



Case Presentation

Paul Petrasek, MD MHCM FRCSC
Peter Lougheed Centre

Winnipeg Vascular and Endovascular Symposium
April 2026

Disclosure: I have no conflicts of interest

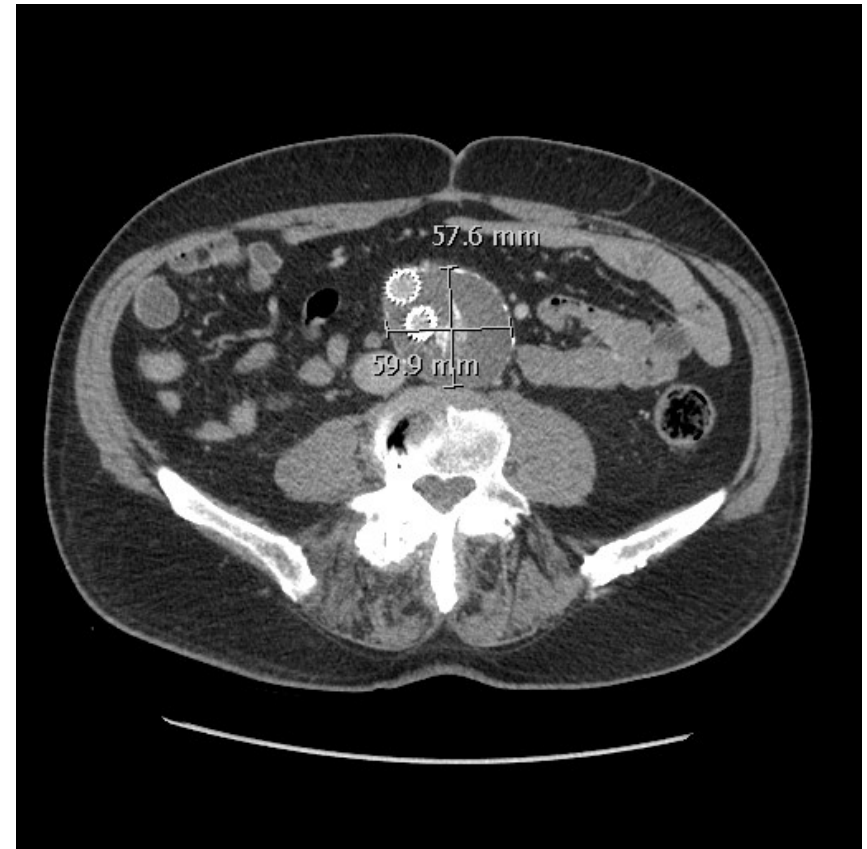
92-year-old Male:

- *“healthy”, lives in lodge, still drives, no active resp. or renal disease, chronic atrial fibrillation, on DOAC*
- *EVAR 2010 (age 76)→6.7x7.3 cm AAA*
- *2023: Asymptomatic left limb occlusion, type 2 endoleak without sac growth*

2013 – 3 years postop



2016 – 6 years postop



2023 – 13 years postop, Age 89



2025 – 15 years postop



2023 – 13 years postop, Age 89



2025 – 15 years postop

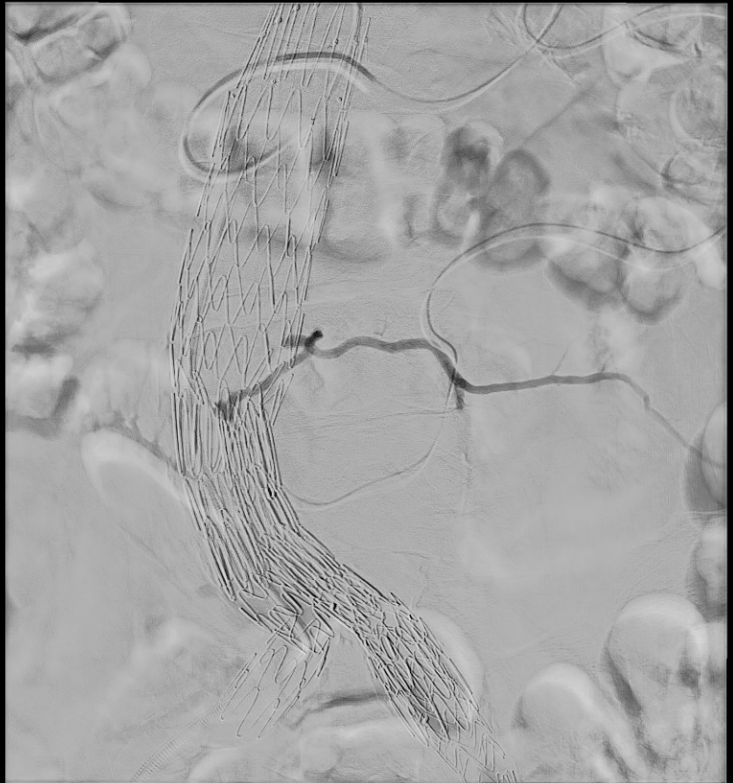


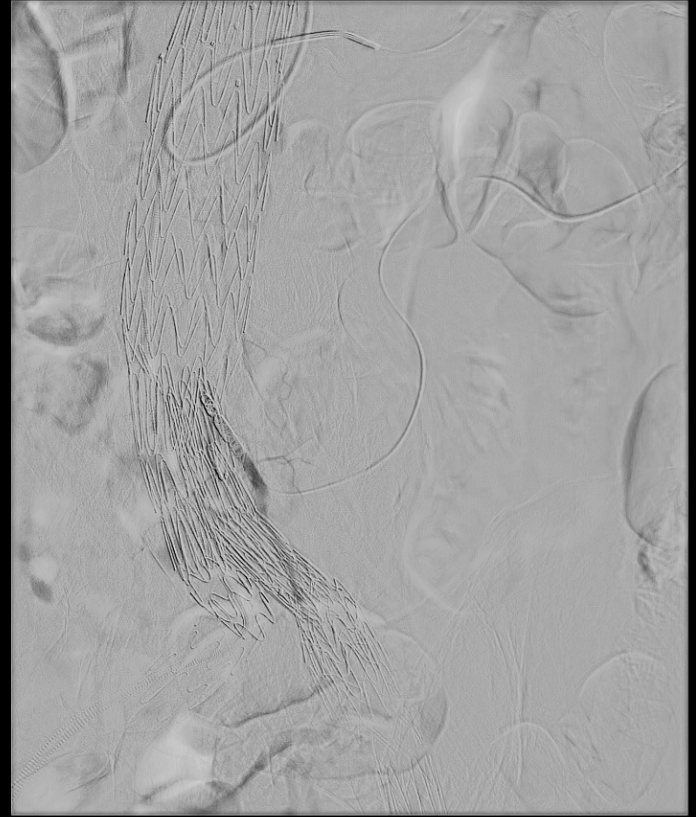
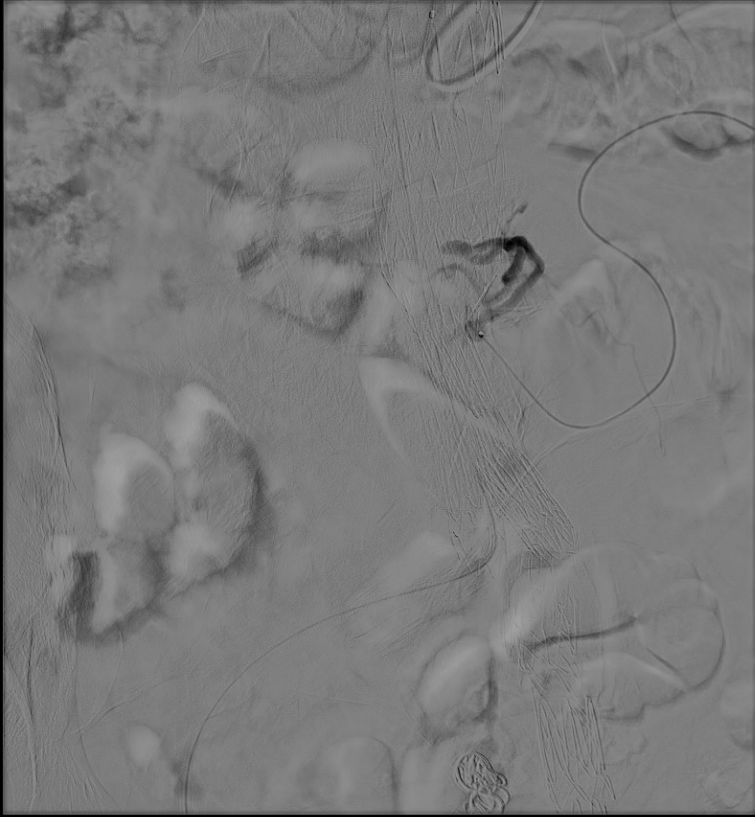
Live Poll – How would you manage the endoleak?

- 1. No treatment, no surveillance***
- 2. Surveillance***
- 3. Treat***

Type 2 Endoleak Embolization:

- *Scheduled by IR at another hospital to fill underutilized IR time*
- *Uncomplicated IMA closure via right femoral approach*

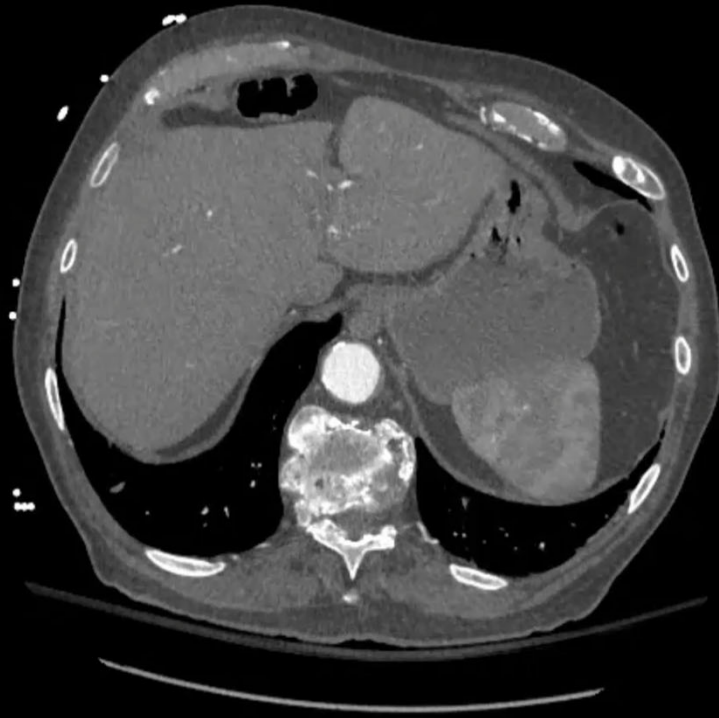




Post Angiogram (Surgical Day Care):

- *Gradual development of severe right flank pain “8-9/10”*
- *Tachycardic 100–120 bpm*
- *Repeated drops in BP to 60 systolic, transiently responsive to fluid boluses, briefly unresponsive*





Stat transfer to ER at Peter Lougheed Centre:



6:11

SCORE : 56 (Frail)

SCORE	30-DAY MORTALITY	180-DAY MORTALITY
30	0.5%	2.0%
37	0.9%	4.3%
45	2.0%	10.3%
53	4.0%	22.4%

5:05

< Back VSGNE Ruptured... ☆ ☰ ↗

Age? ≥76 >

Pre-operative cardiac arrest? No >

Loss of consciousness? Yes >

Suprarenal Aortic Clamp? No >

Results

Score



3

Probability of mortality (%)

60%





Donald J. Trump  
@realDonaldTrump



Stat transfer to ER at Peter Lougheed Centre:

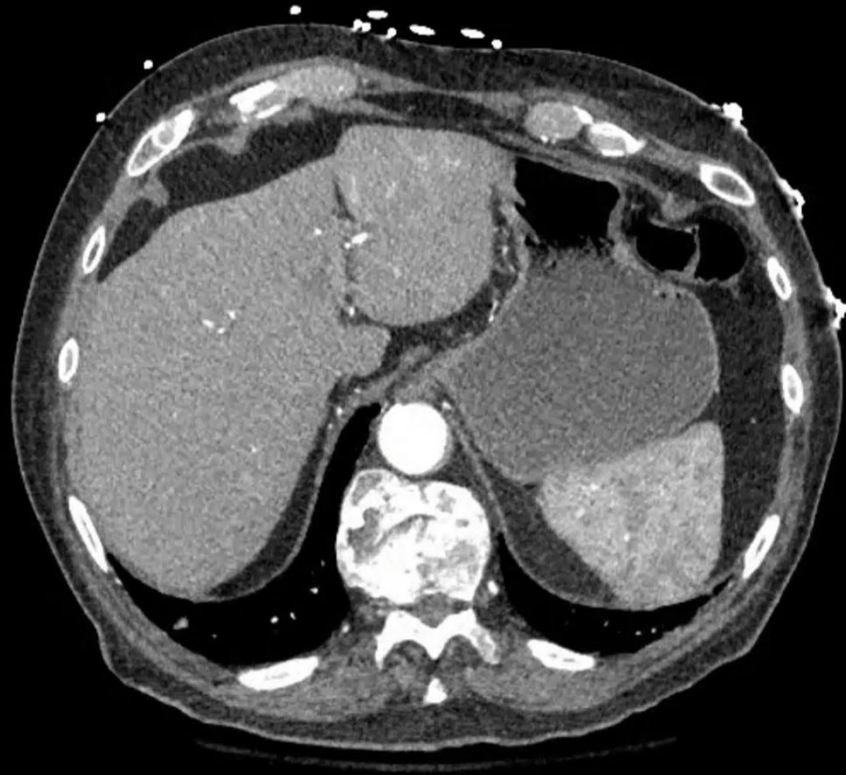
- *Upon arrival: pain 6-7/10 (less, compared to earlier)*
- *HR 100, BP 90-100*
- *Hb 120 (pre-angio) →68*
- *Given Octaplex, tranexamic acid*

Live Poll – What will you recommend to the patient and family?

- 1.** *Surgery*
- 2.** *Supportive care, no surgery*
- 3.** *Other*

Overnight at Peter Lougheed Centre:

- *pain 2-3/10*
- *HR 60-80, BP >120 systolic all night*
- *Hb 102 → stable (given 3U PRBC in ER)*

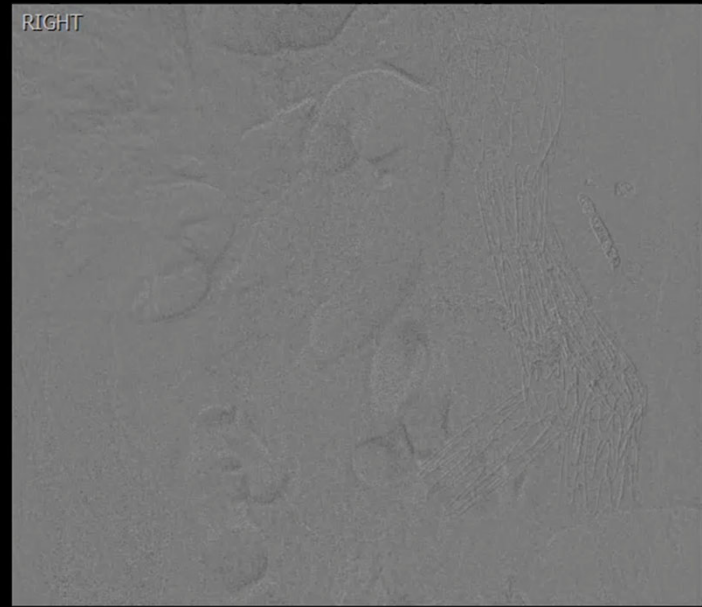




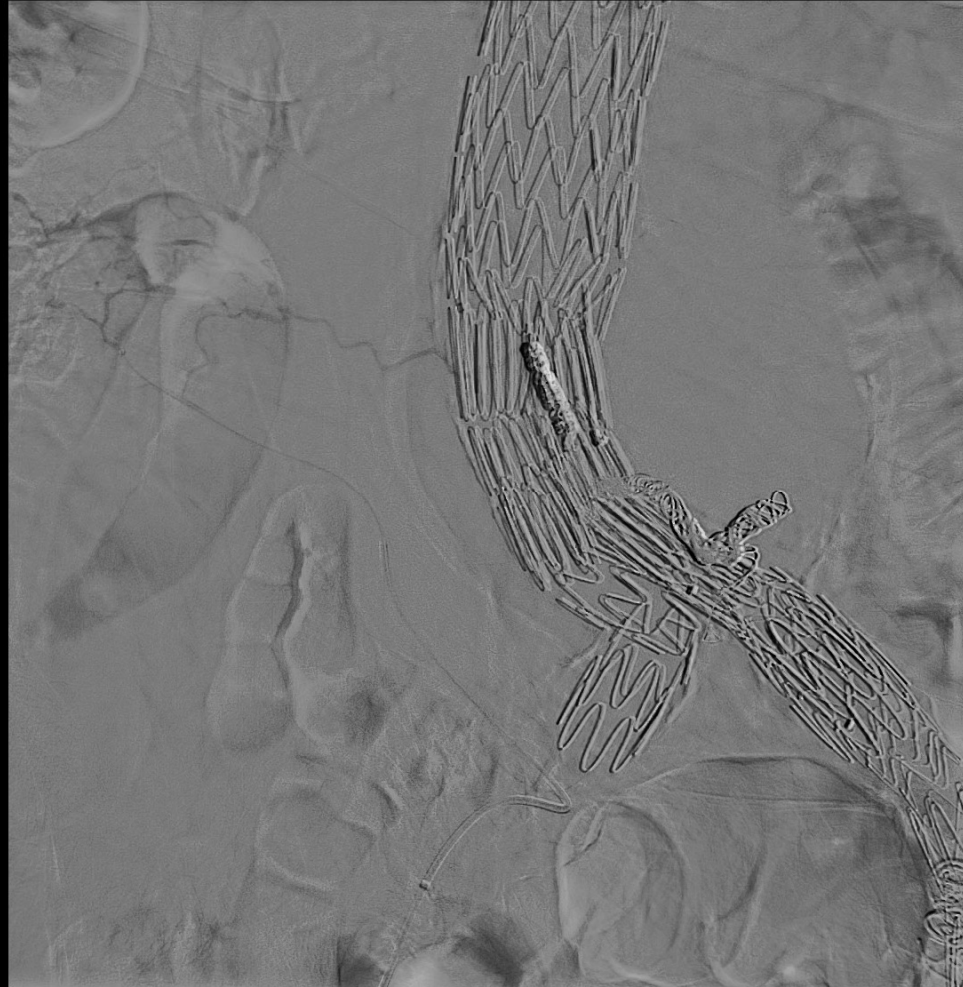
LEFT

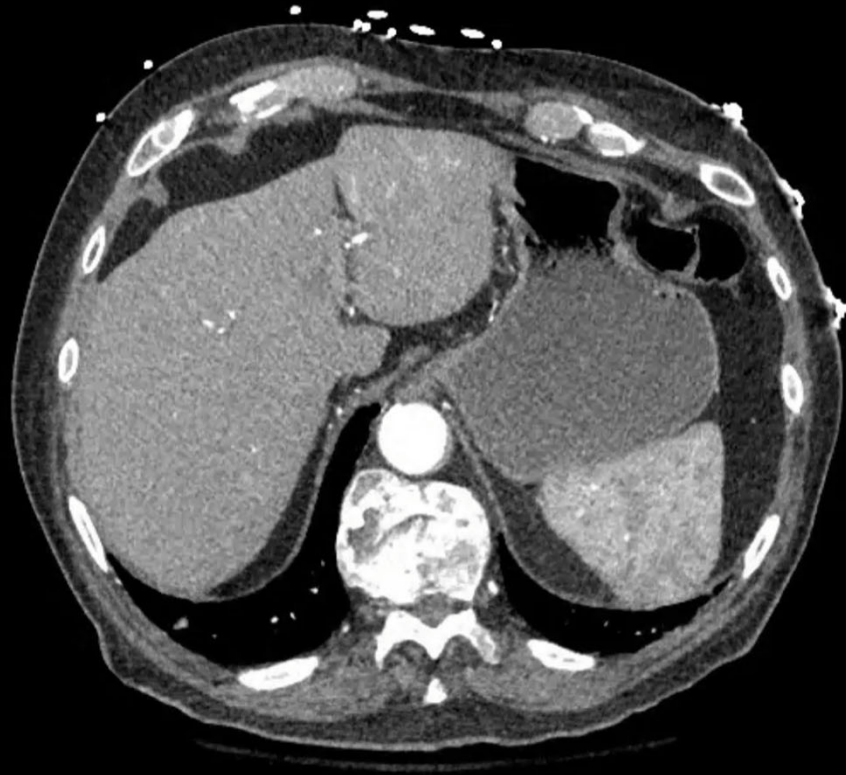


RIGHT



RIGHT





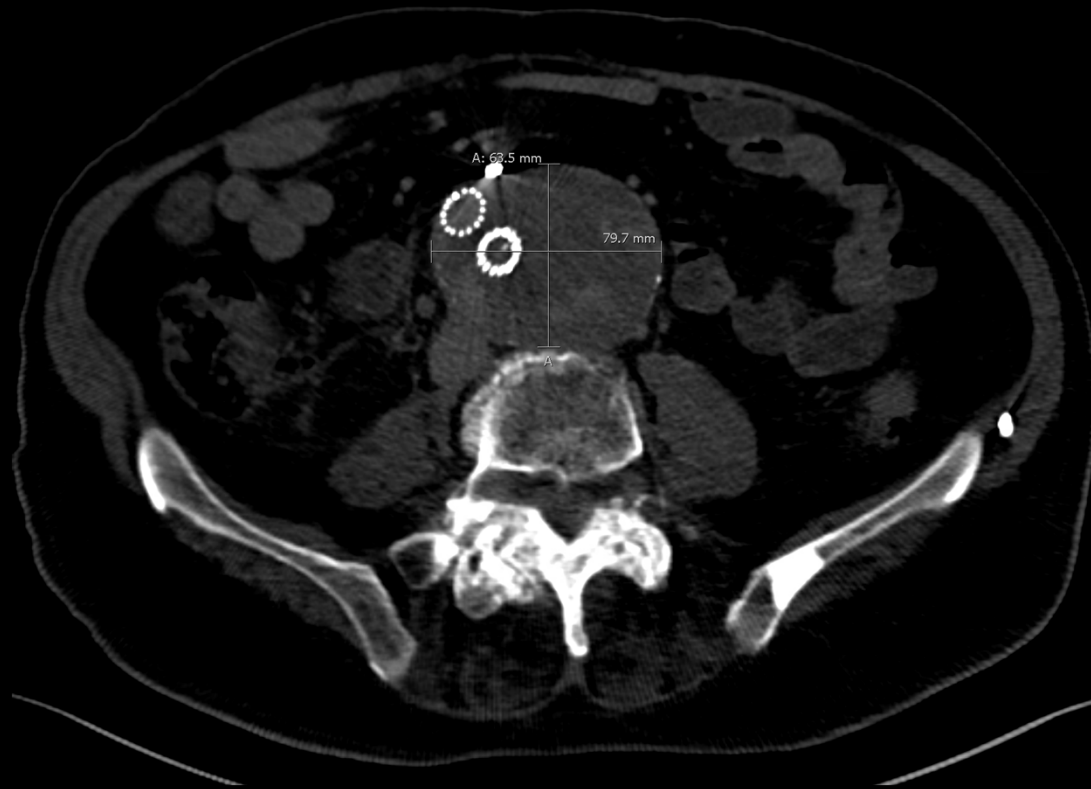


Outcome:

- *Serial Hb → stable*
- *Hemodynamically stable, pain-free*
- *Discharged to Lodge, Day 6*



Outcome:

- *Phone follow-up 1-week post-discharge → at Tim Horton's with regular morning friends*
- *Serial outpatient Hb's → stable*



Nationwide Analysis of Persistent Type II Endoleak and Late Outcomes of Endovascular Abdominal Aortic Aneurysm Repair in Japan: A Propensity-Matched Analysis



Yoshimasa Seike, MD, PhD; Hitoshi Matsuda , MD, PhD; Hideyuki Shimizu, MD, PhD; Shin Ishimaru, MD, PhD; Katsuyuki Hoshina, MD, PhD; Nobuaki Michihata, MD, PhD; Hideo Yasunaga , MD, PhD; Kimihiro Komori, MD, PhD; on behalf of the Japanese Committee for Stentgraft Management (JACSM)*

Circulation. 2022;145:1056–1066.

Japanese Registry of 17099 EVAR: 4957 type II Endoleaks

Incidence = 29%

27% had sac enlargement \geq 5mm

0.8% aortic rupture (versus 0.1% without endoleak)

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)

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

1515 type II Endoleaks, 32 studies

Incidence = 11%. 35.4% resolve spontaneously

0.9% aortic rupture

Recurrent endoleak rate after treatment up to 36%

Editor's Choice — Systematic Review and Meta-Analysis of the Outcome of Treatment for Type II Endoleak Following Endovascular Aneurysm Repair

Klaas H.J. Ultee ^{a,f}, Stefan Büttner ^{a,f}, Roy Huurman ^a, Frederico Bastos Gonçalves ^{a,b}, Sanne E. Hoeks ^c, Wichor M. Bramer ^d, Marc L. Schermerhorn ^e, Hence J.M. Verhagen ^{a,*}

^a Department of Vascular Surgery, Erasmus MC University Medical Centre, Rotterdam, The Netherlands

^b Hospital de Santa Marta, CHLC & NOVA Medical School, Lisbon, Portugal

^c Department of Anaesthetics, Erasmus University Medical Centre, The Netherlands

^d Medical Library, Erasmus MC, University Medical Centre, Rotterdam, The Netherlands

^e Department of Surgery, Division of Vascular and Endovascular Surgery, Beth Israel Deaconess Medical Centre and Harvard Medical School, Boston, MA, USA

Eur J Vasc Endovasc Surg (2018) 56, 794–807



1073 treated type II Endoleaks:

Technical success: 88%, but clinical success: 68%

Repeat interventions required in 14.7%

Peri-procedural complications: 3.8%

Long-term aneurysm-related mortality after treatment: 1.8%

Lessons:

- *? Should I have recommended intervention?*
- *Type 2 endoleak has a very low risk of rupture*
- *Loss of peri-aortic fat plane is pathognomonic of AAA rupture*
- *Although 35% of T2 endoleaks spontaneously resolve, persisting T2 endoleaks are difficult to close:*
 - *clinical success = 68%*
 - *14-36% reintervention rate*

Lessons:



Thank you!



