



VASCUPEDIA

Lower limb and visceral malperfusion in acute type B aortic dissection: step by step procedure

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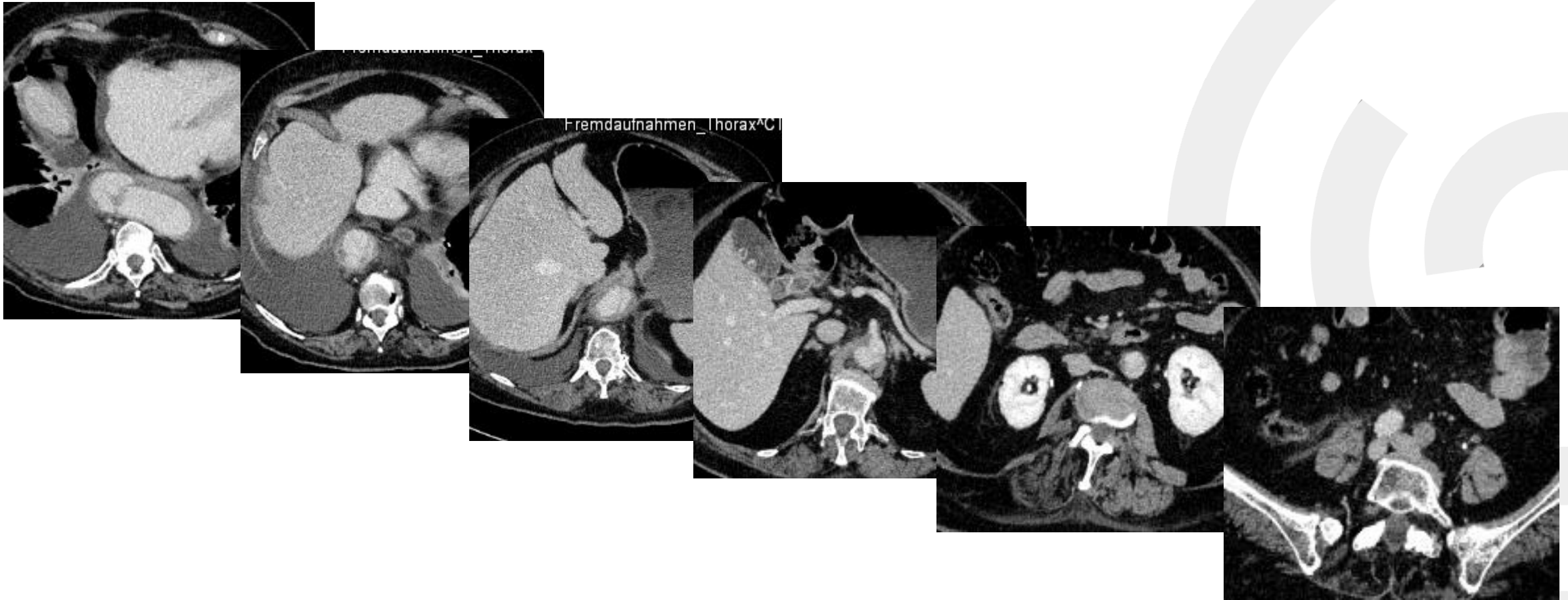
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Case presentation

- 62 years old, female
- Arterial hypertension, atrial fibrillation
- Initial symptoms in referring hospital:
 - Acute pain in the left lower limb, paraparesis
 - Admission to neurologic unit
 - Examination through general surgeon and cardiologist
 - Acute renal failure, lactate increase -> CT-angiography
- Refer to our clinic:
 - 6h later with the diagnosis of acute limb ischemia and visceral malperfusion through a type B dissection

Preoperative imaging



What should you check in the preoperative CT-angiography?

1st step:

Descending aorta and proximal tear:
in this case there is an intramural hematoma in the proximal descending aorta and the tear is identified in the middle of the descending aorta



2nd step:

Perfusion of the visceral vessels:

Celiac artery: true lumen
SMA: true lumen
RRA: true lumen with collapse
LRA: true/false lumen



CELIAC ARTERY



SMA



LRA



RRA

What should you check in the preoperative CT-angiography?

3rd step:

Number of re-entries:

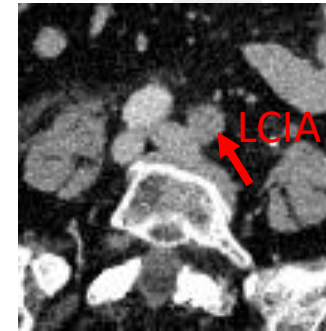
in this case there were multiple re-entries. This increases the risk to get from the true to the false lumen and vice versa.



4th step:

Perfusion of the iliac arteries:

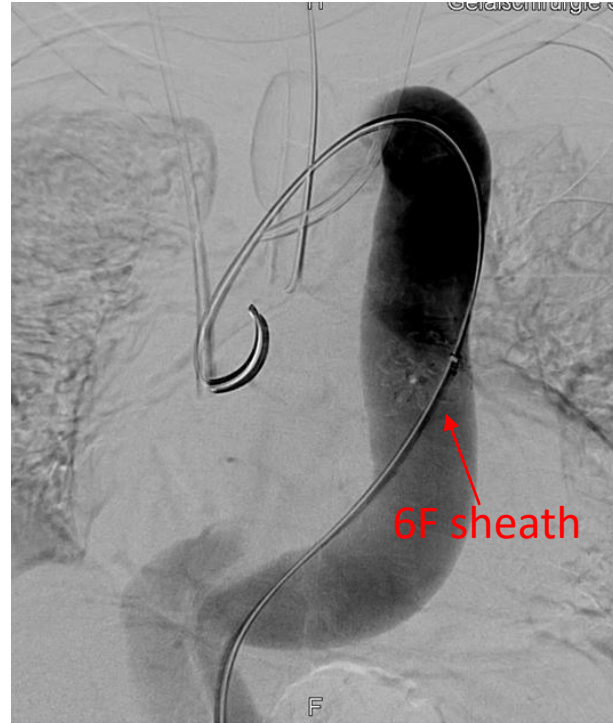
Right CIA: false lumen
Left CIA: true and false lumen (malperfusion)
Right CFA: false lumen
Left CFA: true and false lumen (malperfusion)
Left SFA: true lumen



Our treatment



Cut down left SFA and vessel puncture – safe placement of the wire in the true lumen



Check the position of the wire through a 90cm 6-or 8-F sheath by repeat angiographies

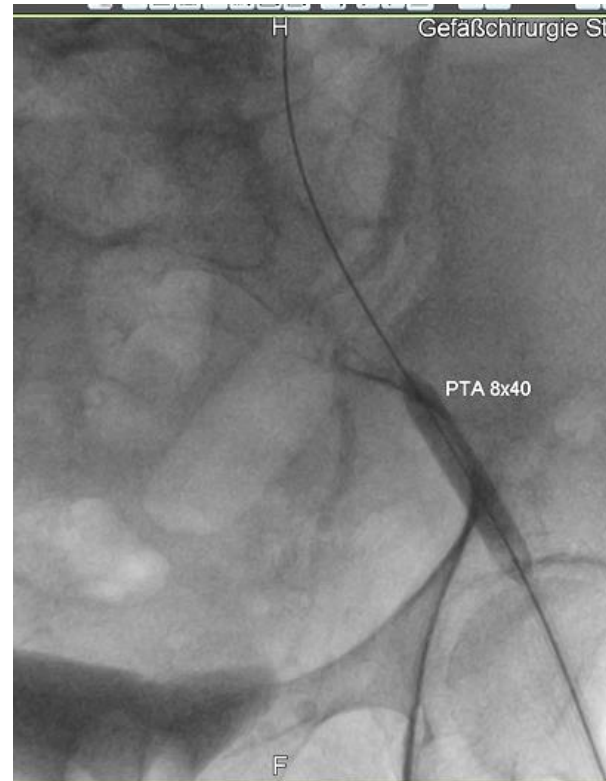


Since the origins of all visceral vessels are identified, we are sure that the wire is in the true lumen (in the CT-angio, celiac trunk, SMA and RRA arise from the true lumen)

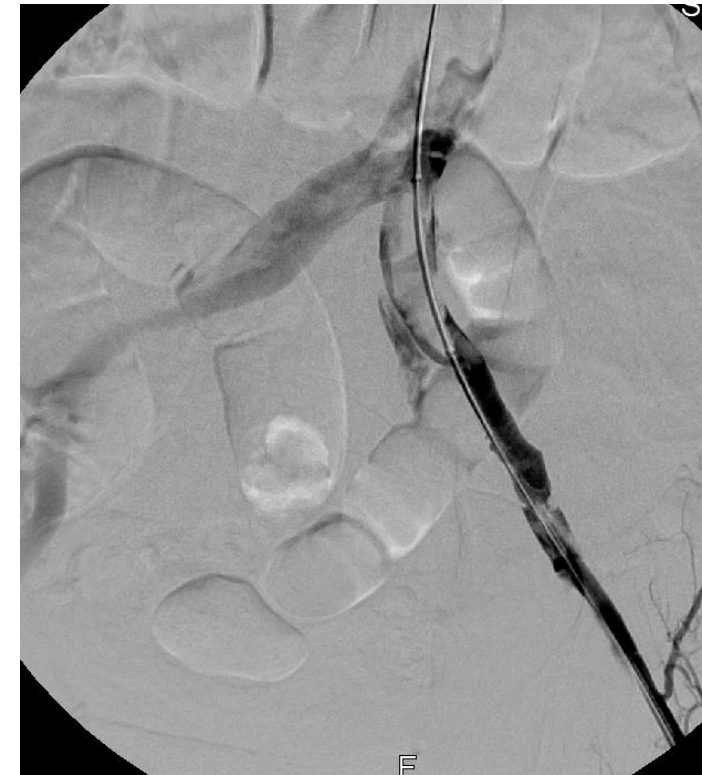
Our treatment



Puncture of the right CFA –
perfusion through the false
lumen

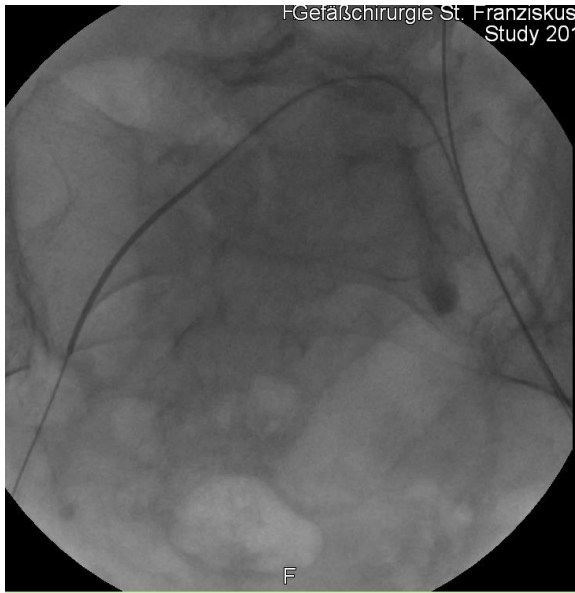


Angioplasty of the true lumen in the
left EIA (note: in the majority of the
cases there is no thrombus in the
true lumen)



The angiography shows contrast medium in
the left EIA, i.e. there is an entry between left
and right iliac access

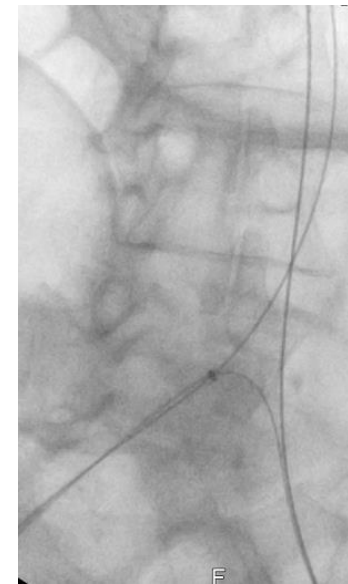
Our treatment



Use of a pigtail catheter and snare for cross-over catch of the wire



Placement of a 90cm Shuttle sheath (8F) from the right CFA to left CIA



Placement of a parallel wire into the true lumen



Control of the position of the Lunderquist wire through multiple angiographies

Our treatment



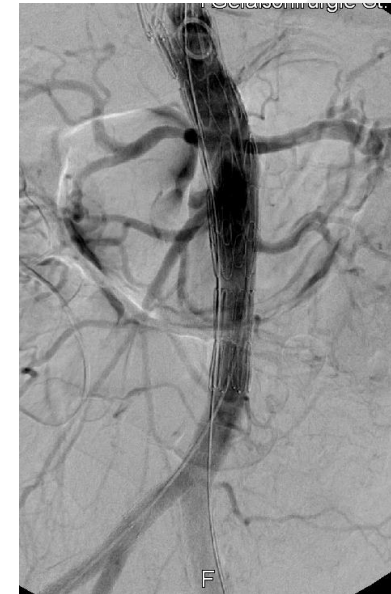
Kissing bare metal stents in the CIAs and BMS in the right EIA as well as in the left EIA and CFA



Thoracic endografting with coverage of the intramural hematoma and the entry tear (Zenith Alpha – COOK) 10% Oversizing)



Extension up to the celiac artery



Implantation of dissection stent (COOK Medical – ZDES-36-180)

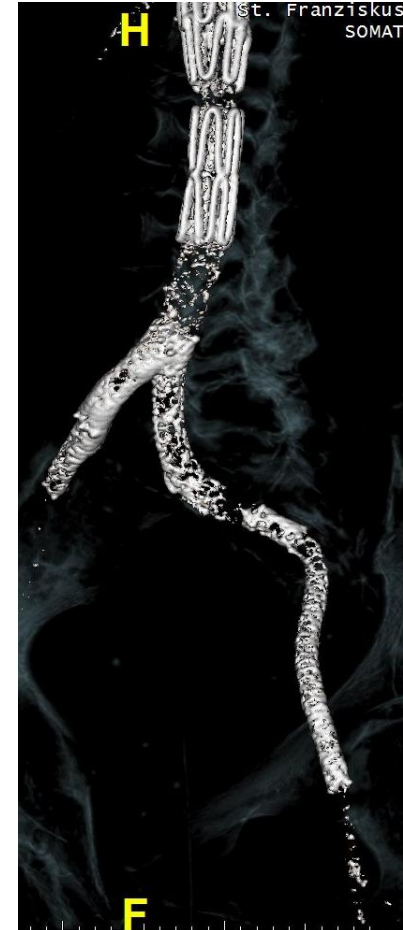


Careful dilatation with the Reliant balloon catheter (Medtronic)

Final angiography



At discharge



Questions to Vascupedians

- Do you agree with our treatment strategy?
- Would you have done sth else?
- What is your thoracic endograft of choice for type B dissections?
- Are you using dissection stents?
- Do you agree with the use of the Reliant balloon at the end of the procedure?