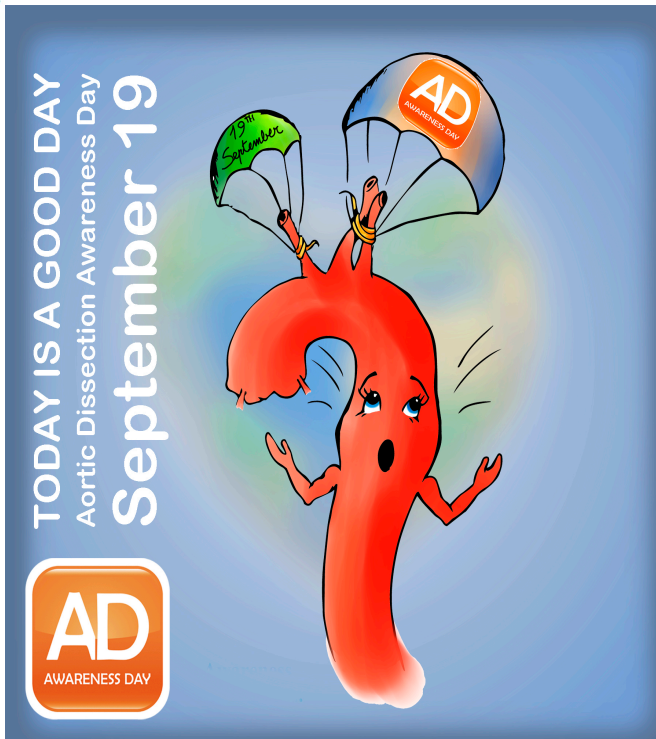




VASCUPEDIA



# Periscope and Chimney-EVAR for a ruptured Type Ia Endoleak following infrarenal EVAR

Konstantinos Stavroulakis, MD

Consultant of vascular and endovascular surgery

University Clinic of Münster, Germany



# Case Presentation

83 years old male patient:

- EVAR with Endurant II (Medtronic) bifurcated graft (36 mm) 2012
- Last follow up 2015 without evidence of aneurysm sac growth or endoleak
- No Aneurysm related interventions post EVAR

Past Medical History:

- Hypertension
- AF: OAC Administration
- Coronary Heart Disease



# Case Presentation

Initial admission to a regional hospital without vascular surgery unit

Symptoms:

- Abdominal/Back pain more than 24 Hours
- Nausea/Vomiting

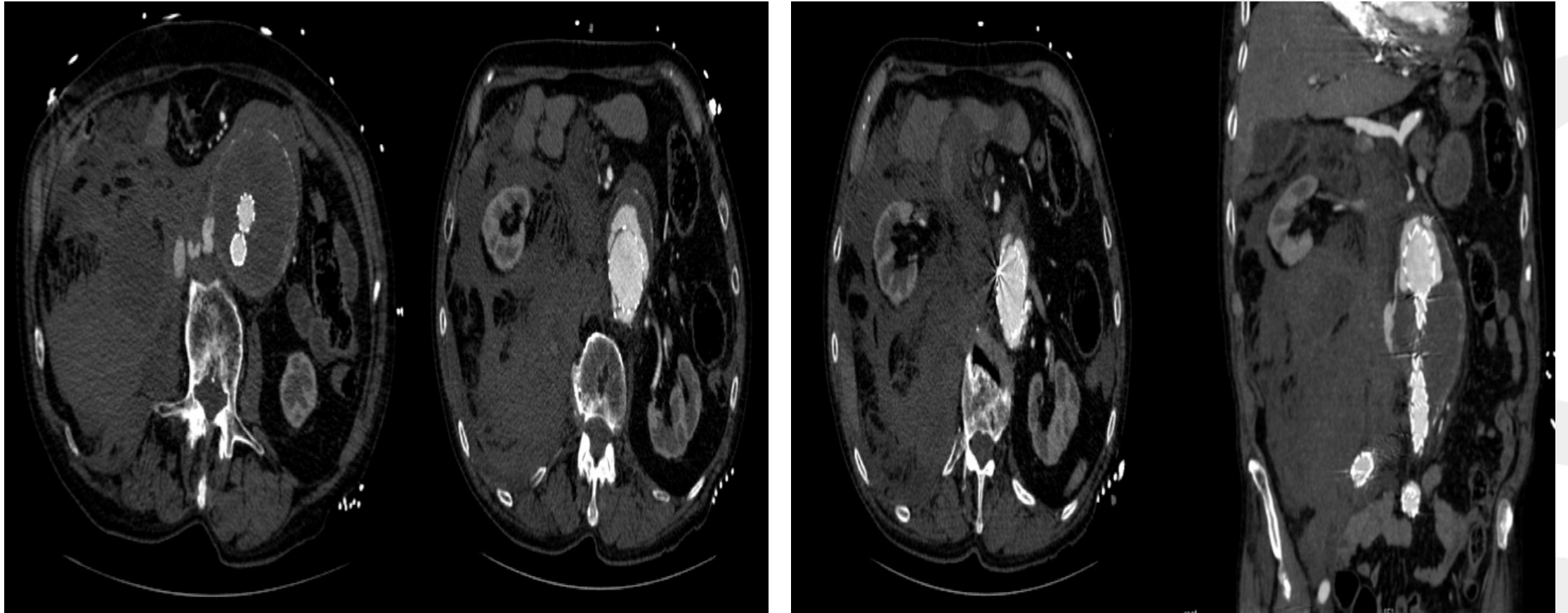
Lab Tests

- Initial hemoglobin value: 7 g/dl
- WBC: 15.000 per mCL

Initial BP: 100/70 mmHg

# Case Presentation

Ruptured AAA, Type Ia and Ib Endoleak after infrarenal EVAR



# Case Presentation

Admission to our hospital 5 hours after the initial presentation

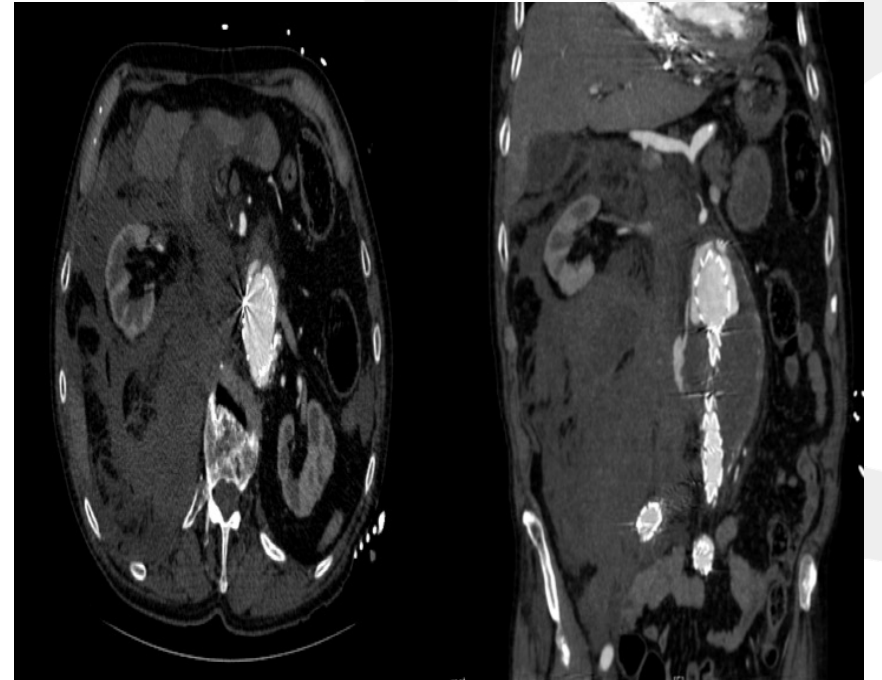
Symptoms:

- Persistent Abdominal/Back pain

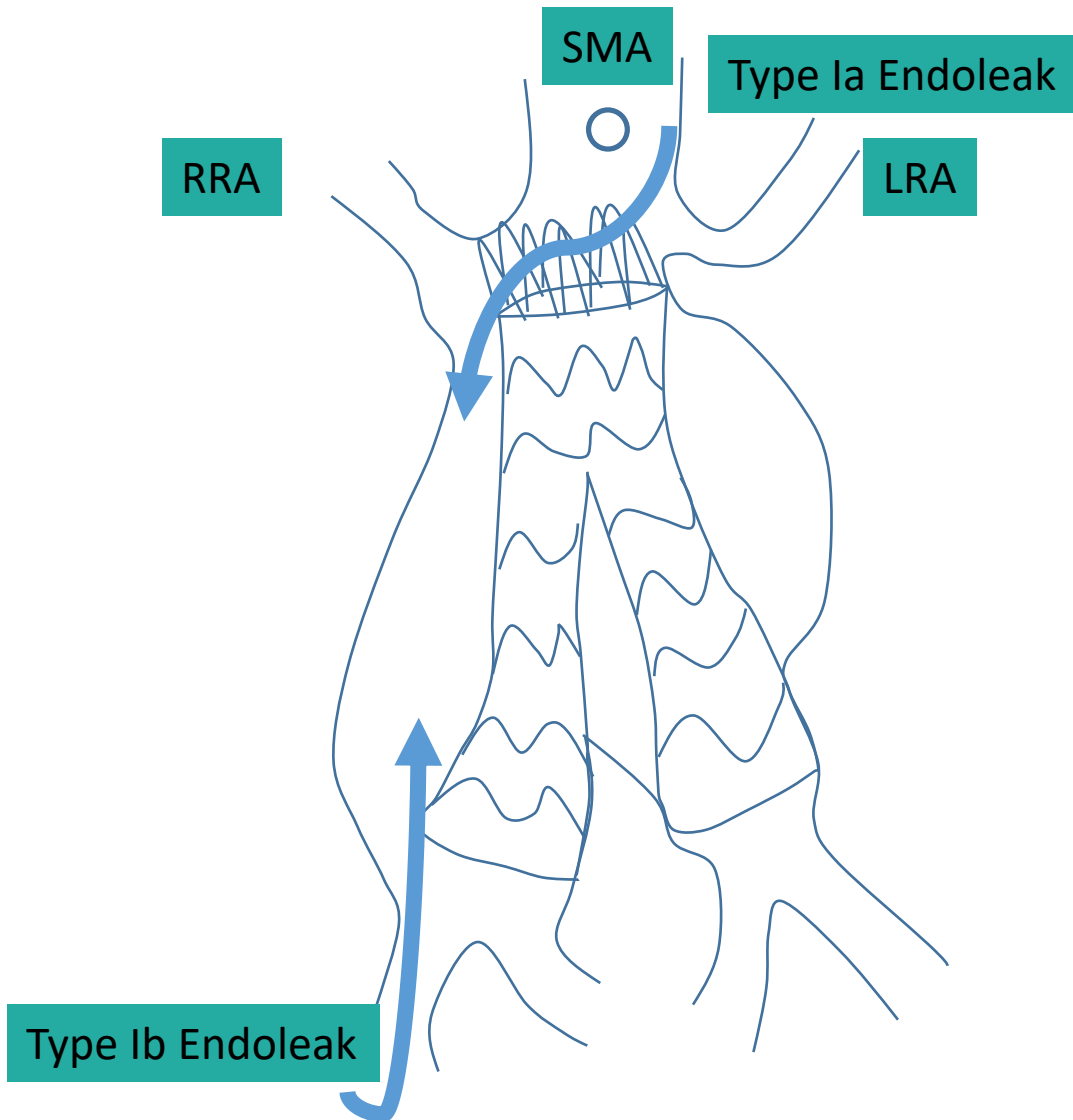
Lab Tests

- Hemoglobin value: 4,7 g/dl

BP: 70/40 mmHg



# Our strategy



## Initial strategy:

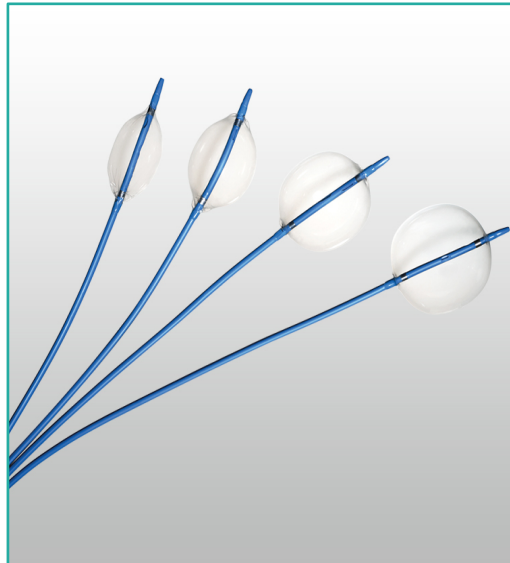
- Extend the proximal landing zone with 2 chimney grafts for the Renals and one for the SMA
- Extend the distal landing zone with occlusion of the right hypogastric

# First Step: Groin and upper extremity access

Prostar® XL  
Percutaneous Vascular Surgical  
System  
Abbot

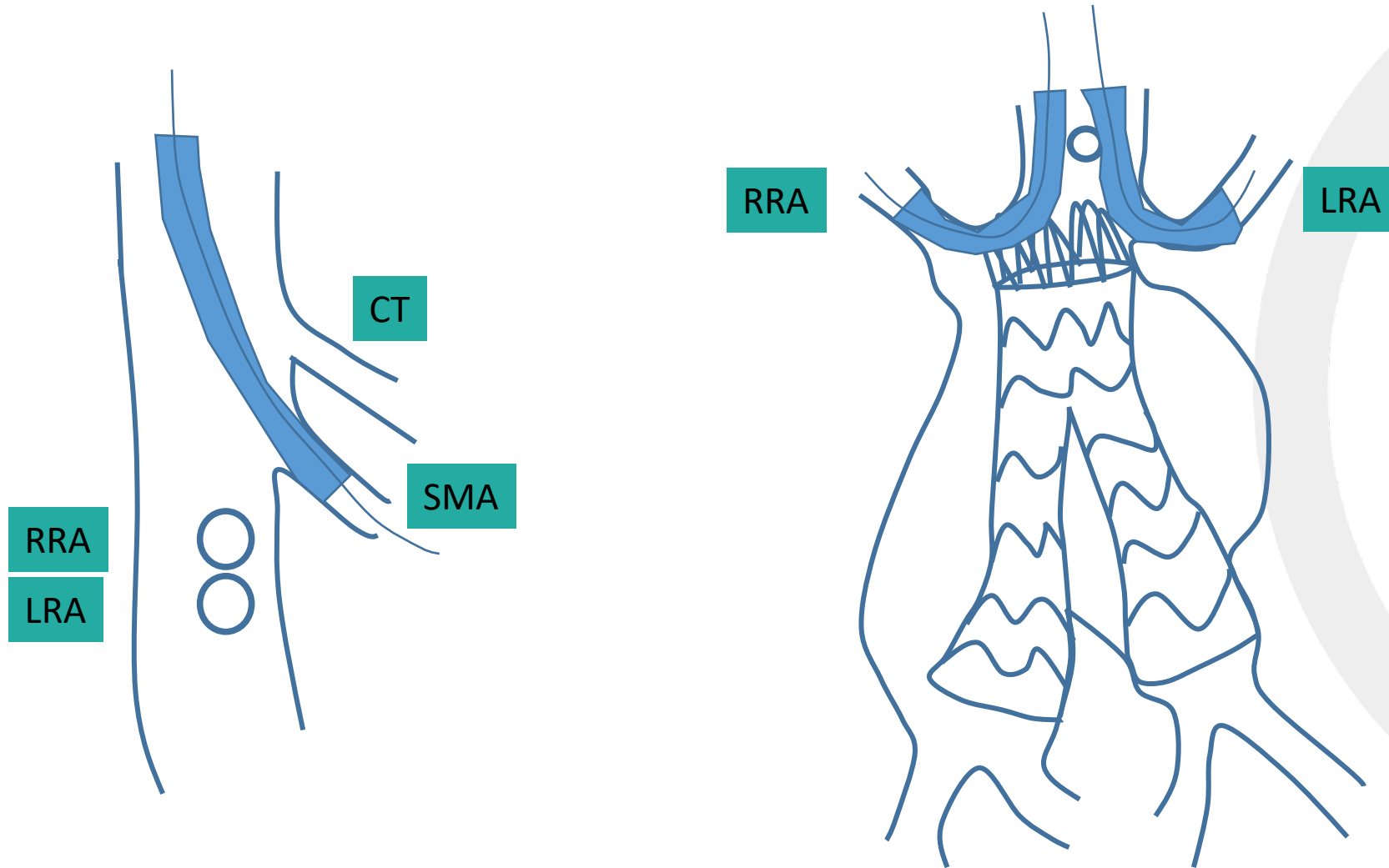


Reliant Stent Graft Balloon  
Medtronic



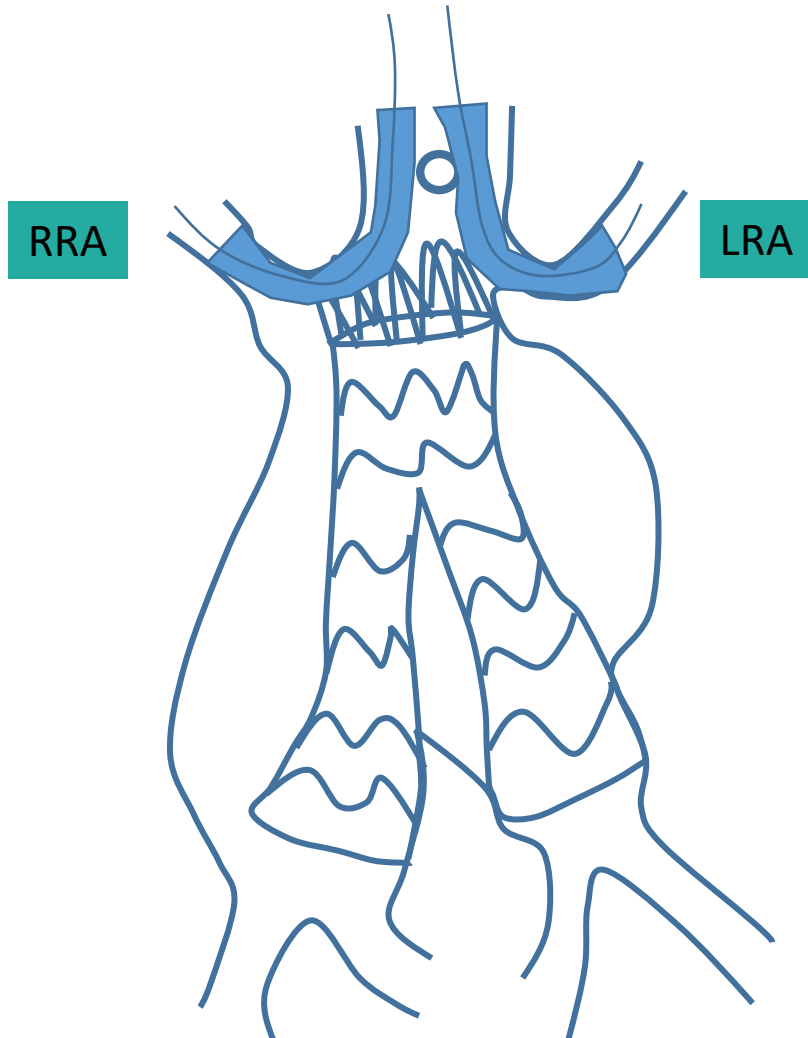
- Percutaneous groin access in local anesthesia with Prostar XL closure device
- Aortic occlusion with Reliant stent graft balloon to obtain hemodynamic control
- Surgical exposure of the left axillary artery in local anesthesia
- Double puncture of the axillary artery and introduction of 2 5 F short sheaths

# Second step: cannulation of the visceral vessels





# Second step: cannulation of the visceral vessels

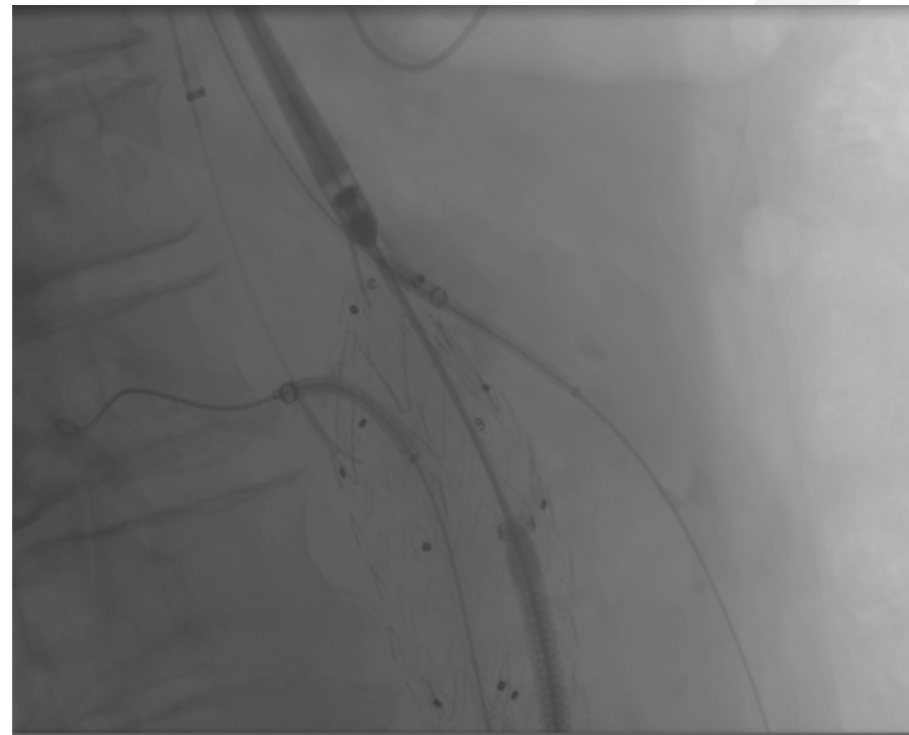
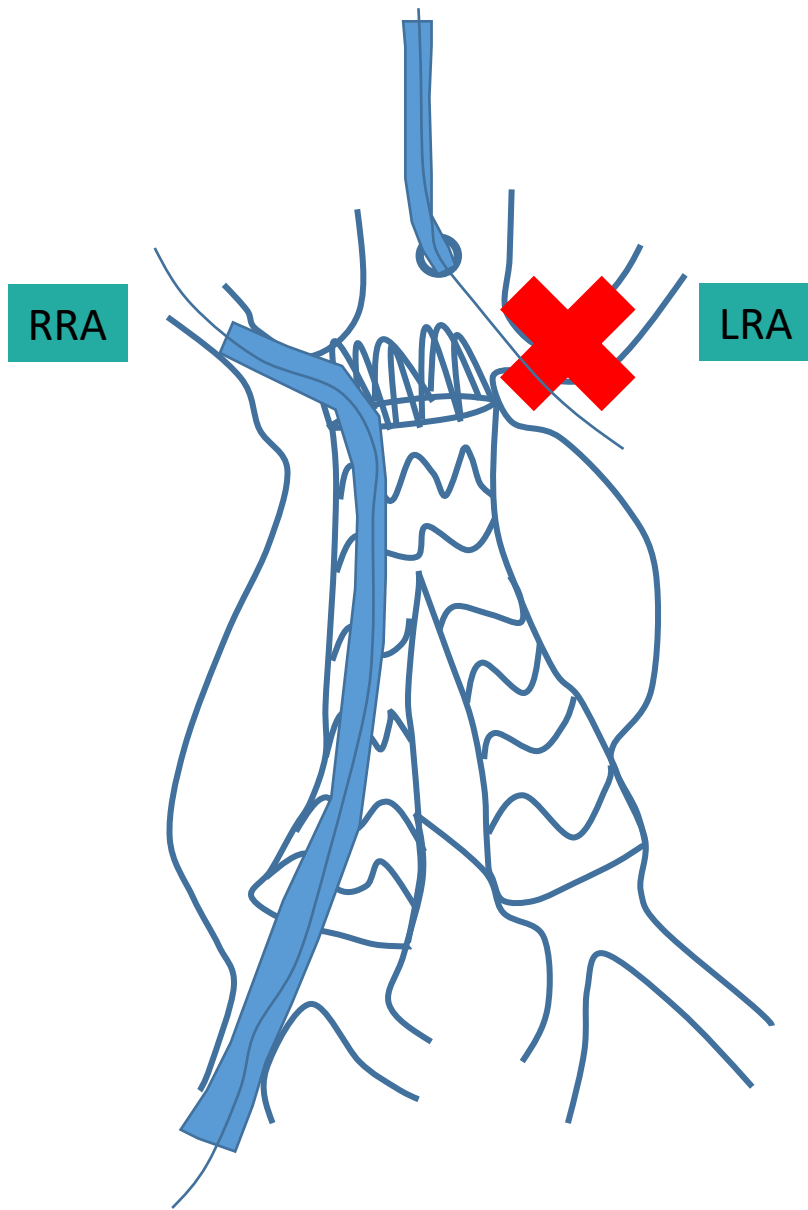


Because of:  
1) Previous aortic graft with suprarenal fixation  
2) Upward anatomy of the renals

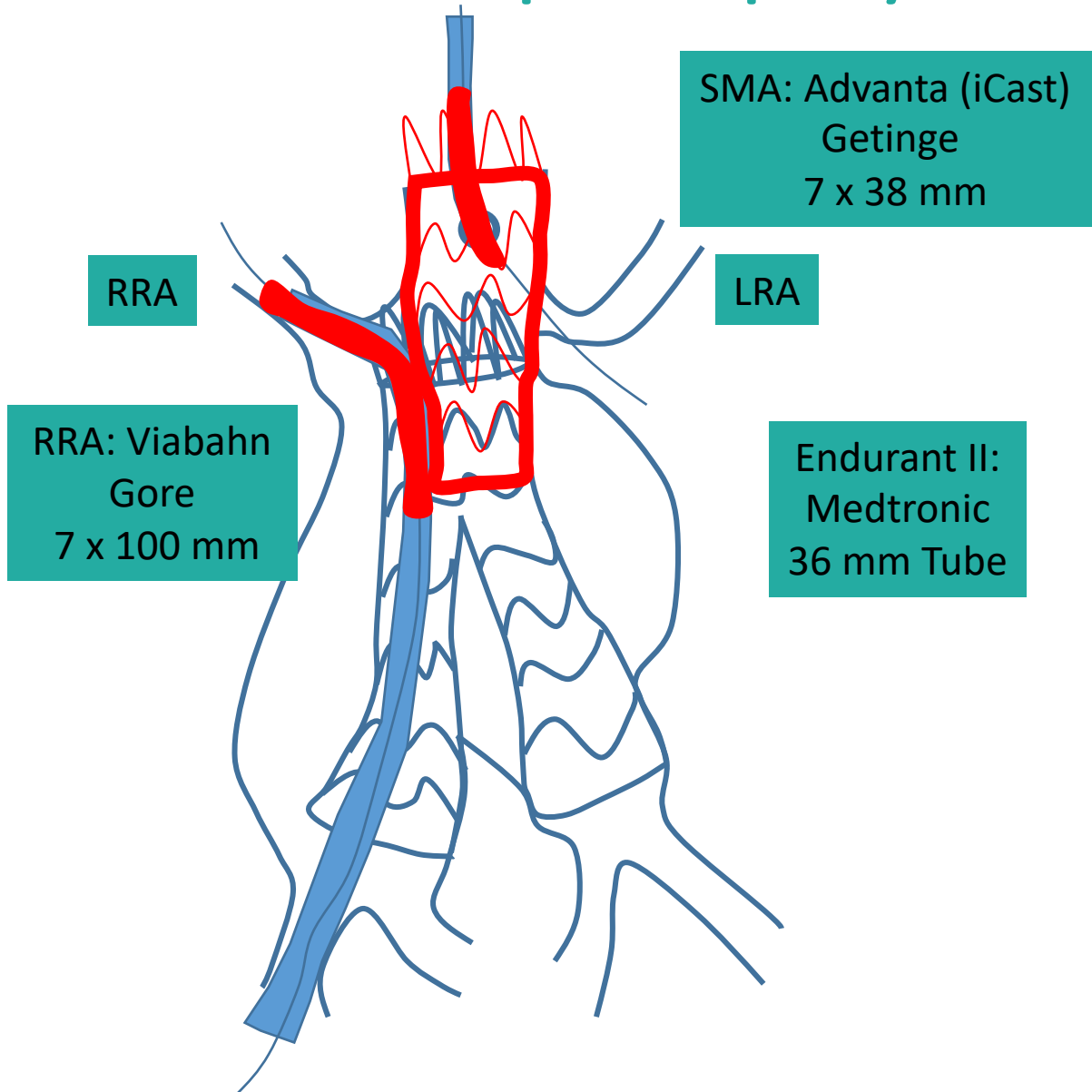
Cannulation of the renals  
through an upper extremity access  
was not possible

Strategy change to:  
Periscope for the right renal  
Sacrifice the left renal

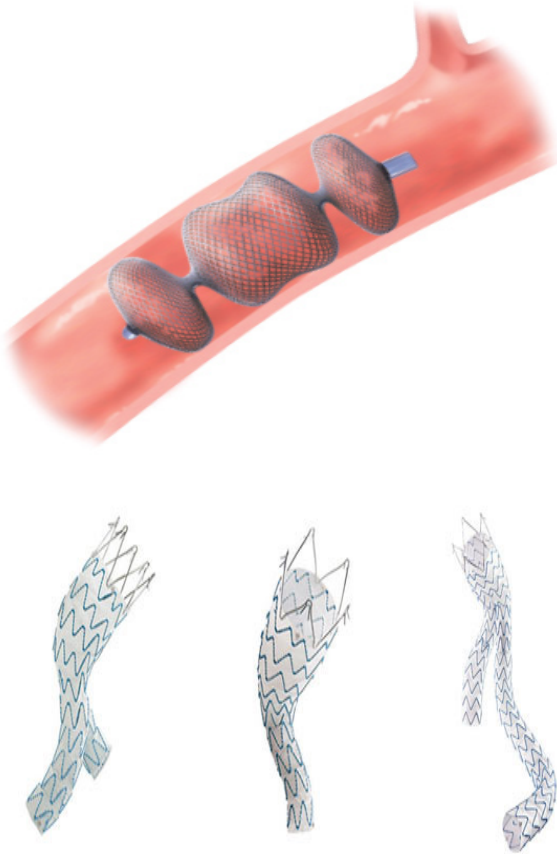
# Second step: cannulation of the visceral vessels



# Third step: Deployment of the grafts

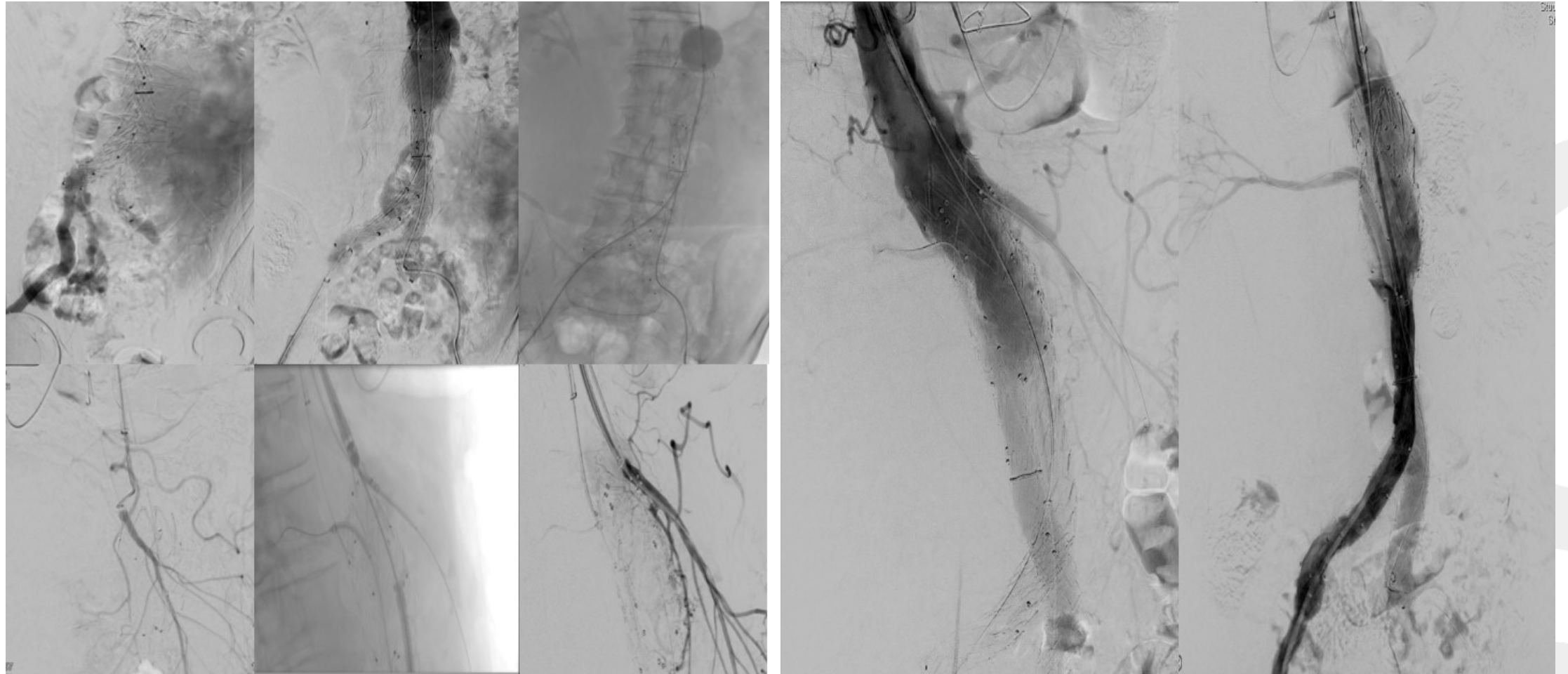


# Fourth step: Distal landing zone extension



- Occlusion of the right hypogastric with Amplatzer vascular plug (St. Jude Medical)
- Extension of the right limb with an Endurant II (Medtronic) limb (ETLW:1616C82EE)

# Final Result



---

# Conclusions:

- Chimney EVAR can be a valuable off the shelf solution for the treatment of complex vascular pathologies
- The anatomy of the renals and a previous aortic graft might compromise the cannulation of the visceral vessels via an upper extremity access
- The periscope technique (reversed chimney) can serve as an alternative in this cases