CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES IN VASCULAR SURGERY
JANUARY 17-19 2013
MARRIOTT RIVE GAUCHE & CONFERENCE CENTER PARIS, FRANCE

What to do when EVAR becomes infected?
Que faire en cas de sepsis après EVAR?

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Faculty Disclosure

Carlo Setacci

I disclose the following financial relationships:

I have **no financial relationships** to disclose.

Je déclare les informations suivantes:

je n'ai **aucune relation financière** à déclarer.

Incidence of infections after Vascular Surgery

The Centers for Disease Control (CDC)
National Nosocomial Infections Surveillance System

"Vascular interventions are clean procedures (risk index categories 1 and 2)"

Overall incidence of surgery site infections → 2-6%

INFECTION @ CERVICAL LEVEL:
risk of pseudoaneurysm formation

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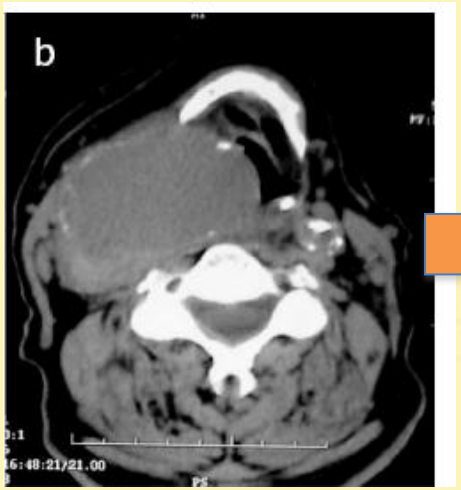
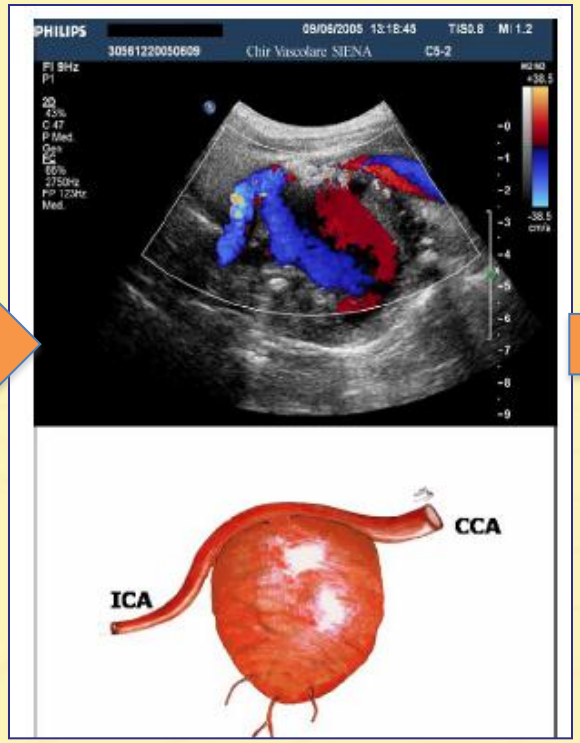
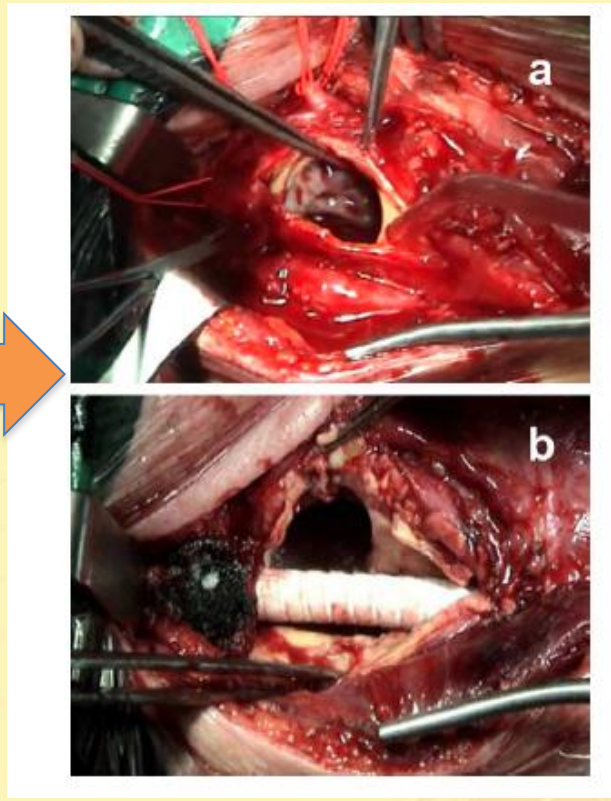


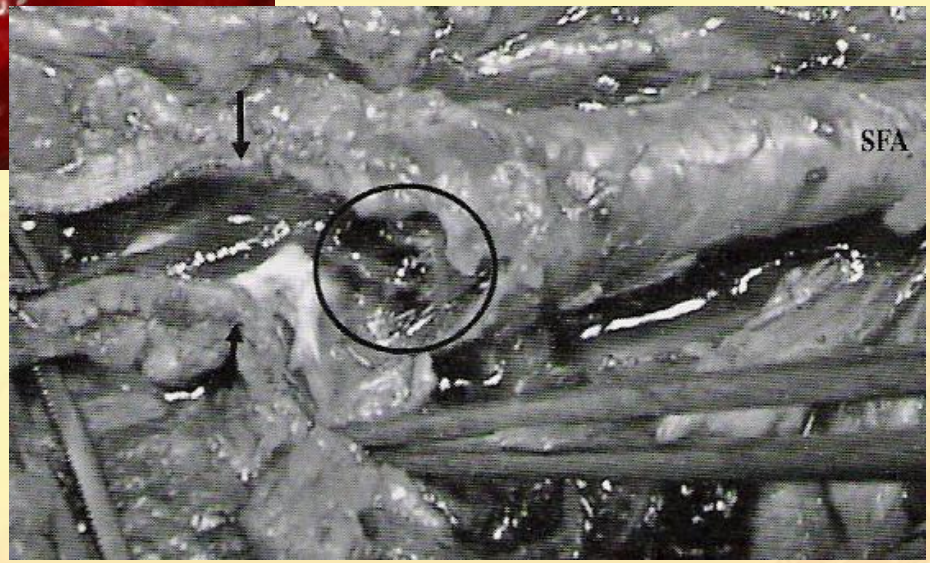




0-0.8%

INFECTION @ INFRAINGUINAL LEVEL:
occlusion and risk of artery disruption

OPEN SURGERY
10-20%



ENDOVASCULAR SURGERY
0-2%

DIAGNOSTIC FLOW-CHART

- CLINICAL ASSESSMENT
- DUPLEX ULTRASOUND
- CT SCANNING
- MRI
- FDG-PET
- SPECT

CLINICAL ASSESSMENT

SISTEMIC SIGNS & SYMPTOMS

- Fever
- Malaise
- Leukocytosis
- Symptoms arise from septic embolism from an infected graft with non specific events (more difficult diagnosis)

5Ps

Pain

Pulseless

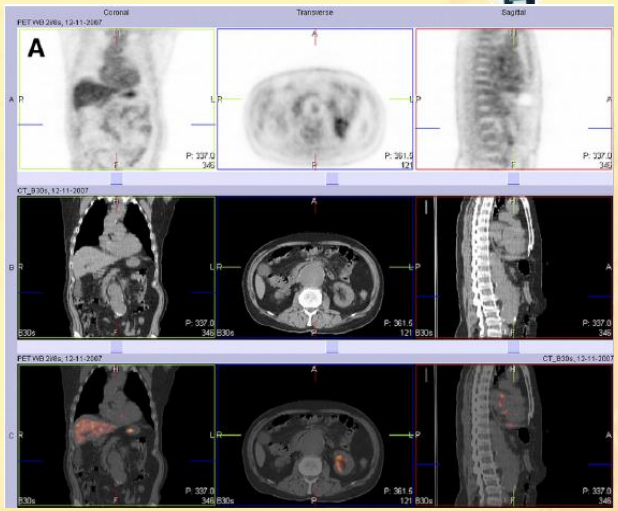
Pale

Parasthesia

Paralysis

DIAGNOSTIC FLOW-CHART

- CLINICAL ASSESSMENT
- DUPLEX ULTRASOUND
- CT SCANNING
- MRI
- FDG-PET
- SPECT

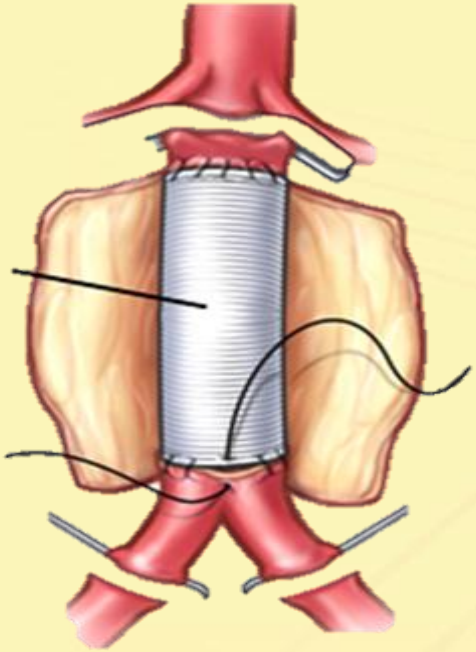


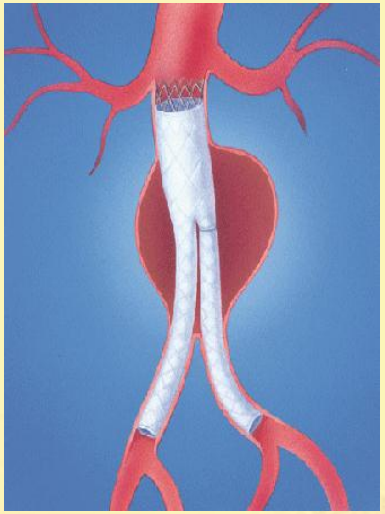
ADVANTAGES vs DISADVANTAGES

Imaging Modality	Advantages	Disadvantages
Ultrasound	Easy and Quick. No radiation exposure. No contrast.	Low differentiating ability.
CT	High specificity, relative high sensibility. Fast acquisition procedure. 3D reconstruction.	Low sensitivity in low-grade infection.
MRI	No radiation exposure. No contrast. Could differentiate in small perigraft fluid collection. High specificity, relative high sensibility.	Metal artifacts. Lack of data
FDG PET	High specificity, relative high sensibility.	Time-invasive investigation. Less exact anatomical localization.
SPECT	Could be fused with CT. Promising tool in dagnosing infections. Less expansive when compared to FDG PET	Lower resolution when compared to FDG PET

Incidence of infections after Vascular Surgery

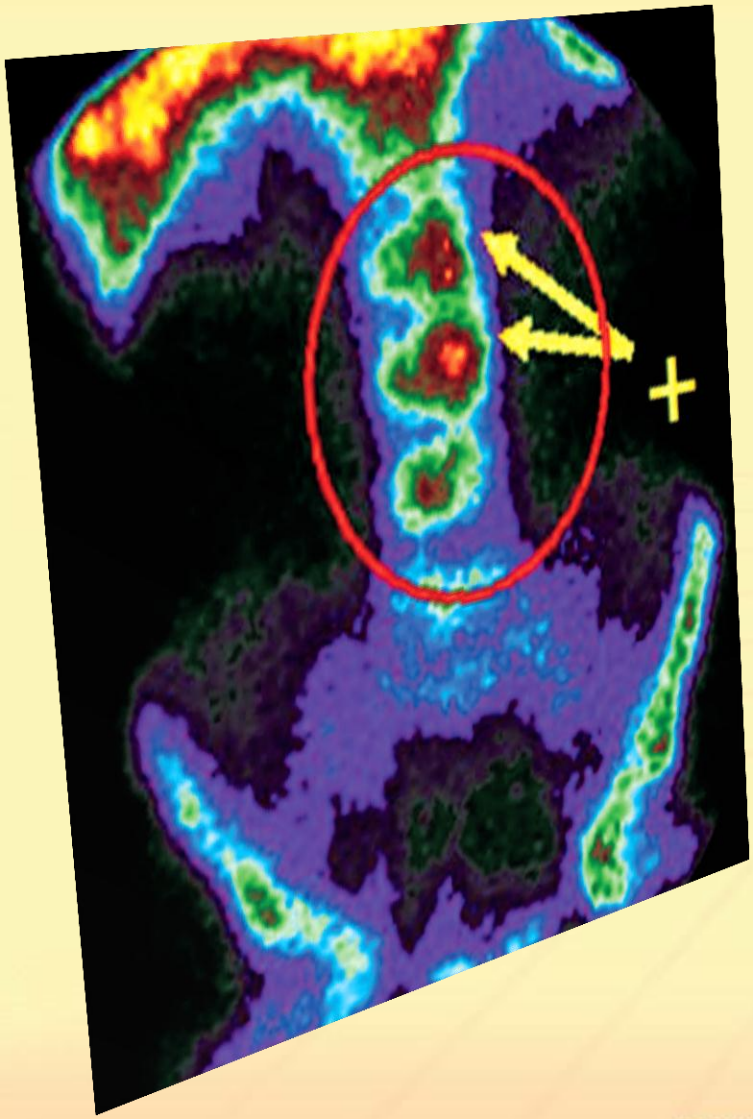
Incidence of Surgery Site Infections after Aortic Repair (endovascular/open)





1-2%

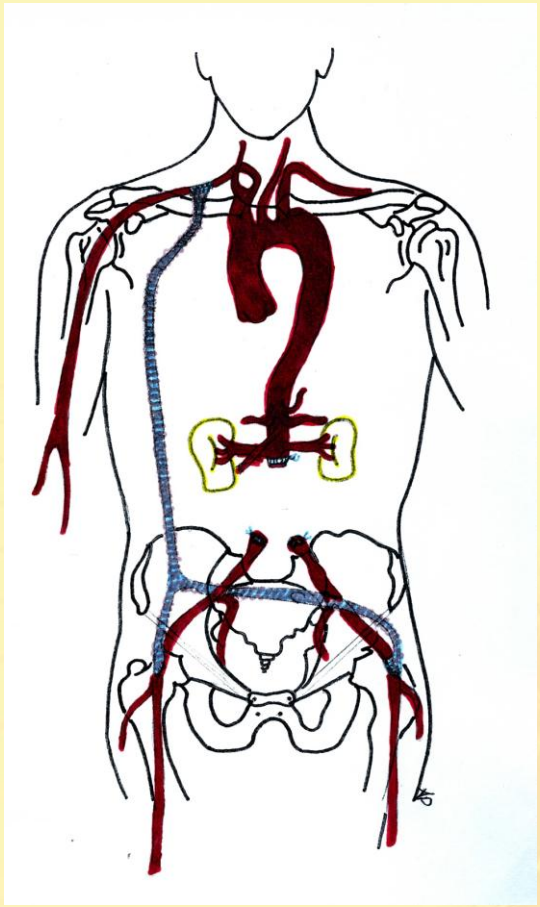
Endovascular Graft Infection



Vascular Surgeons are confident with stent graft infections after endovascular aortic aneurism repair (EVAR).

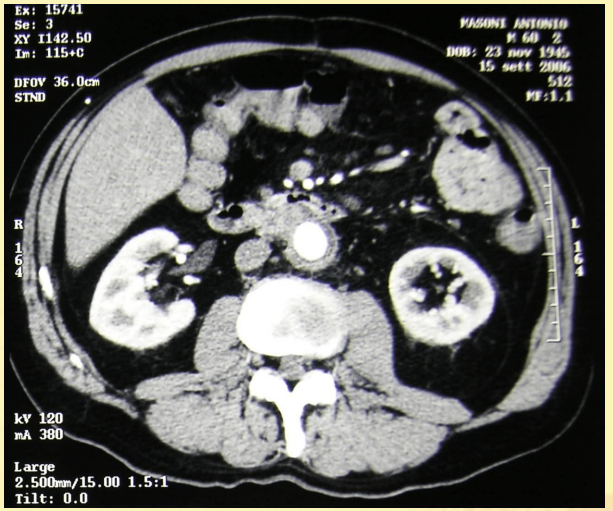
All Authors suggest, like treatment of choice, the complete removal of the aortic stent-graft and an extensive debridment of the infected tissue.

Endovascular Graft Infection



GRAFT INFECTIONS

- Challenging management problem in aortic surgery
- Several studies have suggested a similar incidence of aortic graft infections in open and endovascular cases.[1-3]
- Aortic graft infections were associated with periprocedural infections for both endovascular and open AAA repairs



1-Hobbs.Epidemiology and diagnosis of endograft infection. J Cadiovsc Sur 2010;51:5-14.
2. Vogel. The incidence and factors associated with graft infection after aortic aneurysm repair. J Vasc Surg 2008;47: 264-9.
3. O'Hara. Surgical management of infected abdominal aortic grafts: review of a 25-year experience. J Vasc Surg 1986;3:725-31.

AIM OF THE STUDY

Aim of our study is to assess *infective complications* after *two or more reinterventions* in patients had underwent EVAR in a single centre consecutive cohort of patients.

METHODS

Between January 2005 and December 2009, 521 consecutive patients (438 men; mean age 73 years, range 48-92) underwent EVAR for asymptomatic abdominal aortic aneurysm (AAA)

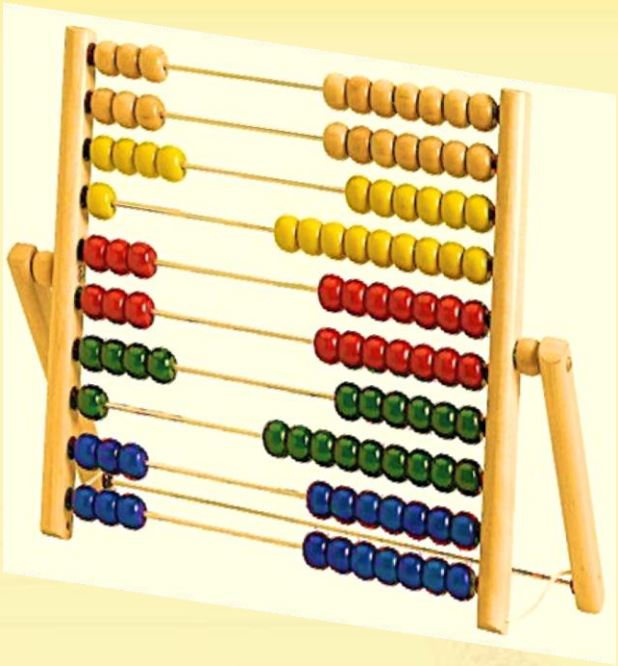
METHODS

Clinical examination ,ultrasound scan and computed tomography: 1,3, 6 month and yearly thereafter, in our patients and in all patients referred to our follow-up laboratory.

RESULTS

- Mean follow-up was 25 months (range 9-53);
- 5 patients of our series plus 4 from other institutions required 2 or more reinterventions.
- *Clinical success was achieved in all patients*.

RESULTS



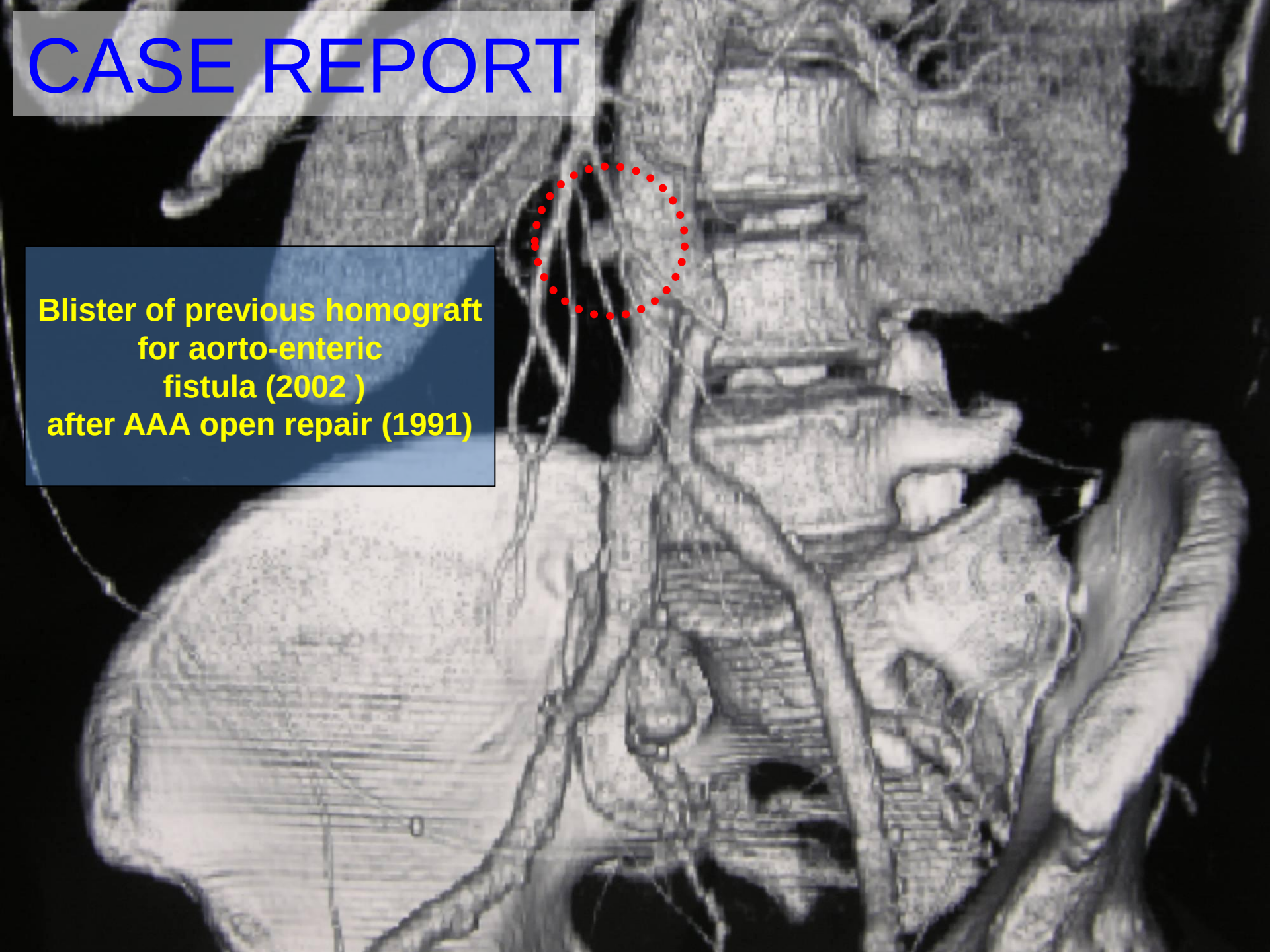
- 3 Patients experienced an infective complication (33% infection rate)
- 2 required endograft removal, while 1 received only medical treatment.

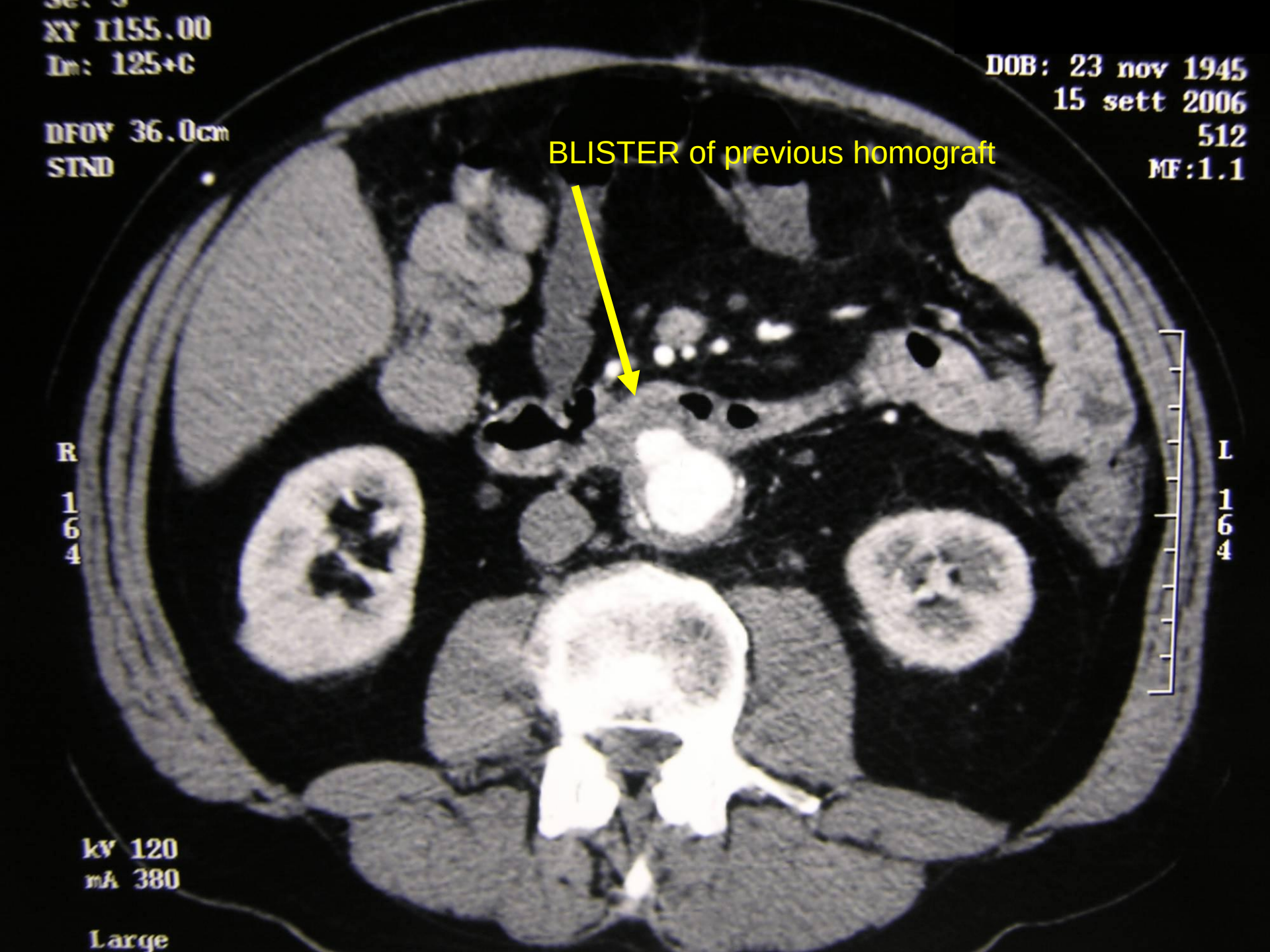
RESULTS

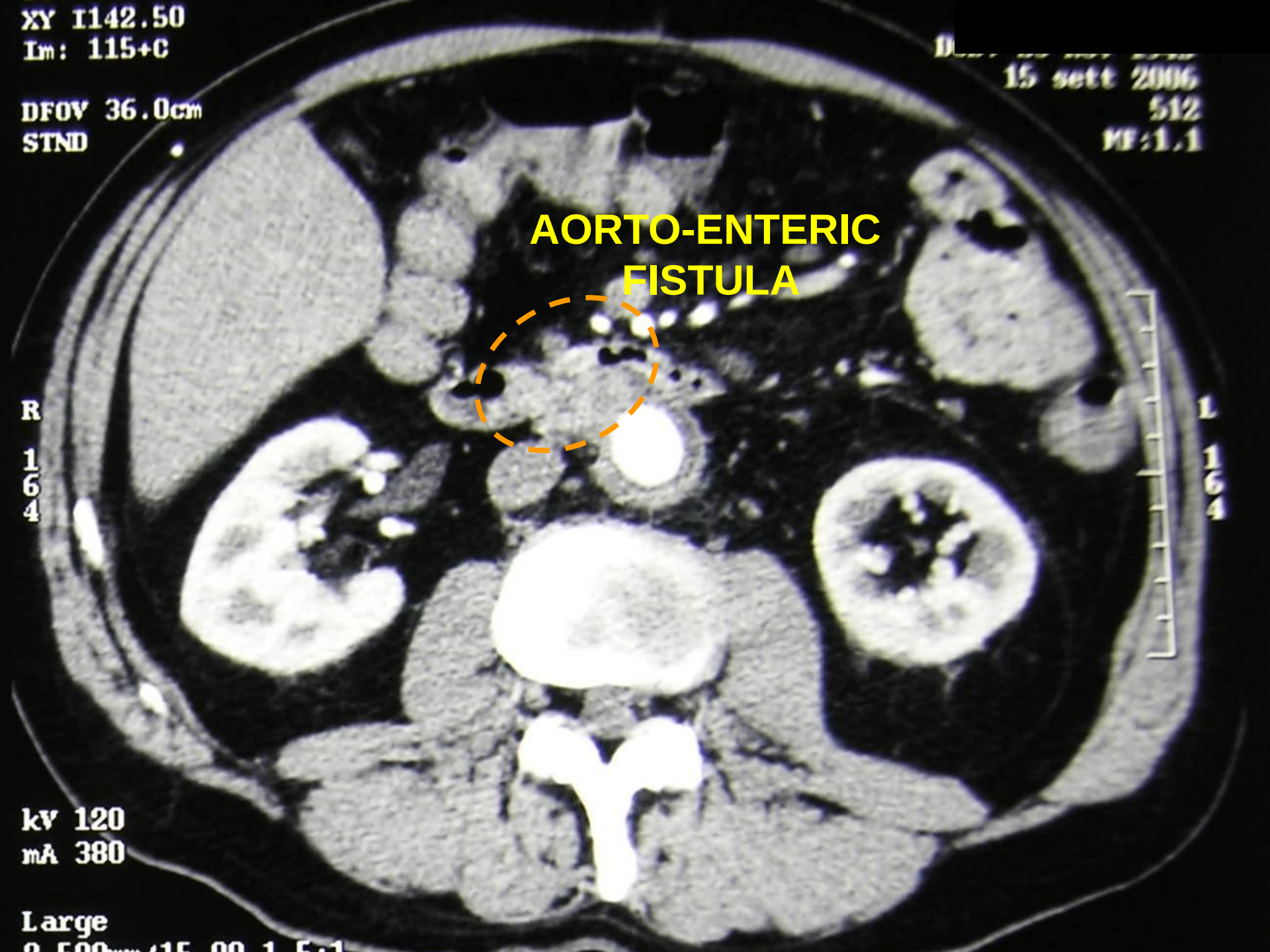
- Overall mortality: 1/9 (11%)
- Infected group mortality: 1/3 (33%)

The patient died on 33° day after graft removal

CASE REPORT

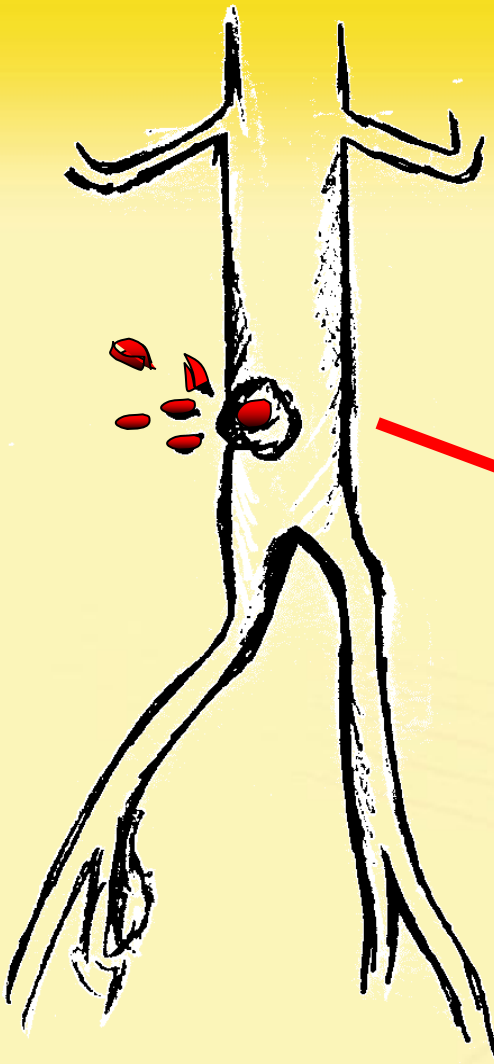

Blister of previous homograft
for aorto-enteric
fistula (2002)
after AAA open repair (1991)

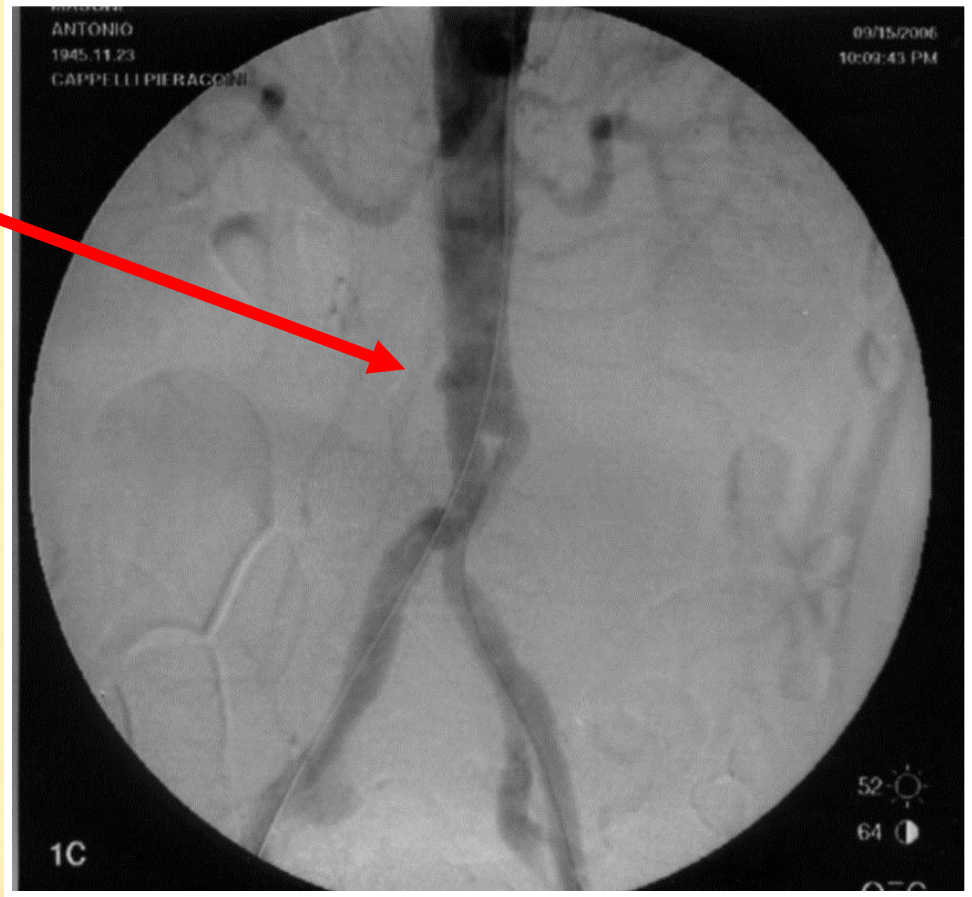

XY I155.00
In: 125+C
DFOV 36.0cm
STND
DOB: 23 nov 1945
15 sett 2006
512
MF:1.1
BLISTER of previous homograft
R
164
L
164
kV 120
mA 380
Large


XY I142.50
Im: 115+C
DFOV 36.0cm
STND
15 sett 2006
512
MF:1.1
AORTO-ENTERIC
FISTULA
R
164
L
164
kV 120
mA 380
Large

Hypotension - Bleeding

"Bridge" option → EVAR

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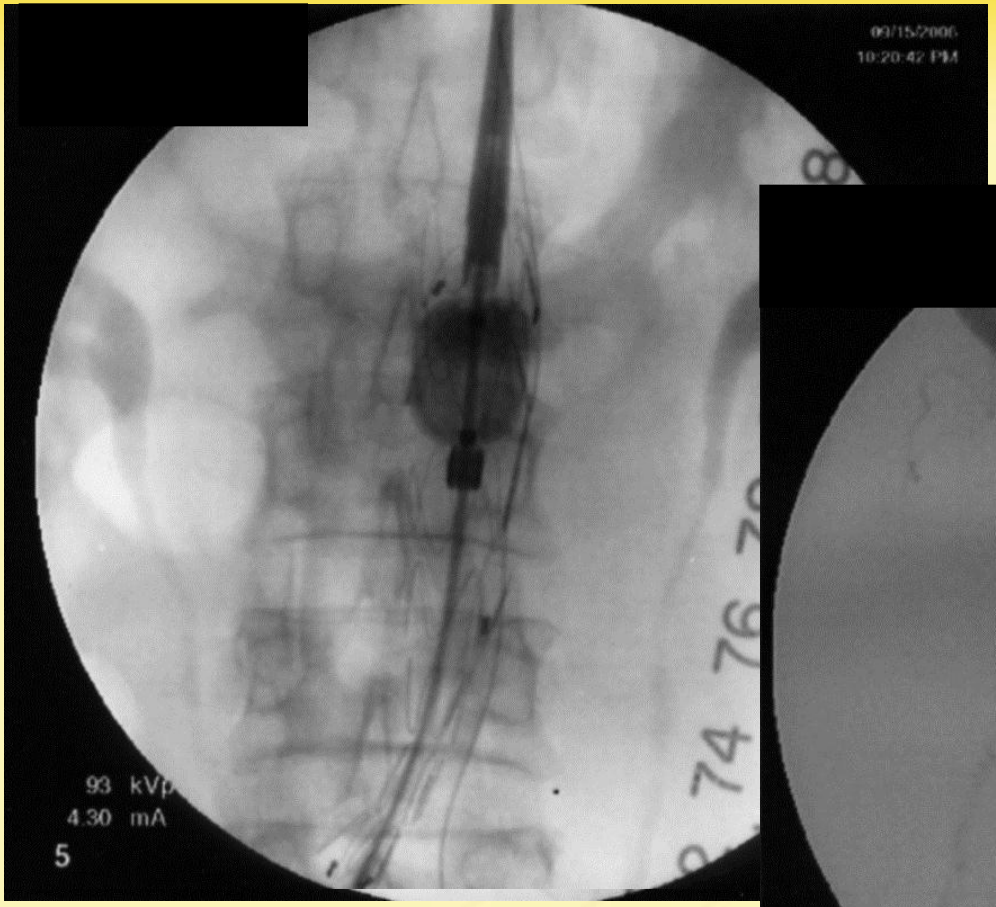
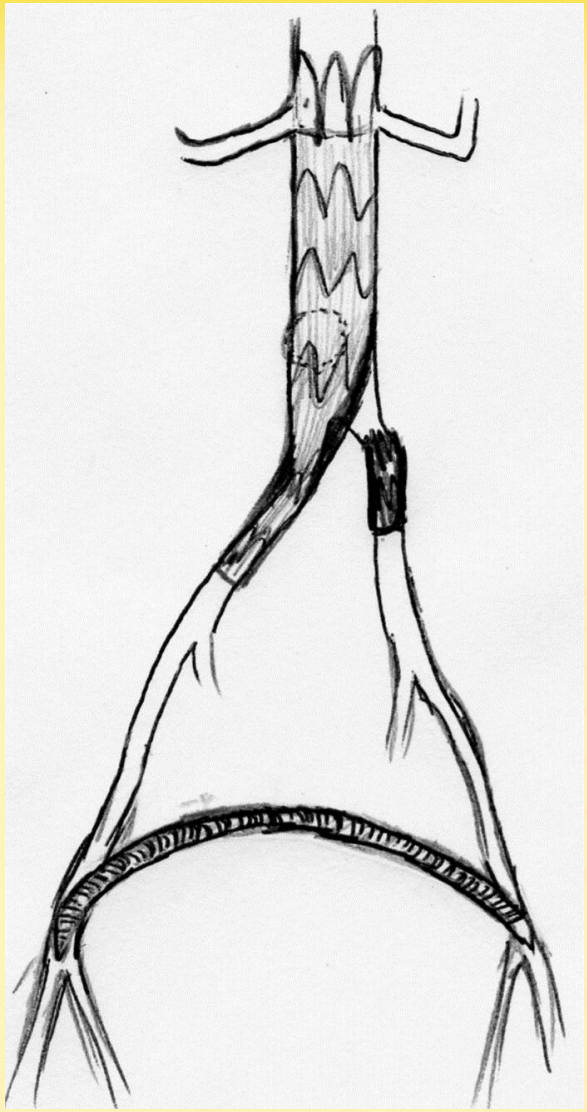
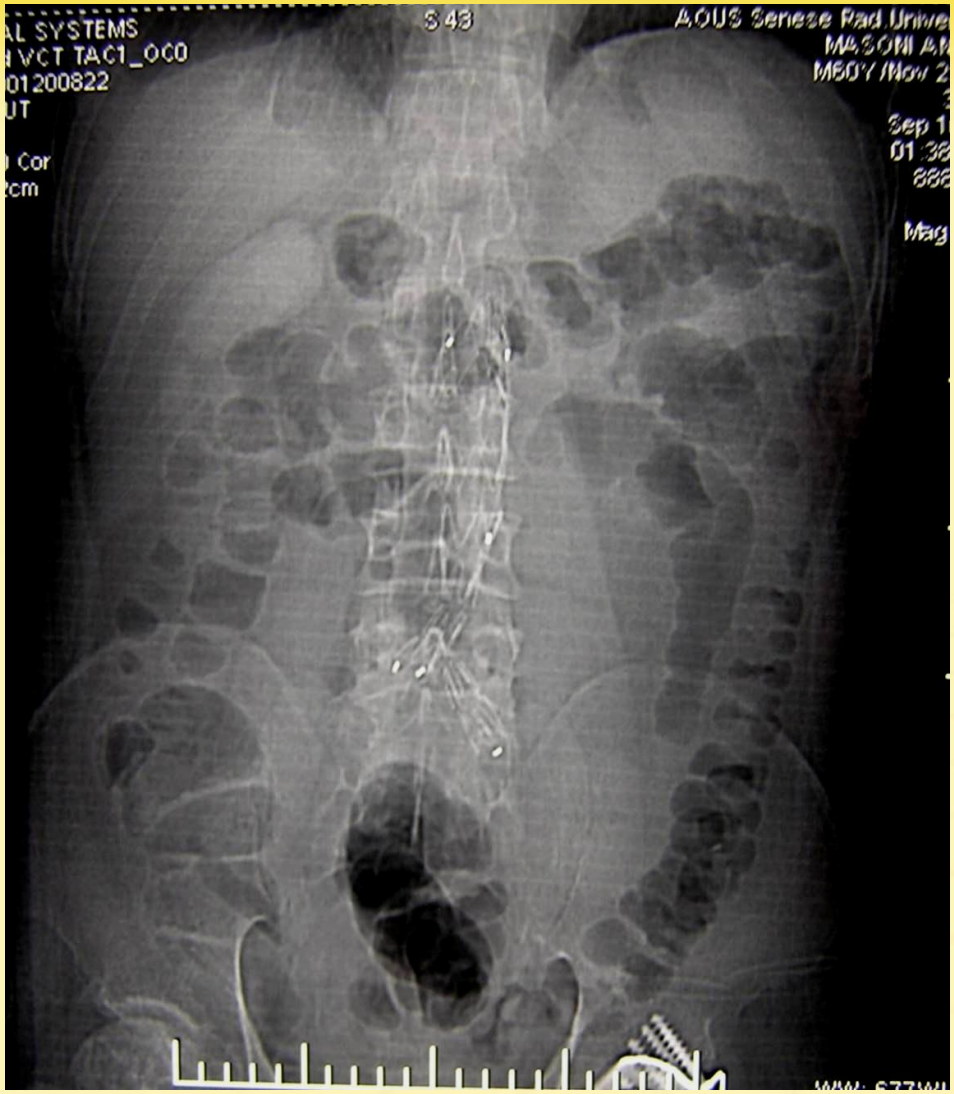


AORTOUNILIAC endoprosthesis



FEM-FEM BYPASS



Hemodynamic stabilitation

But unresolved:
-Melena
- fever

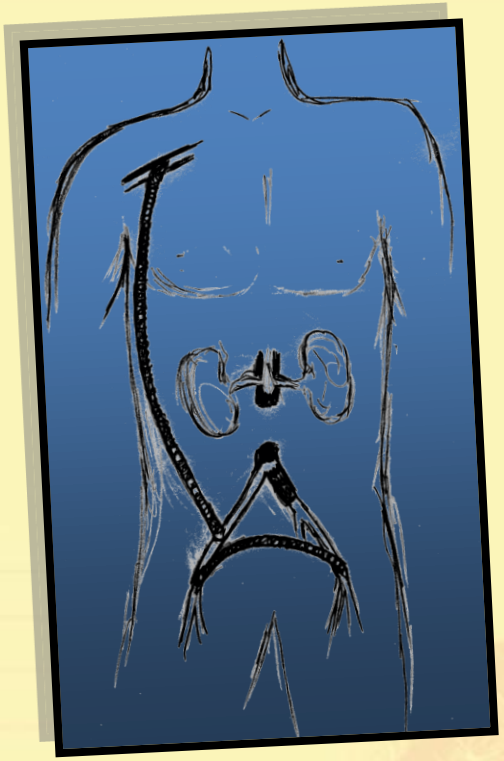
AORTO-ENTERIC FISTULA

Second look

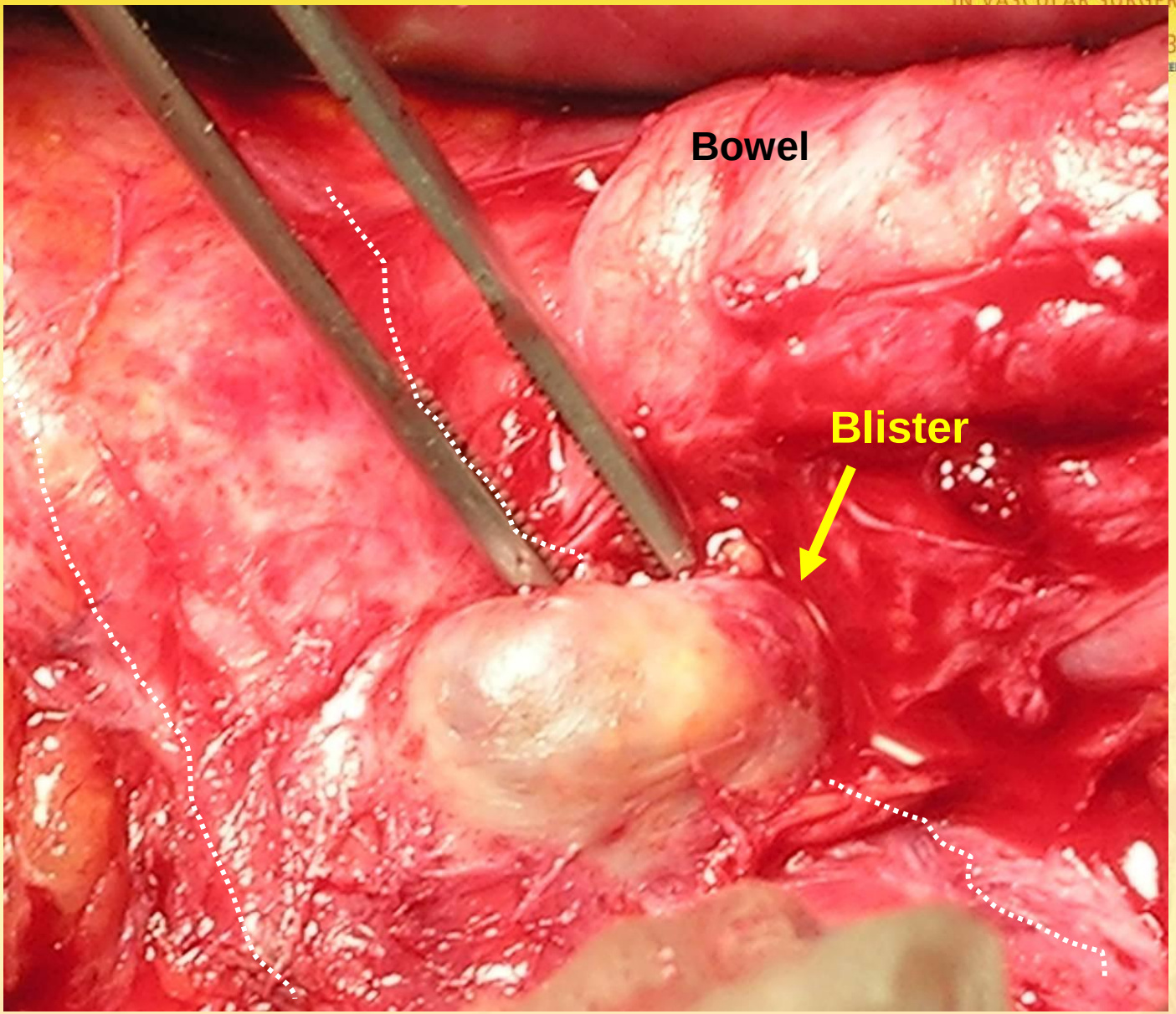
- Endograft Removal

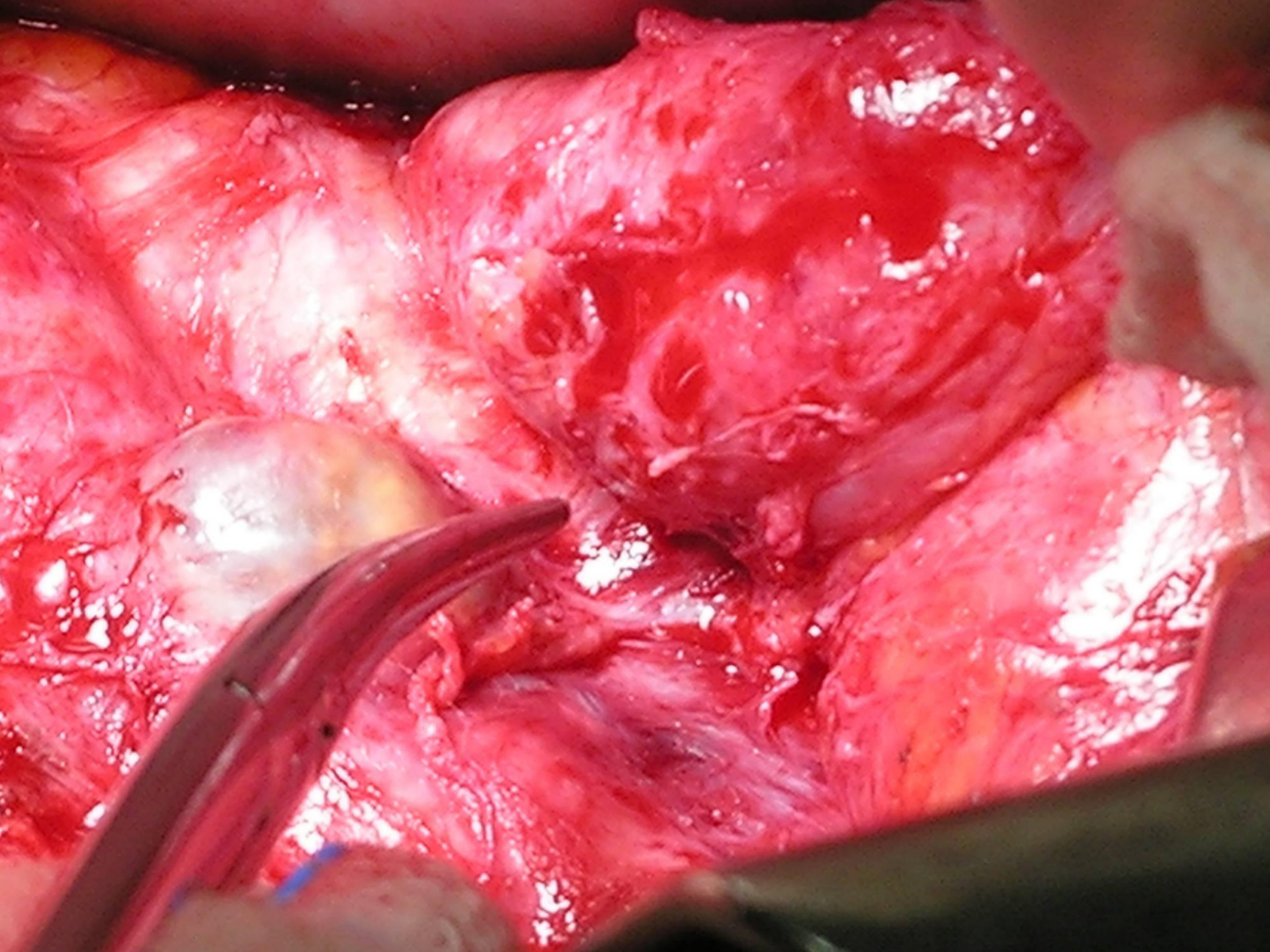
- Bypass axillary artery dx – External iliac artery dx
(extraperitoneal),

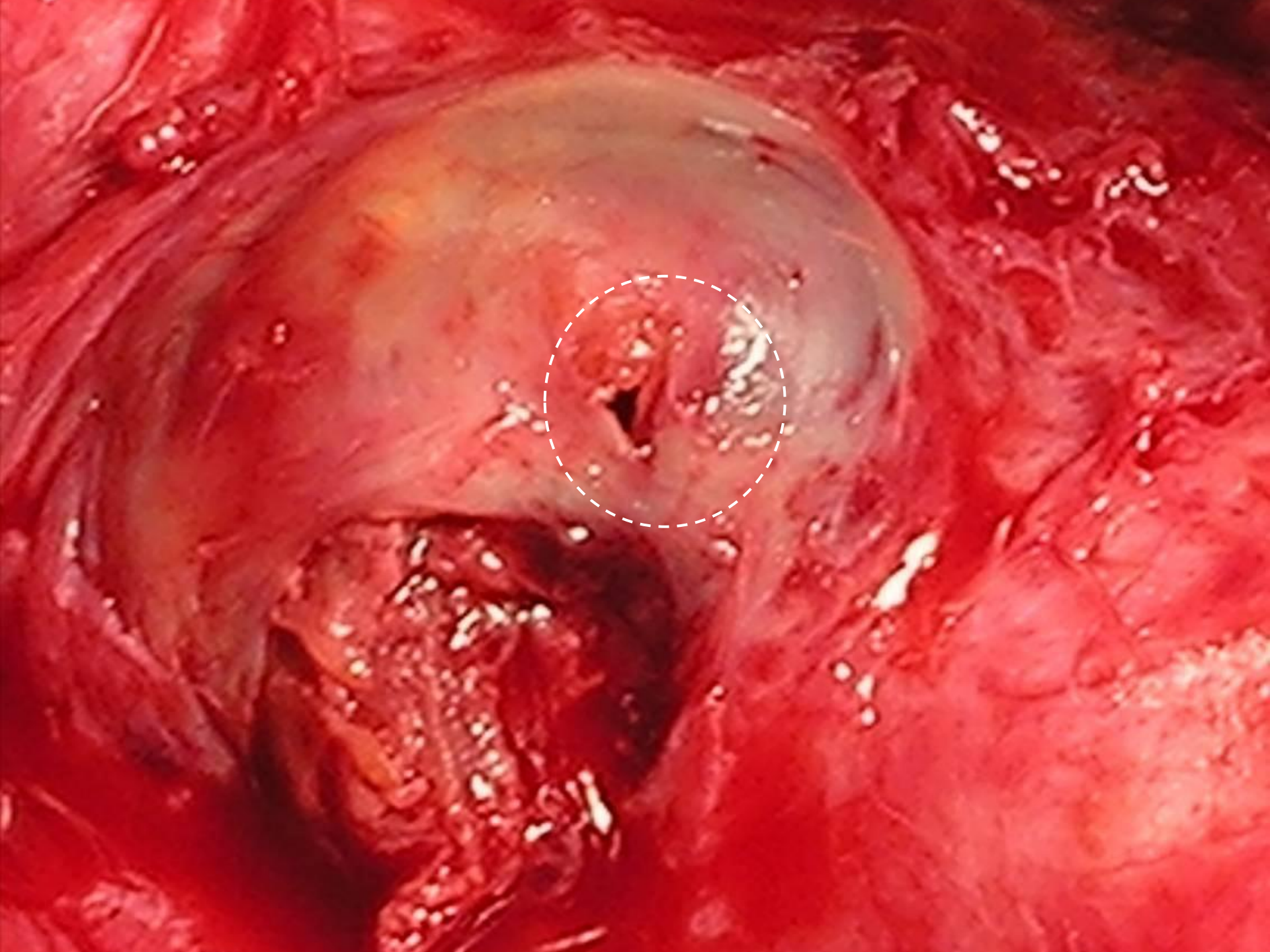
(CROSS-OVER FEM-FEM)



ABDOMINAL TIME: repair the fistula, suture and close the aorta below the renal vessels.


Bowel
Blister





Vascular
The Royal Society of Medicine Journals

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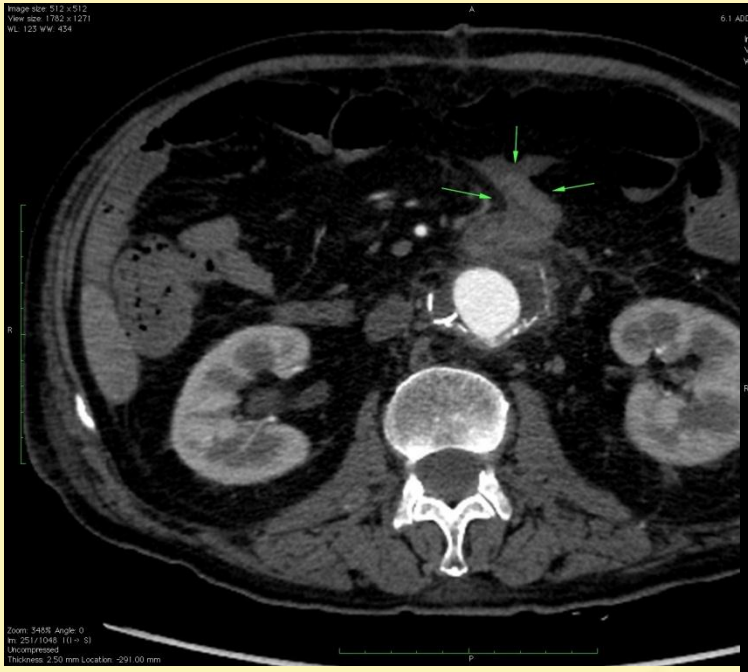
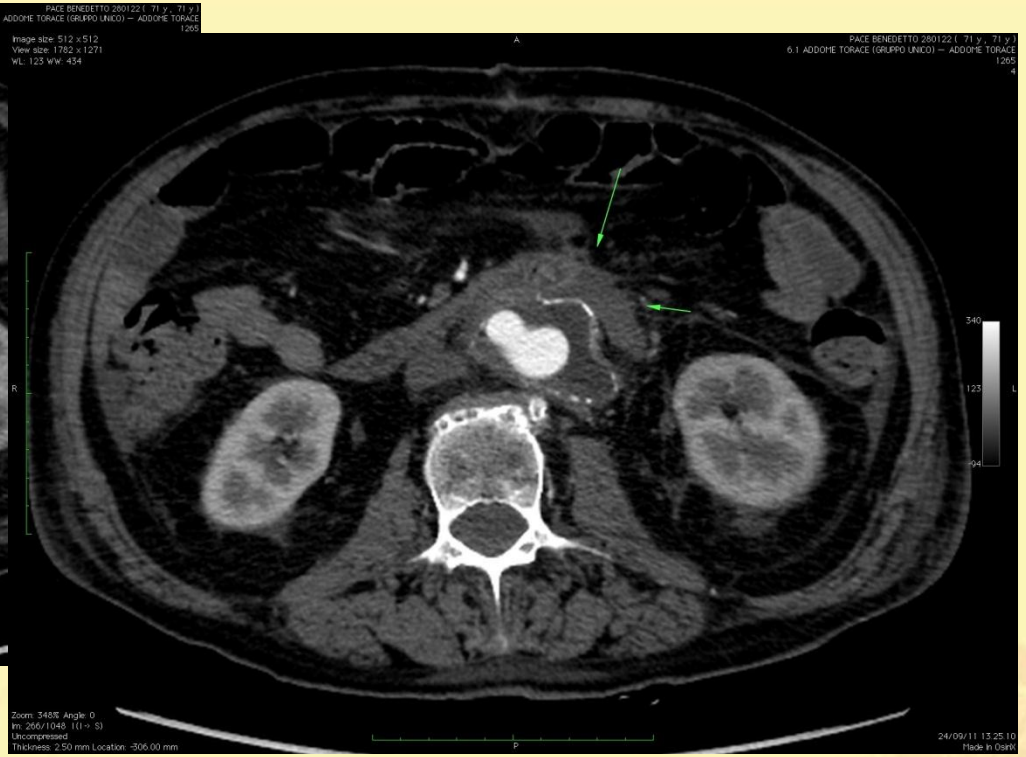
Recurrent Aortoenteric Fistula: Two Different Bridge Solutions

Emiliano Chisci, Gianmarco de Donato, Francesco Setacci, Andrea Stella and Carlo Setacci

Vascular. 2007 Jul-Aug;15(4):235-7.

Conservative Treatment





INFECTIVE ABDOMINAL COMPLICATION

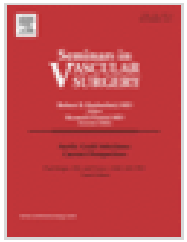
TREATMENT: ANTIBIOTIC THERAPY + ANTIBIOTIC PROFILAXIS (6months)
GOOD 10 MONTHS FOLLOW-UP (no clinic or sierological evidence of infection

ELSEVIER

Seminars in Vascular Surgery

Volume 24, Issue 4, December 2011, Pages 242–249

Aortic Graft Infections: Current Perspectives



Endografts for the Treatment of Aortic Infection

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ESVS
European Society
For Vascular Surgery

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On-going Common Diagnostic Guidelines for Vascular Graft Infections


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