

RE-INTERVENTION FOR TYPE 2 ENDOLEAK



UNIVERSITY OF
LIVERPOOL



Francesco Torella
Liverpool Vascular & Endovascular Service

DISCLOSURES



Research grant, educational support, consultancy



Educational grant



Speaker's fees

CREDITS



T2EL AND AAA RUPTURE

T2EL caused 7% of post EVAR ruptures

Table 4. Reasons for Aneurysm Rupture in 190 EVAR Patients.²

Type Ia endoleak	49 (26)
Type Ib endoleak	27 (14)
Type II endoleak	14 (7)
Type III endoleak	26 (14)
Type IV endoleak	1 (0.5)
Endotension	3 (2)
Combination of endoleaks	7 (4)
Unspecified type I endoleak	23 (12)
Unspecified endoleak	5 (3)
Unspecified reason	8 (4)
Other	
Migration	12 (6)
Kinking	1 (0.5)
Expansion/rupture of CIA aneurysm	2 (1)
Structural disintegration of the device	1 (0.5)
Not reported	11 (6)

Abbreviation: CIA, common iliac artery.

²Data are given as the counts (percentage).

EUROSTAR – PREDICTORS OF AAA RELATED DEATH POST EVAR (3992 PATIENTS)

	HR	95%CI	P
Current device	.52	.35-.79	.0011
AAA diameter	1.03	1.01-1.04	.0005
Age	1.09	1.06-1.12	<.0001
Unfitness for open surgery	2.25	1.5-3.3	<.0001
Isolated type II endoleak	0.09	0.02-0.63	0.016

Factors *not* associated with aneurysm related death: team experience, neck diameter, male sex, *trans-femoral intervention for isolated type II endoleak*

MEANWHILE, IN THE REAL WORLD...



RUPTURED RIGHT INTERNAL ILIAC ANEURYSM

87 ♂, frail

Unstable

“Normal” aorta, CIA/EIA

Associated ilio-femoral DVT



RUPTURED RIGHT INTERNAL ILIAC ANEURYSM

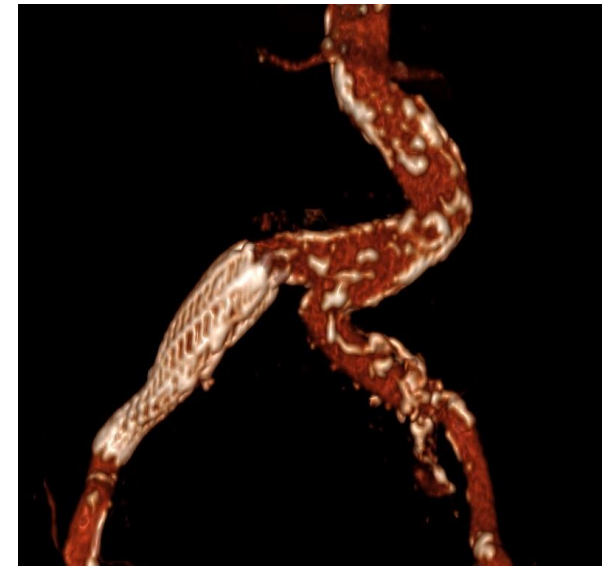
87 ♂, frail

Unstable

Associated ilio-femoral DVT

Treated with reversed Excluder limb

Good recovery



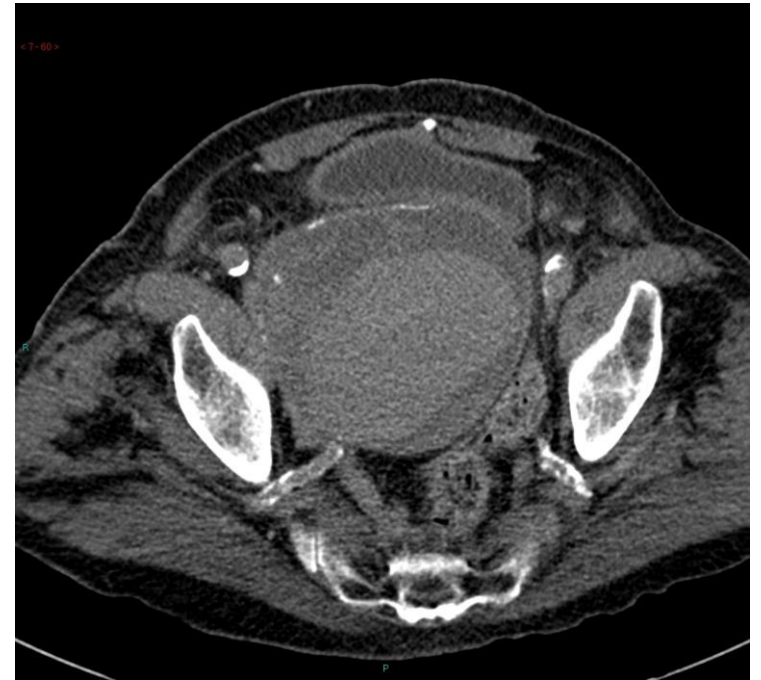
FOLLOW UP

Arterial

5 minutes

Type II endoleak

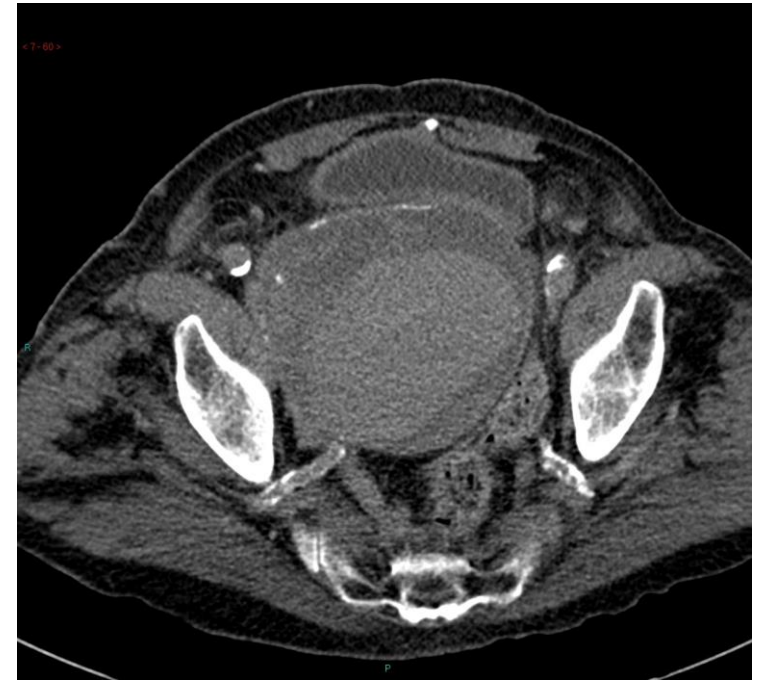
AAA growth



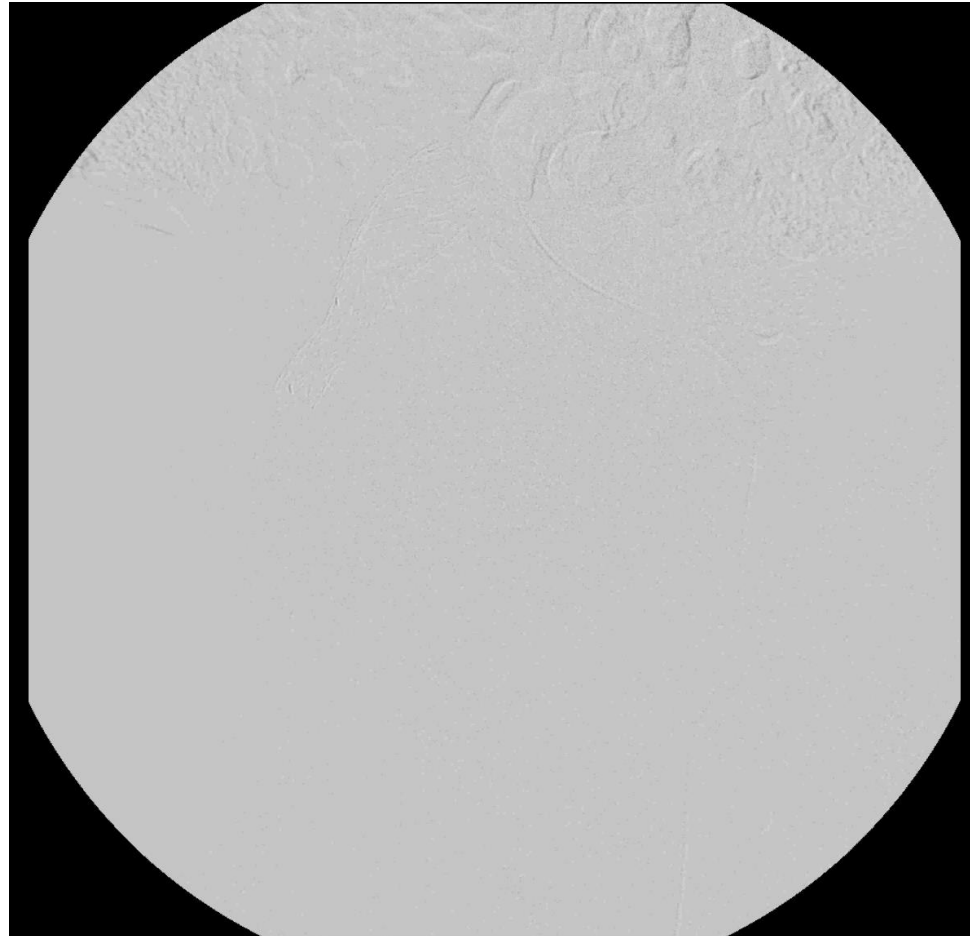
WHAT NOW?

Arterial

5 minute



ATTEMPTED EMBOLISATION

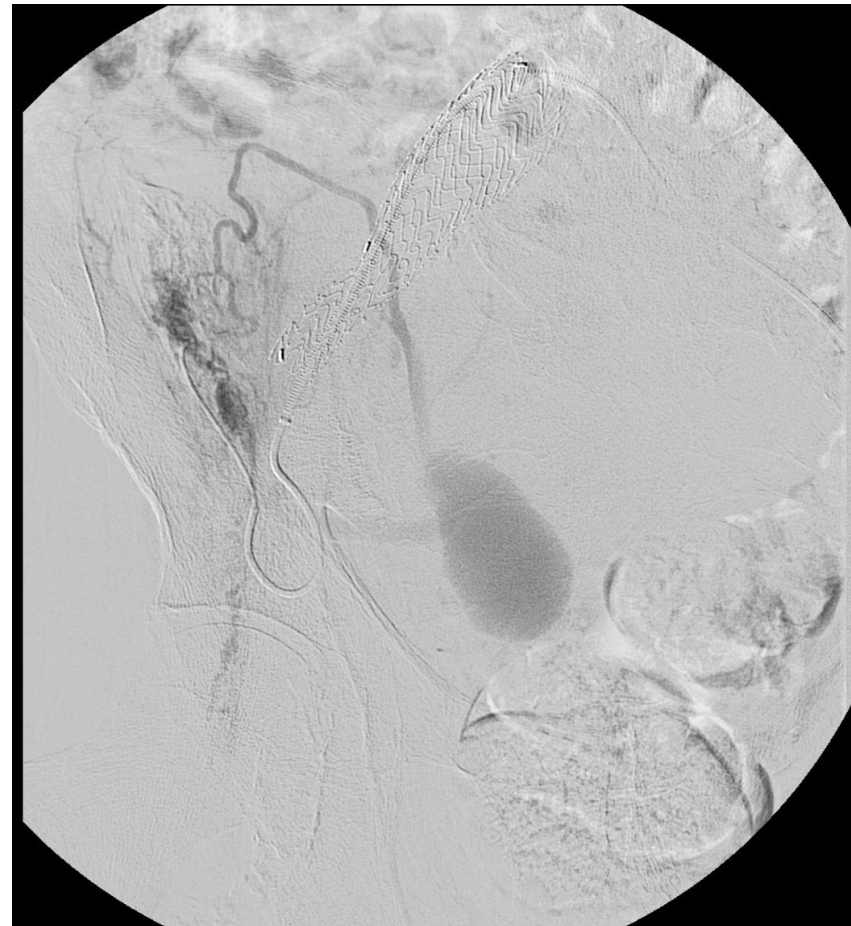


ATTEMPTED EMBOLISATION

Ruptured DCIA
during instrumentation

Procedure abandoned

Referred back to Liverpool



OPTIONS?

?

OPTIONS

Conservative management

Embolization

Transarterial

- Femoral access
- Brachial/radial access
- Gluteal access

Direct AAA puncture

- Trans-lumbar
- Trans-abdominal

Direct suture/ligation

Laparotomy

Laparoscopy



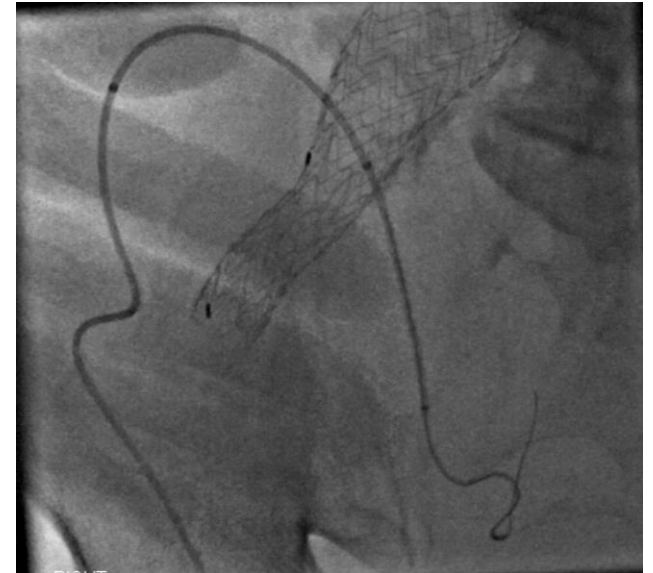
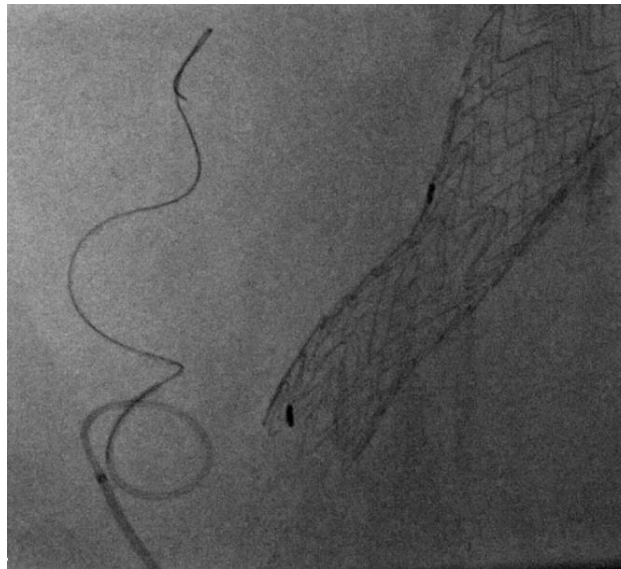
FURTHER ATTEMPT

Right femoral approach

Access to DCIA

Silverspeed 10, Progreat

Navicross

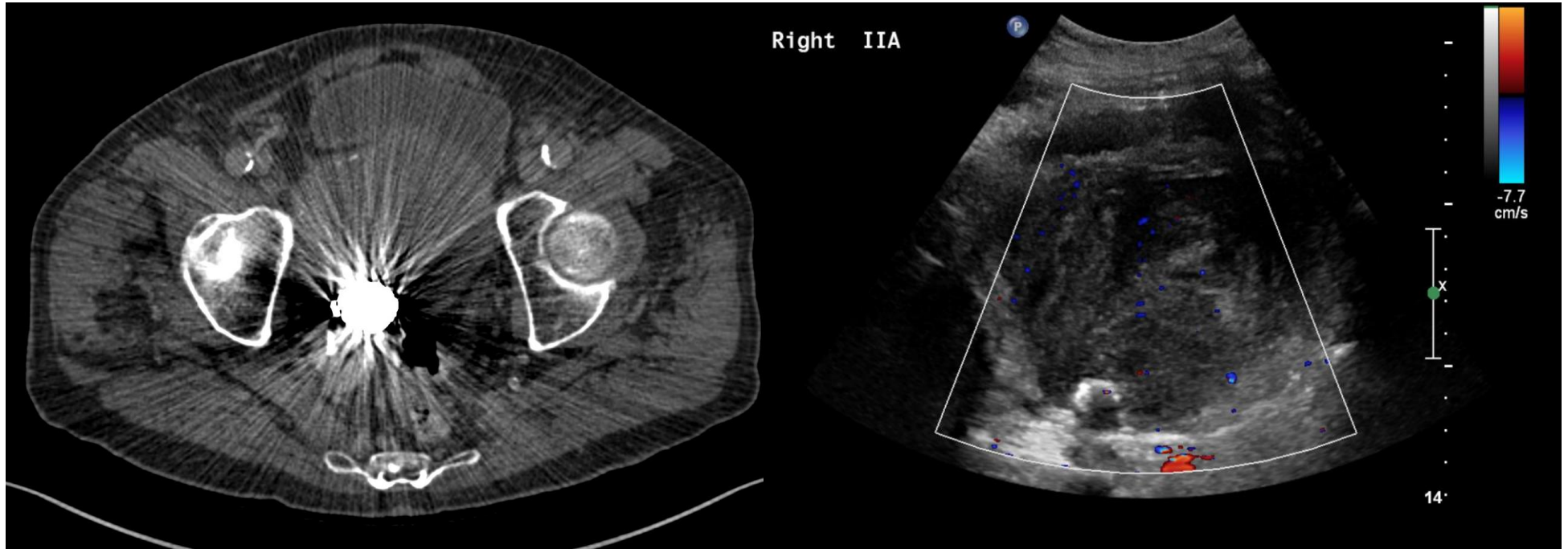


END RESULT



RIGHT

END RESULT



MANAGEMENT OPTIONS FOR T2EL

Conservative management

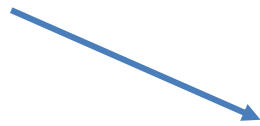
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Laparotomy

Laparoscopy



THE EVIDENCE

Systematic review

British Journal of Surgery 2013; **100**: 1262–1270

Type II endoleak after endovascular aneurysm repair

D. A. Sidloff¹, P. W. Stather¹, E. Choke¹, M. J. Bown^{1,2} and R. D. Sayers¹

¹Vascular Surgery Group, Department of Cardiovascular Sciences, University of Leicester, and ²Leicester National Institute for Health Research Cardiovascular Biomedical Research Unit, Leicester, UK

Correspondence to: Mr D. A. Sidloff, Vascular Surgery Group, Department of Cardiovascular Sciences, University of Leicester, Leicester LE2 7LX, UK (e-mail: ds343@le.ac.uk)

Embolisation

1515 T2EL
393 interventions (28.5% unsuccessful)
0.9% caused rupture
Rupture not associated with AAA growth

Technical success: TL 81% > TA 62.5% (P=0.024)
Recurrent EL: TL 19% < TA 35.8% (P=0.036)
Complications: TL none < TA 9.2% (P=0.043)

TRANS-ARTERIAL PATHWAYS TO ENDOLEAKS

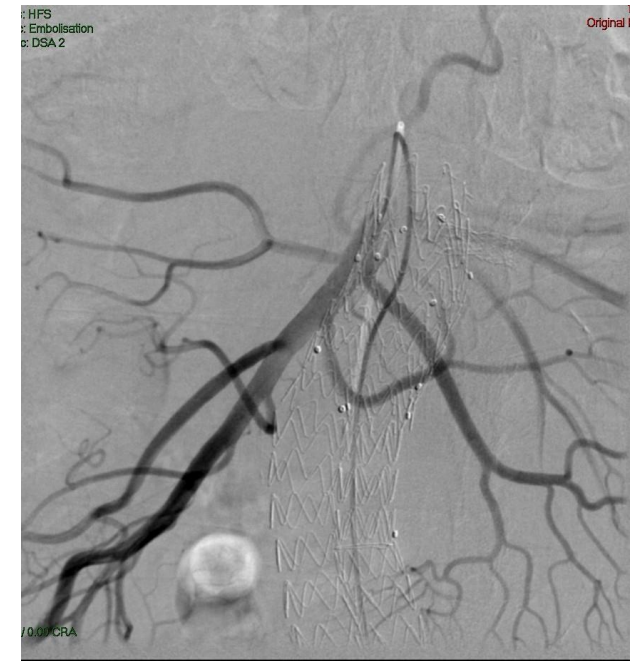
SMA-middle colic-left colic-IMA

DCIA-ILA-fourth lumbar

IIA-lateral sacral-median sacral

CFA branch-obturator-IIA

Superior gluteal to IIA



TRANS-ARTERIAL PATHWAYS TO ENDOLEAKS

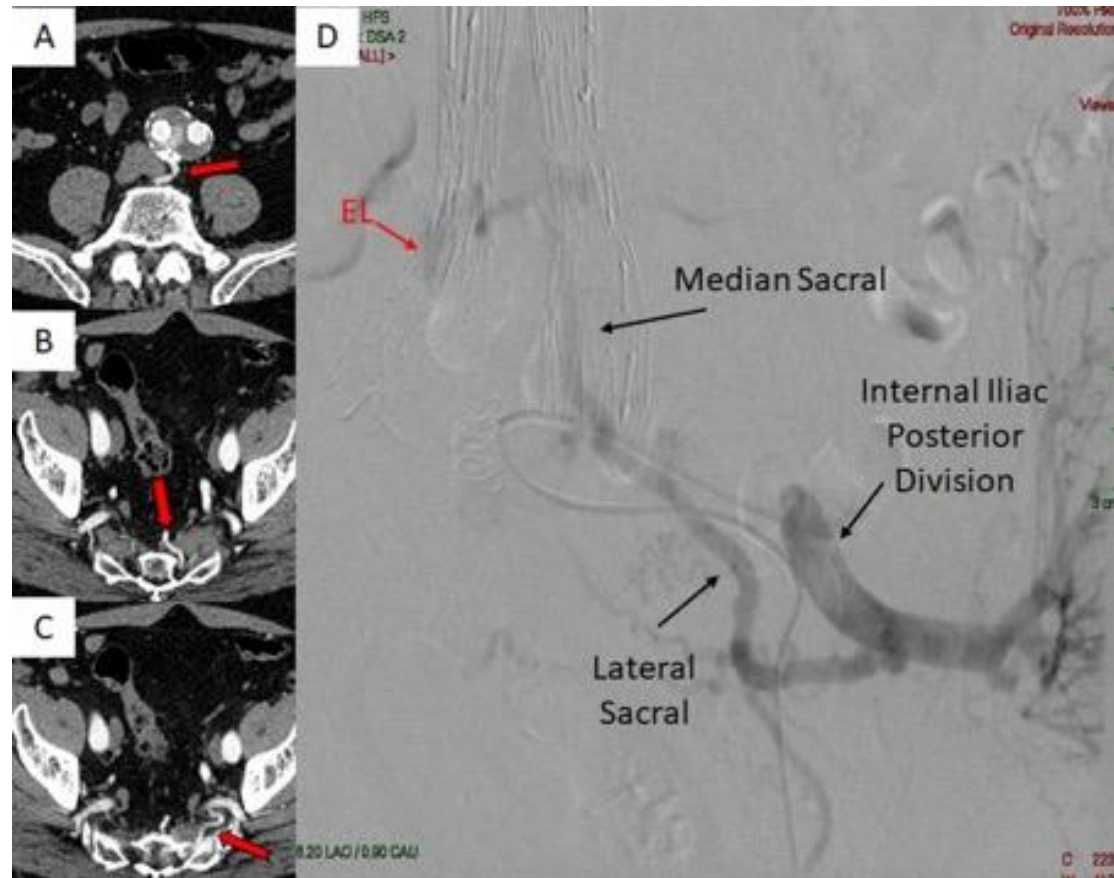
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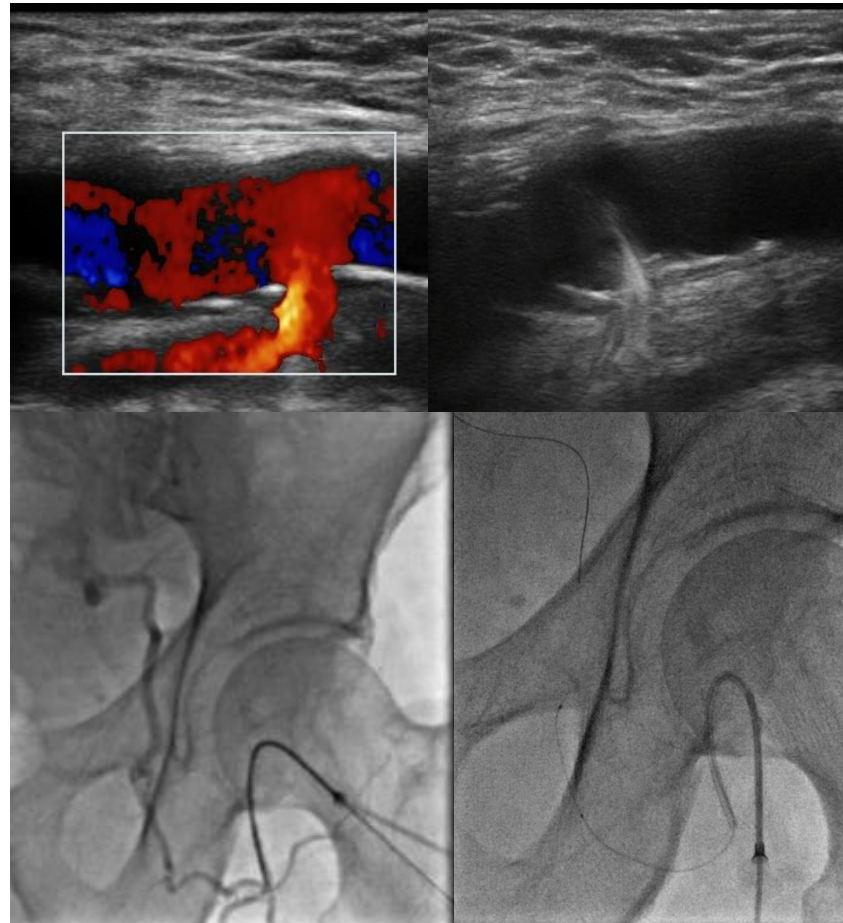
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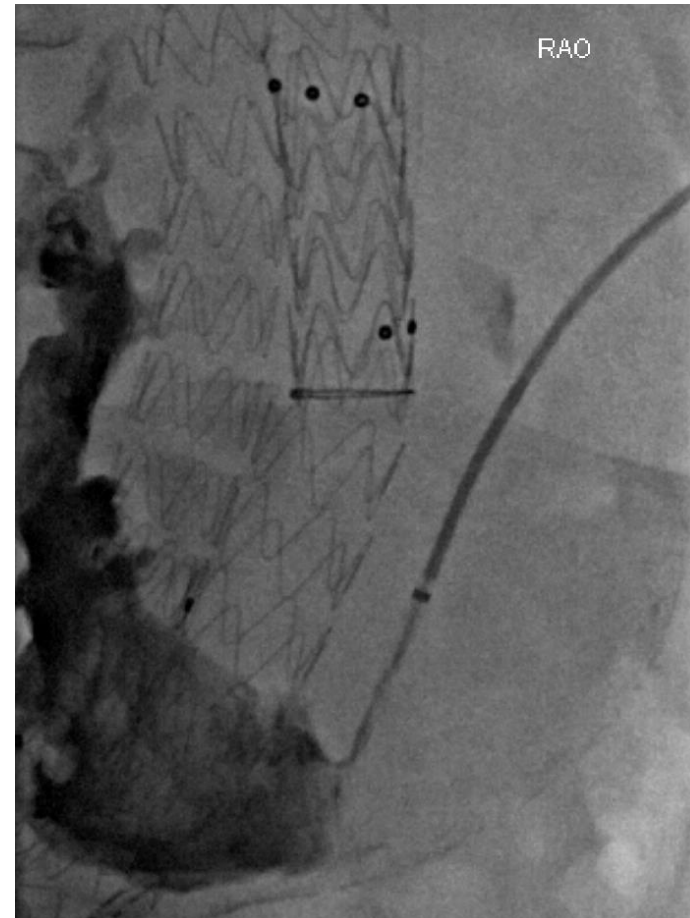


DIRECT AAA PUNCTURE

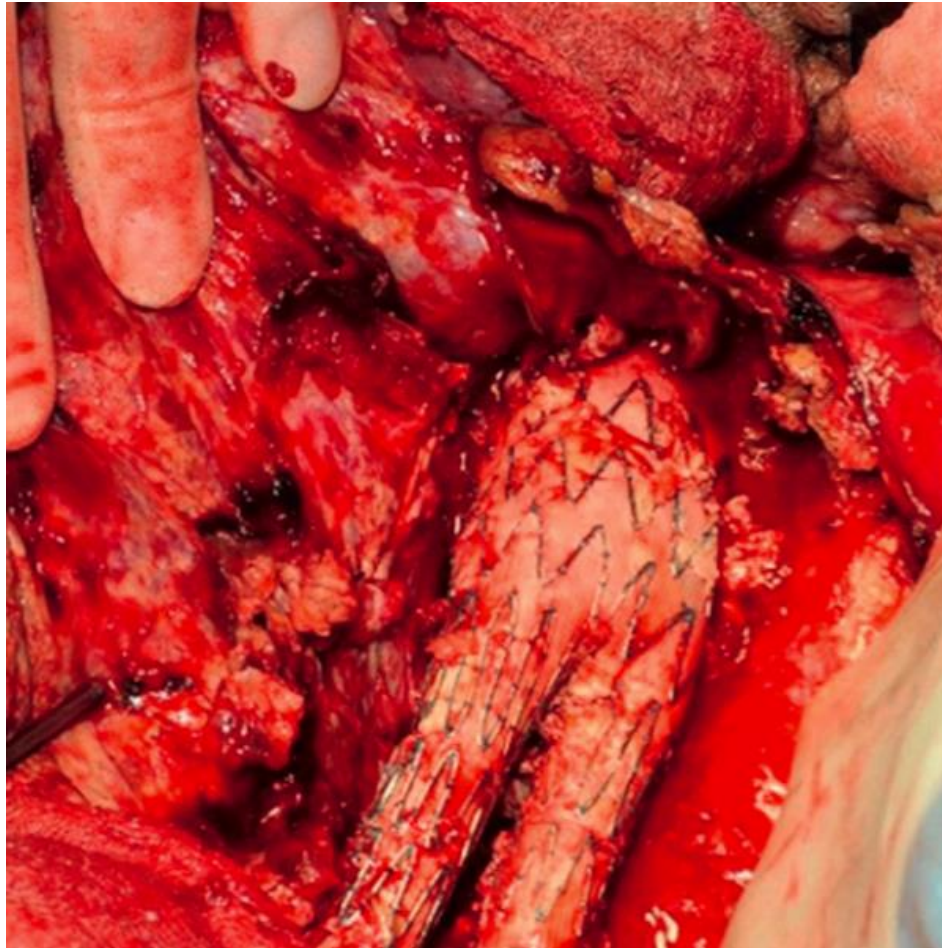
Translumbar

Vs

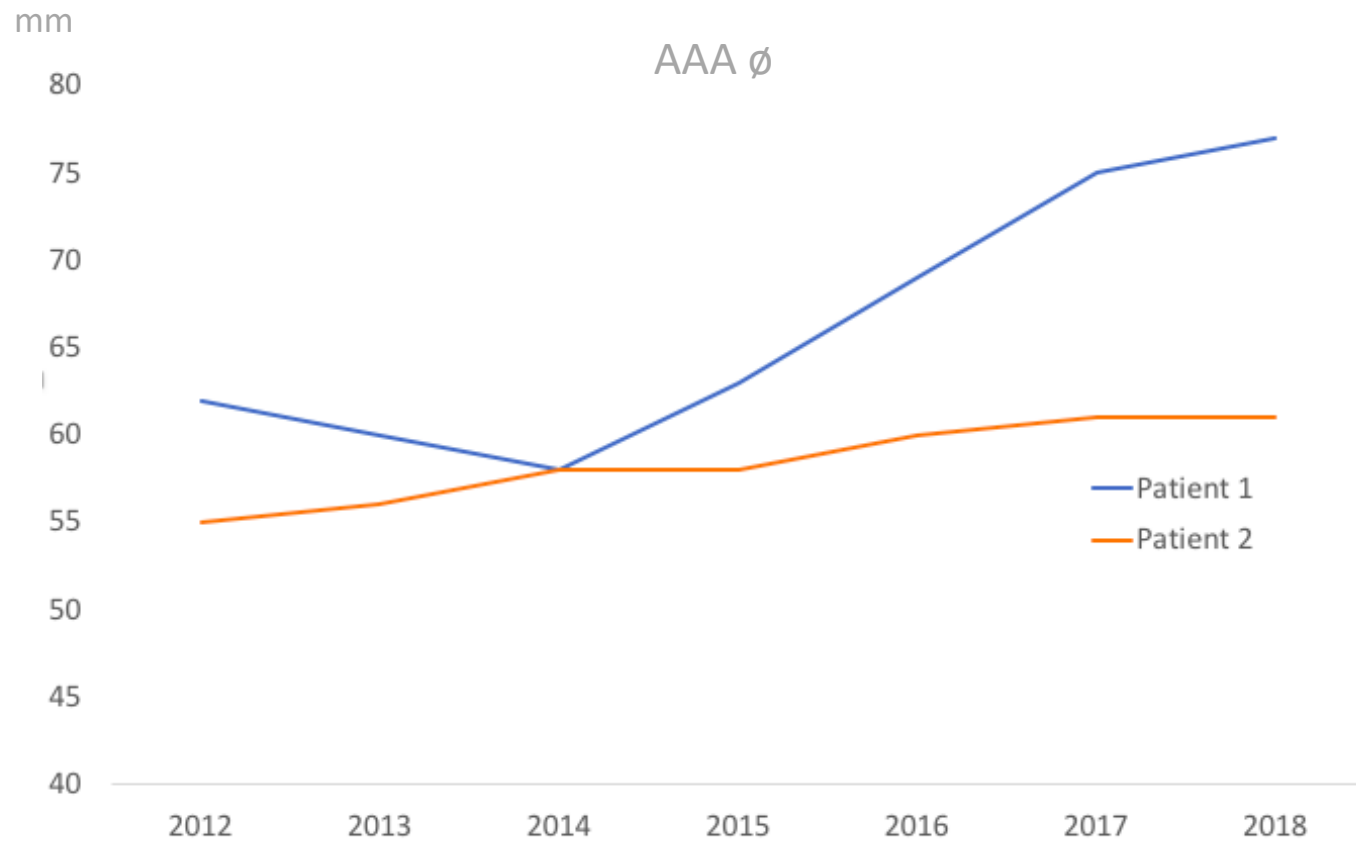
Transabdominal



LAST RESORT



IS IT JUST AN ISOLATED TYPE II ENDOLEAK?



TYPE 2 ENDOLEAK

Rarely causes AAA rupture

Rarely needs treatment

Embolization does not always work

**Access route for embolization should be chosen
on the basis of individual patient anatomy**