

Complications in Target Arteries of Branched and Fenestrated Stent Grafts – Incidence and Management

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Branched (T)EVAR + Fenestrated EVAR

Combined experience

Helios Vascular Center Berlin-Brandenburg

- 2004 - 2017
- 466 patients
- Zenith Stent-grafts in all cases
(CMD, T-Branch, Standard Fenestrated)
- Target arteries: Renal, SMA, CA, IIA
- Bridging stent-grafts:
Advanta V12 balloon expandable



FEVAR/ Br(T)EVAR / ILIAC Branched Grafts

n = 466

Helios Vascular Center Berlin-Brandenburg 2004-2017

	n=	Hospital Mortality
EVAR Fenestrated Grafts	190	4,7 % (n=9)
Branched TEVAR	138	8,7 % (n=12)
• Off-the shelf (T-Branch)	93	
• CMD Grafts	35	
EVAR with Iliac side branches	138	1,4 % (n=2)
Overall	466	4,9 % (n=23)
Target arteries	1270	

Branched (T)EVAR + Fenestrated EVAR

n = 466

Complications in target arteries:
Dissection, rupture, perforation,
thrombosis, occlusion

- 44 patients (9,4 %)
- 44 Target arteries (3,5 %)
 - Renal arteries 32
 - SMA 10
 - Celiac artery 2

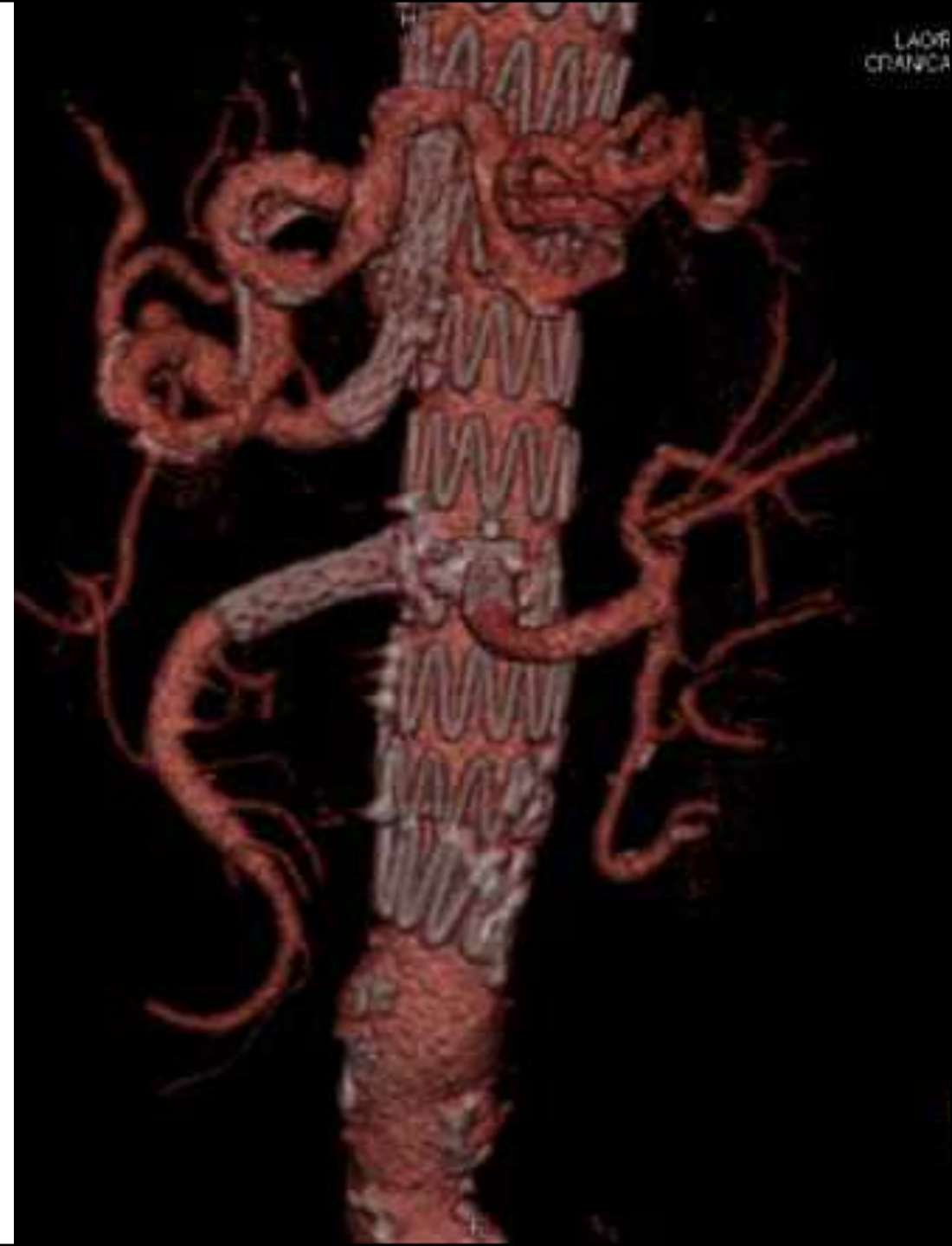


Branched (T)EVAR + Fenestrated EVAR

n = 466

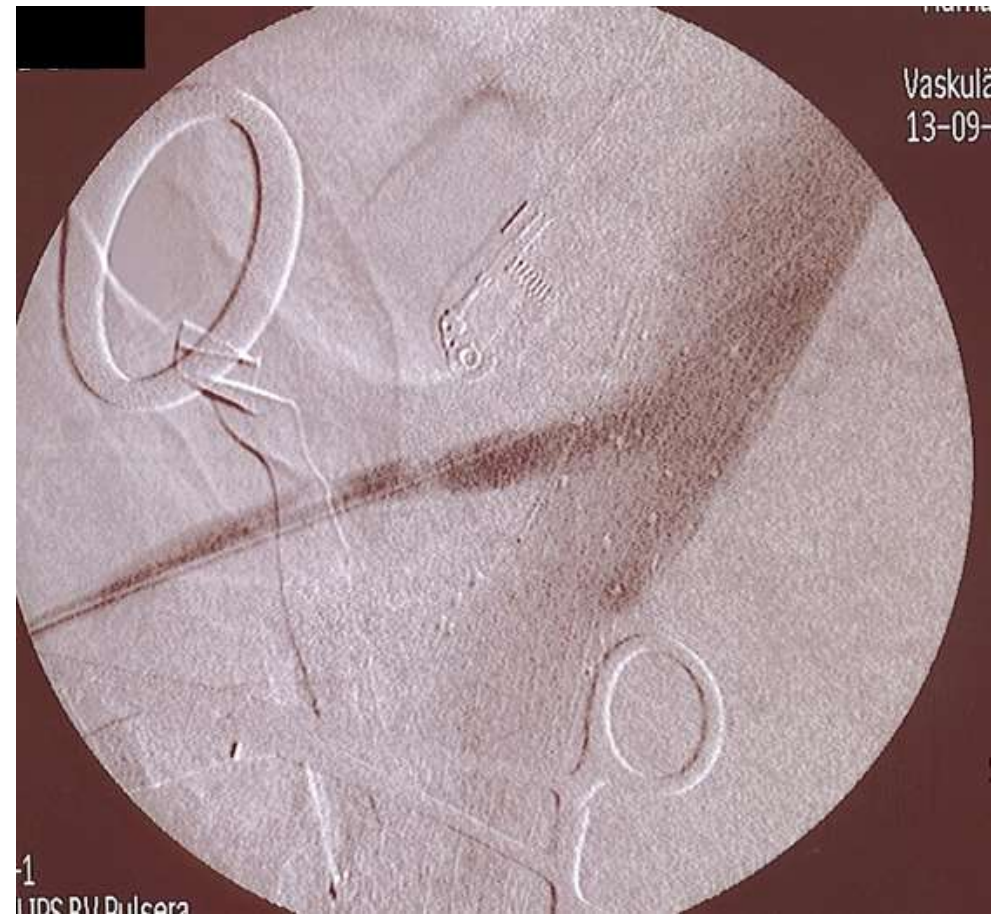
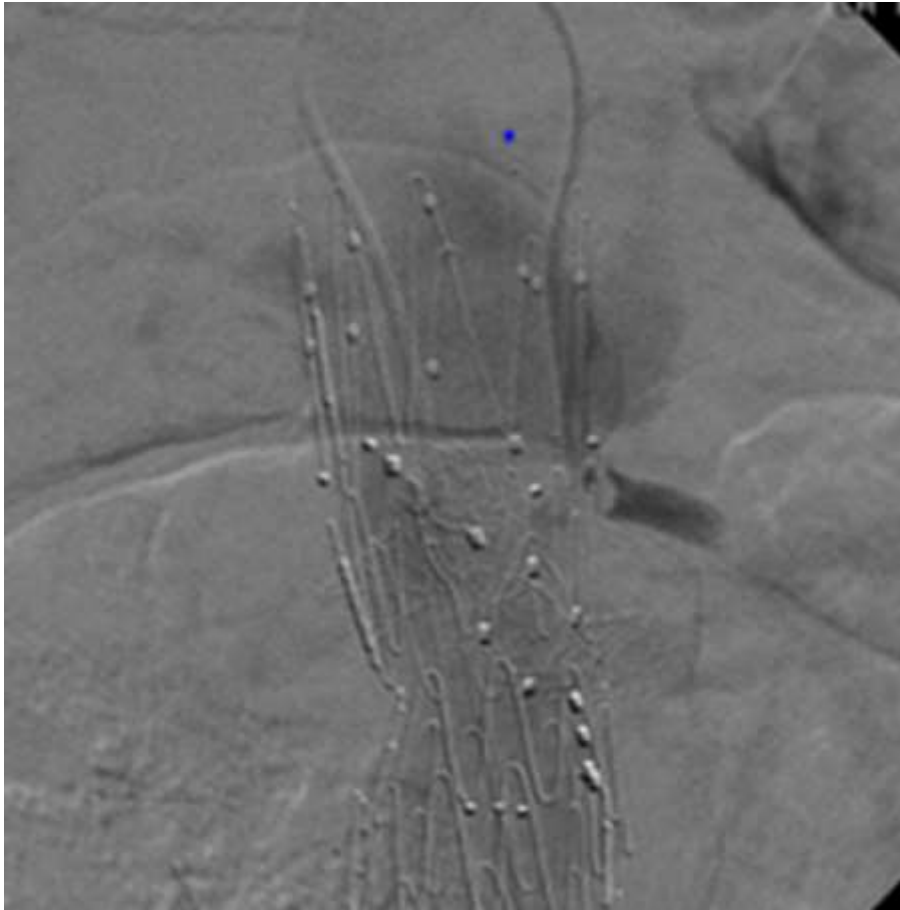
Complications in target arteries Management

- Thrombolysis
- Stenting
- Coiling
- Occlusion of side branch



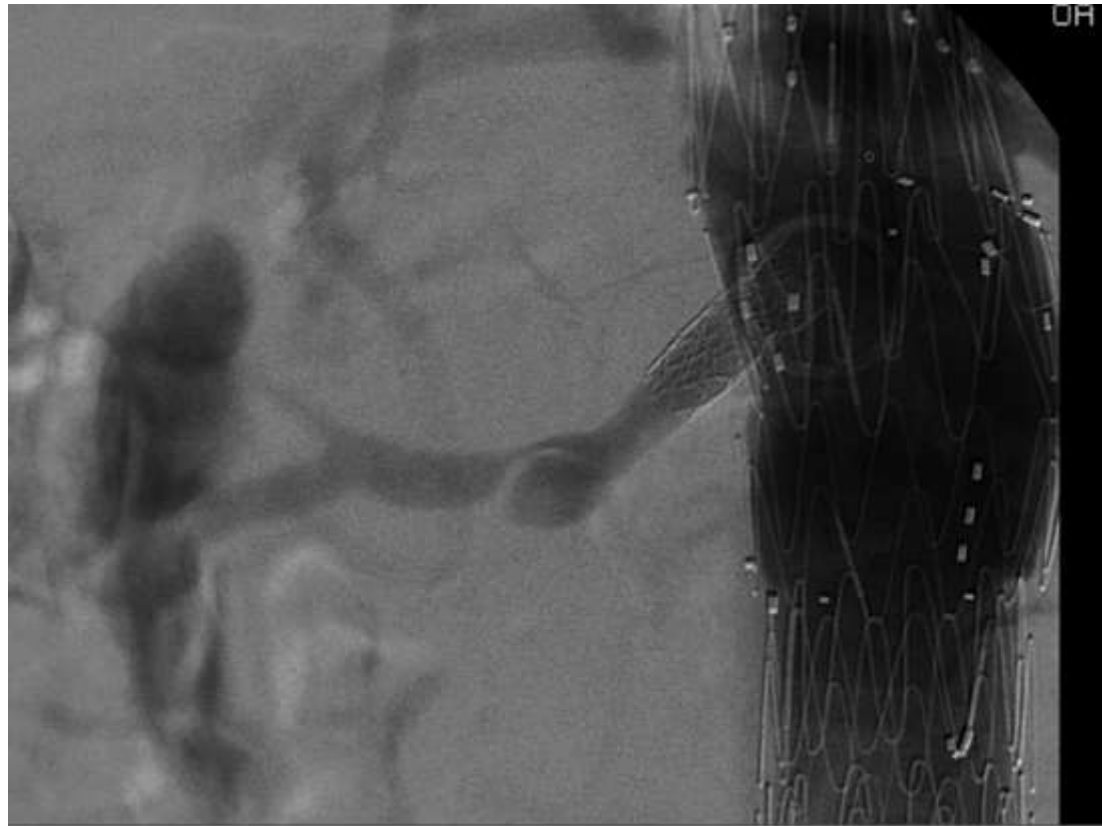
FEVAR

SMA occlusion



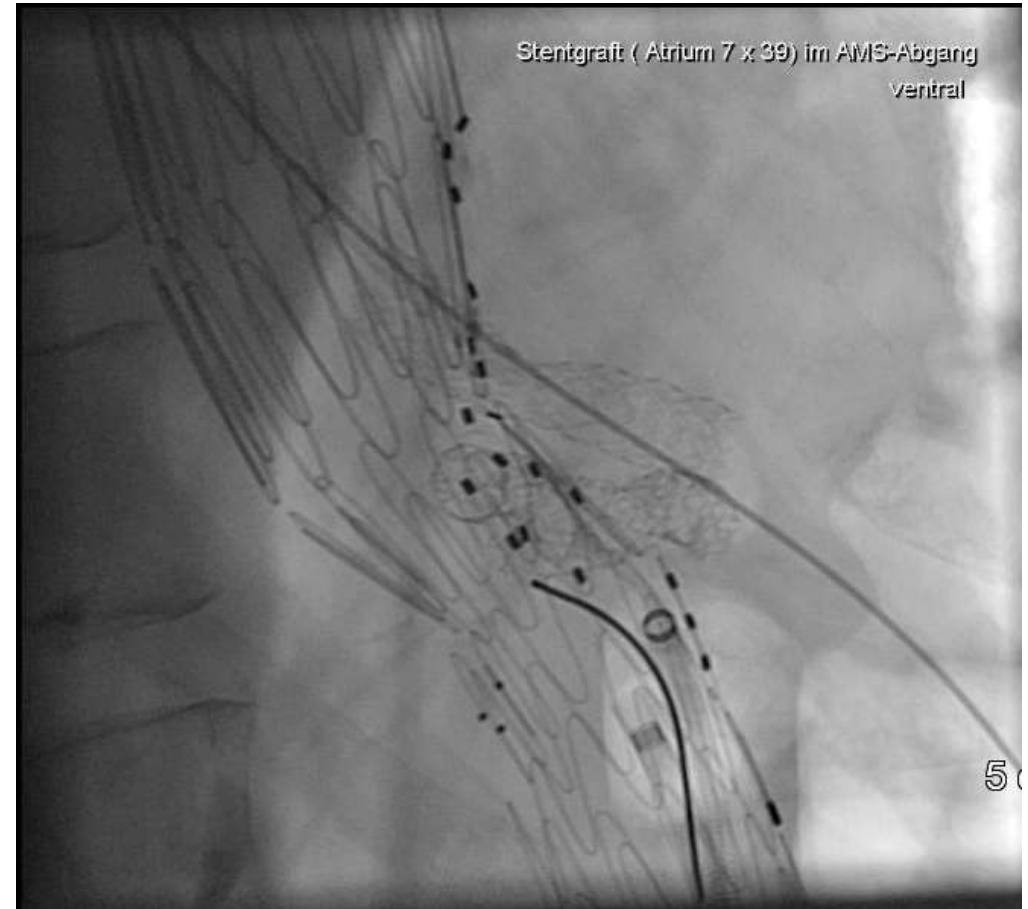
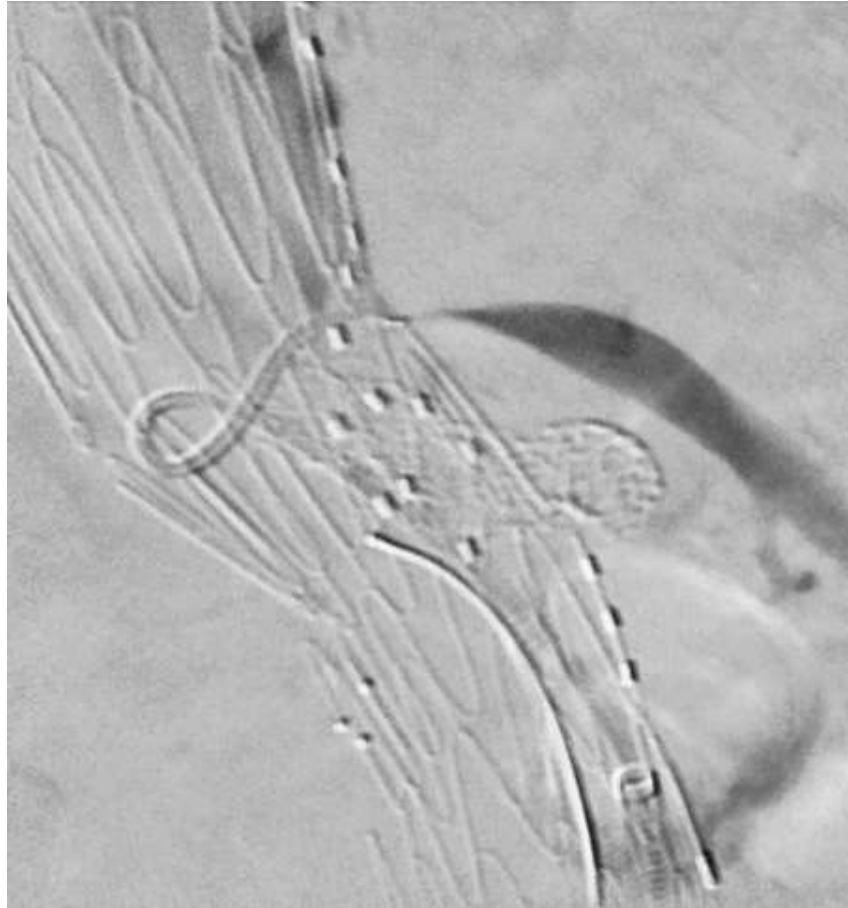
FEVAR

Stenting of dissected renal artery



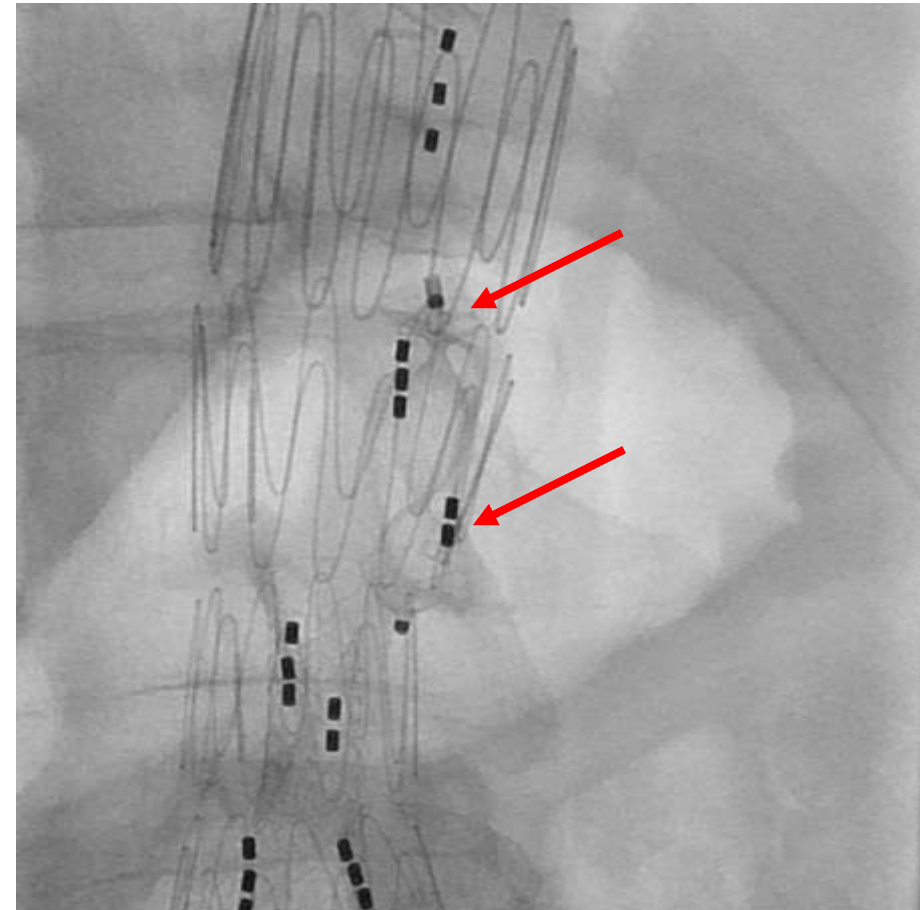
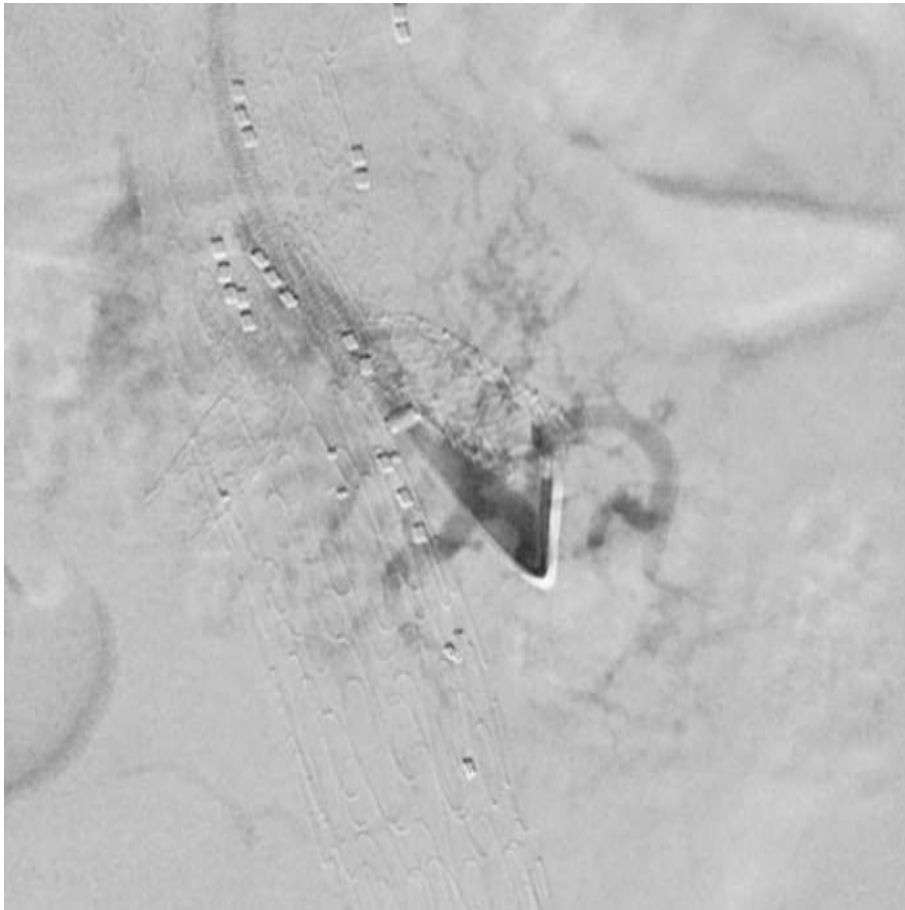
FEVAR

Stenting of prolonged intraprocedural SMA occlusion



BrTEVAR

CA inaccessible – Branch occlusion with Amplatzer plug



Branched (T)EVAR + Fenestrated EVAR

n = 466

Management of 44 target artery complications

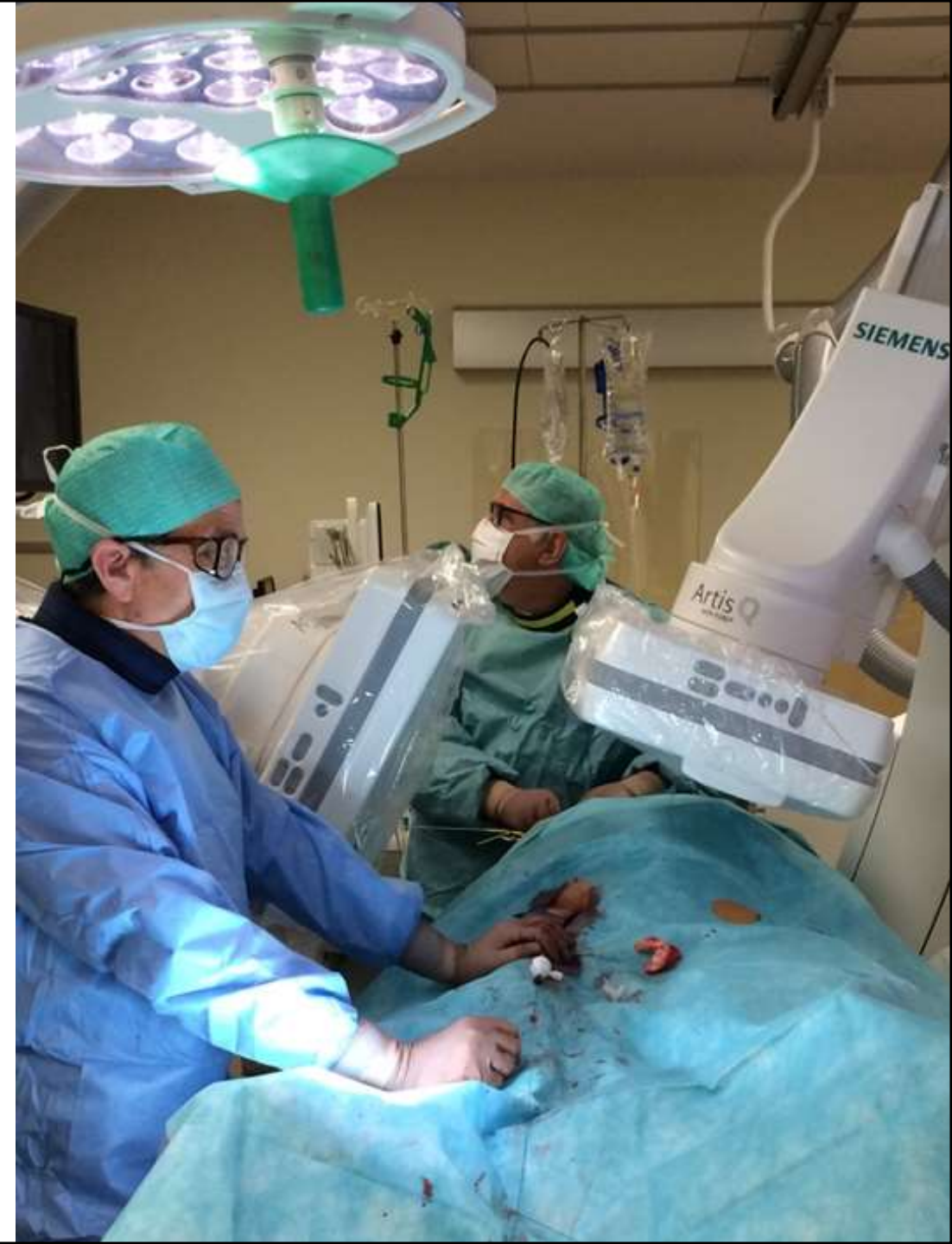
- Successful 34
- Lethal 9*
 - SMA 8 (of 9)
 - Renal artery 1 (of 22)

*contributes 40 % to overall mortality
(9 of 23)



Conclusion

- Injury to target arteries in endovascular repair with branched and fenestrated stent-grafts is a rare but serious complication.
- Especially damage to the SMA has a high mortality.
- Further improvement of endovascular skills, instruments and trouble shooting devices are mandatory to avoid these complications.



An aerial photograph of a university campus, likely the University of Michigan, showing a mix of modern and traditional brick buildings, green spaces, and parking lots. The text "Thank you for your attention." is overlaid in a large, bright green font across the upper portion of the image.

**Thank you
for your attention.**

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