few limitations exist, broadened indication for use in real world
- Multiple devices available, a dedicated hypogastric stent needed