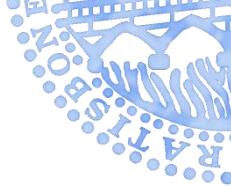
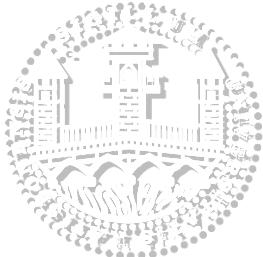


# Regensburg - Castra Regina 179 A.D.



1146



1992

**Disclosures (grants, speaker fee, development, patents):**  
**Cook, Gore, Vascutek, Bard, Atrium, Aptus, Maquet, Jotec**

## Complications after TEVAR

- Aneurysm expansion, - rupture
- Endoleak Type Ia/b, II, III
- Migration
- Stent graft infolding, - protrusion=coarctatio
- Side branch occlusion / organ dysfunction, ischemia
- Intraluminal thrombosis
- Spinal ischemia
- Aortic dissection
- Stent graft infection
- Complications of the groin / iliacs



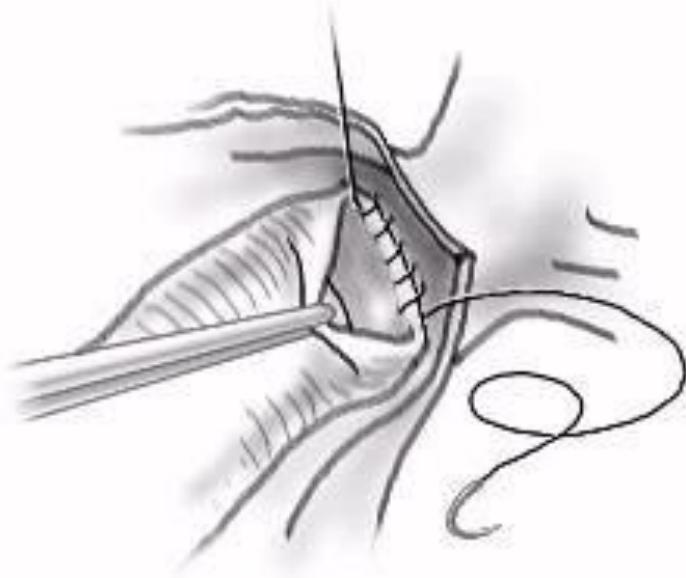
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## Possible indication for stent graft fixation with EndoAnchors

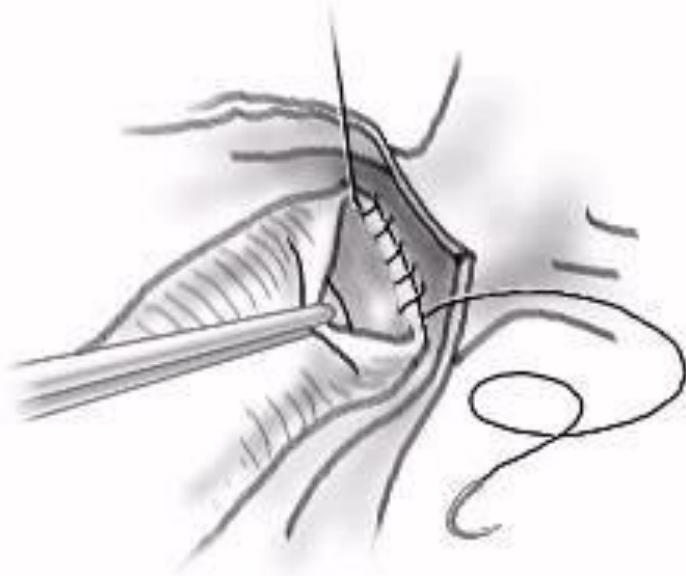
### Vascular anastomosis in open surgery



- Idea: „endovascular suture  
or endovascular fixation“

## Possible indication for stent graft fixation with EndoAnchors

### Vascular anastomosis in open surgery

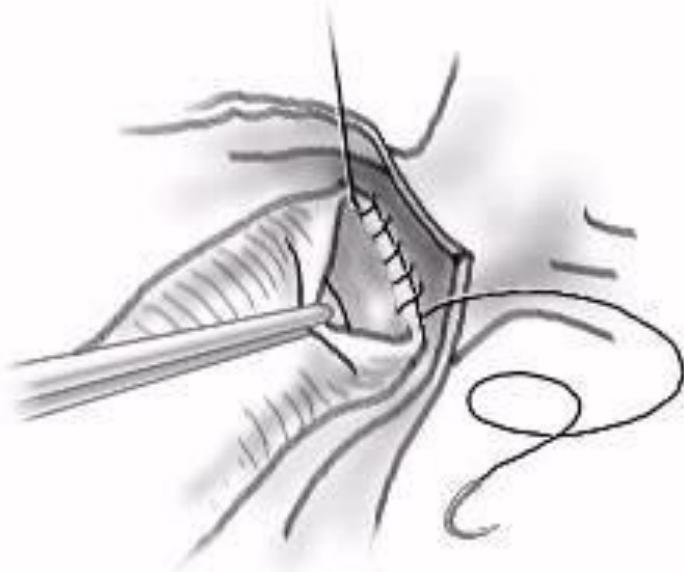


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## Possible indication for stent graft fixation with EndoAnchors

### Vascular anastomosis in open surgery

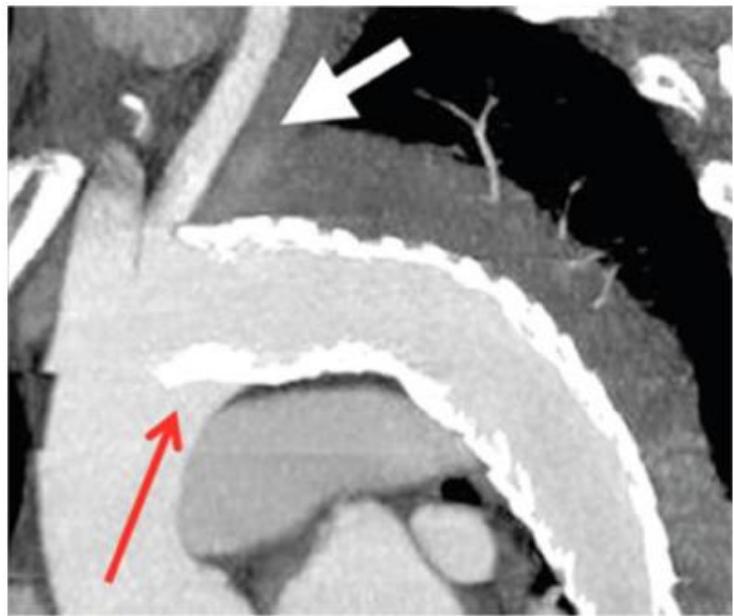


- Idea: „endovascular suture or endovascular fixation“



## Complications after TEVAR

### Stent graft nonalignment



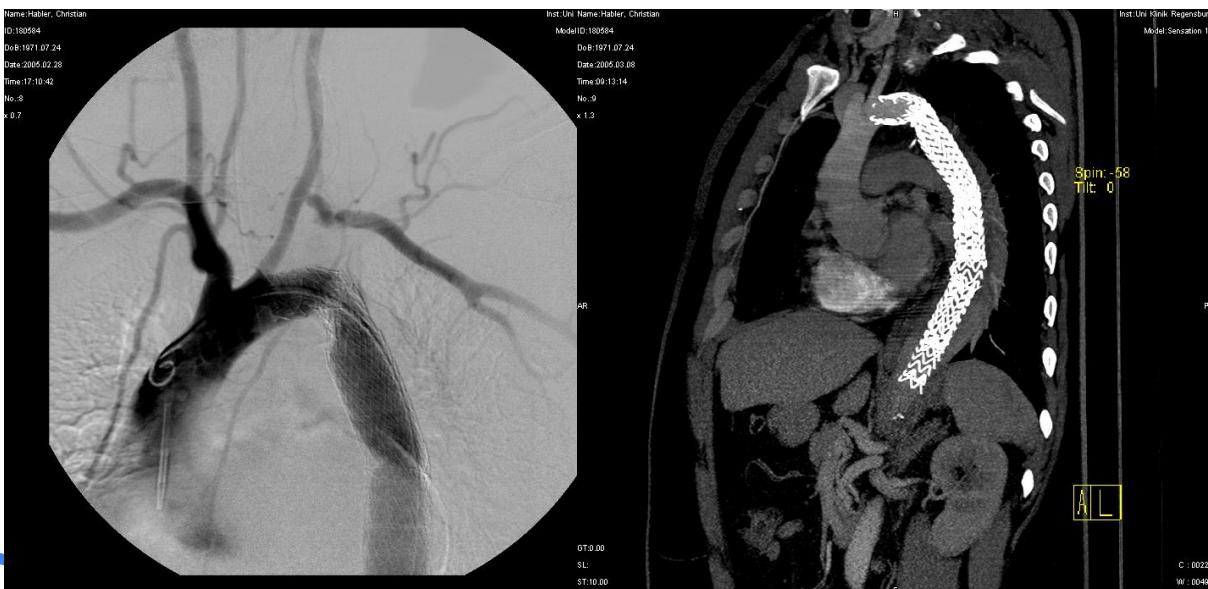
# Dissection Type B, postoperative CTA

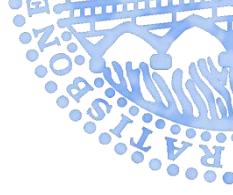


# Proximal collaps after 7 weeks

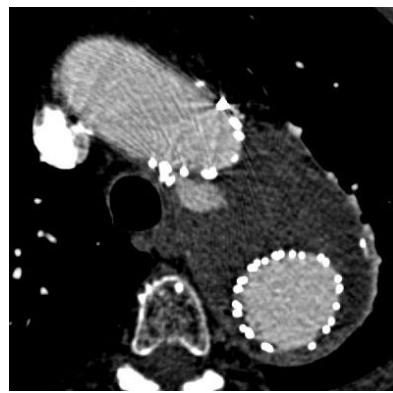
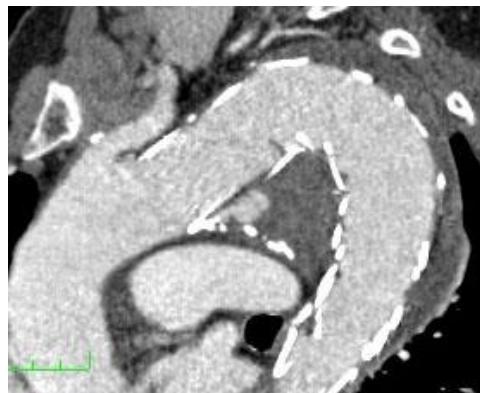


Proximal extension and car./subcl. bypass

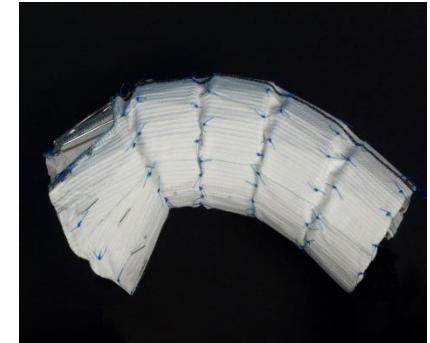
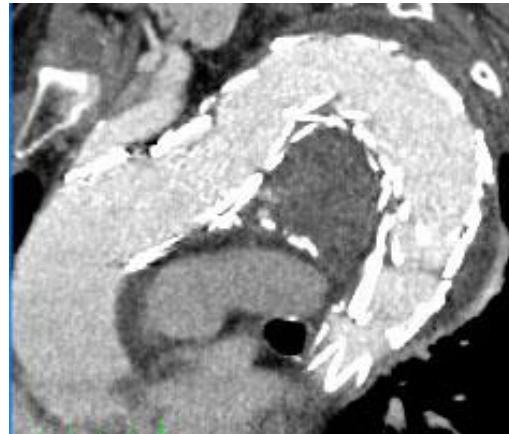




**Partial debranching for  
descendens aneurysm**

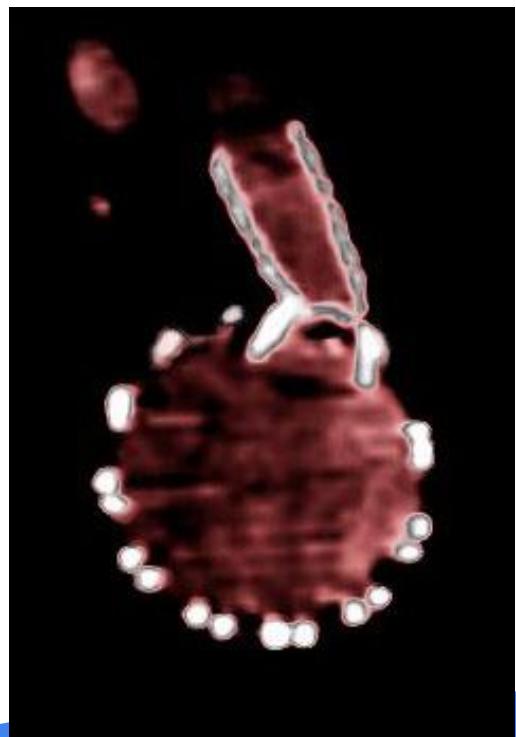
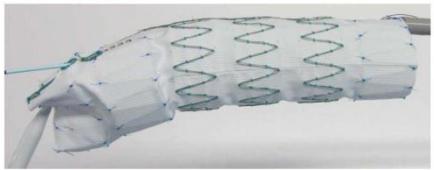
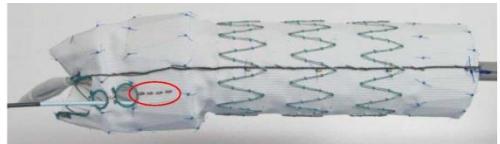


**Endoleak Ia after 6 months**



**Arch stent graft  
with scalop**

Cook® THORACIC-PROX-FEN

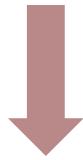


**Descendens  
anurysm with  
left vertebral  
originating from  
the arch**

# EndoAnchoring for TEVAR

## Problems in endovascular treatment for TAA:

- Short neck / kinking
- Stent graft nonalignment
- Type I a/b Endoleak
- Migration / side-branch malperfusion
- Stent graft protrusion
- Proximal infolding



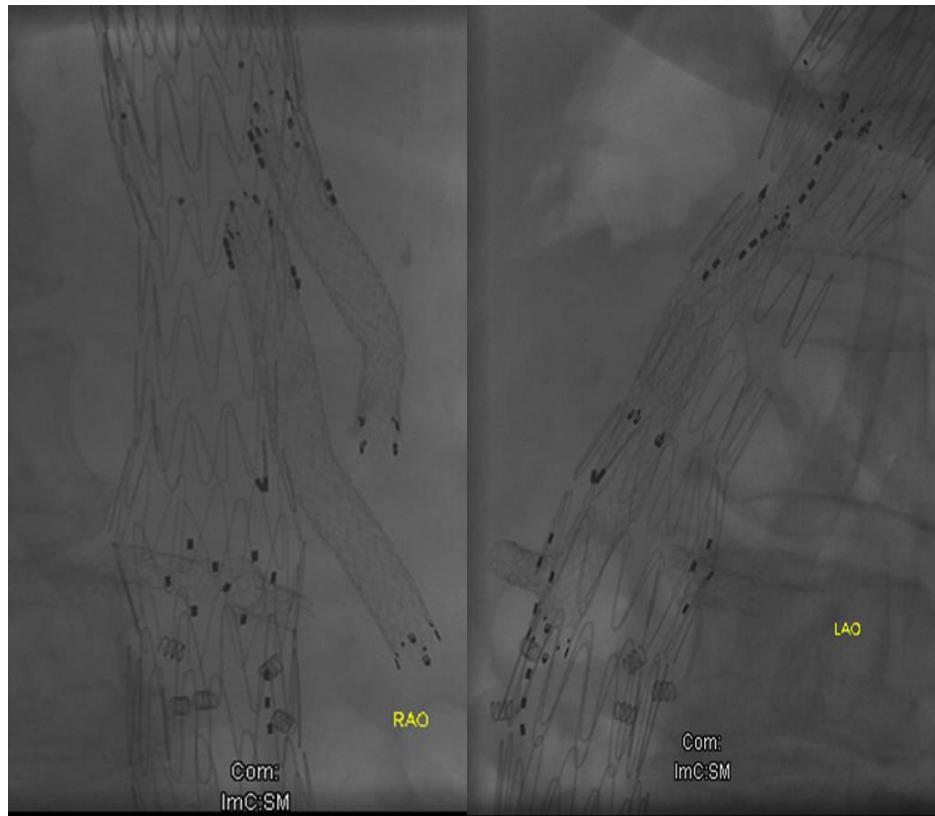
Possible solution: EndoAnchoring?

Kasprzak P et al., EndoAnchor placement in thoracic and thoracoabdominal stentgraft to repair complications of nonalignment. J Endovasc Ther. 2013;20:471-80

# EndoAnchoring for TEVAR

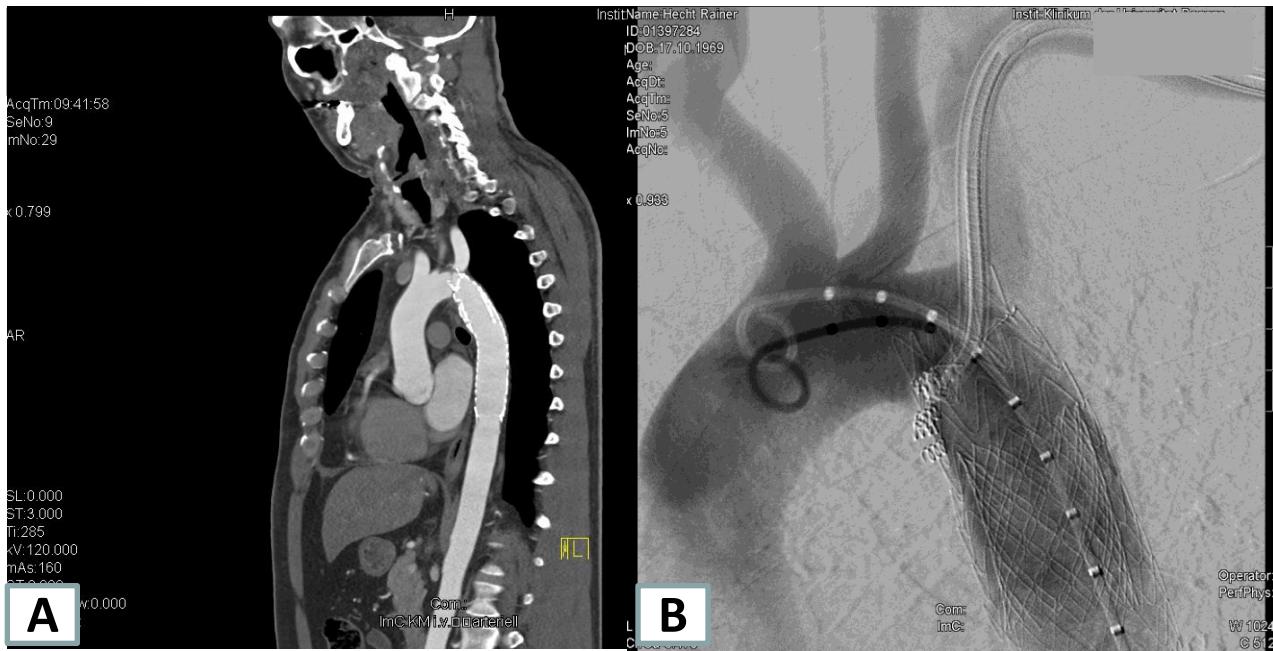
## Indication:

Patients (n=8)		
	n	%
Nonalignment	6	75
Migration	3	37.5
Stent graft protrusion	2	25
Partial stent graft collaps	1	12.5
Migration +side branch malperfusion	1	12.5
Type Ia/b endoleak	3	37.5



Fall 2: TAAA, branched/fenestrated  
EndoAnchors in stent graft migration

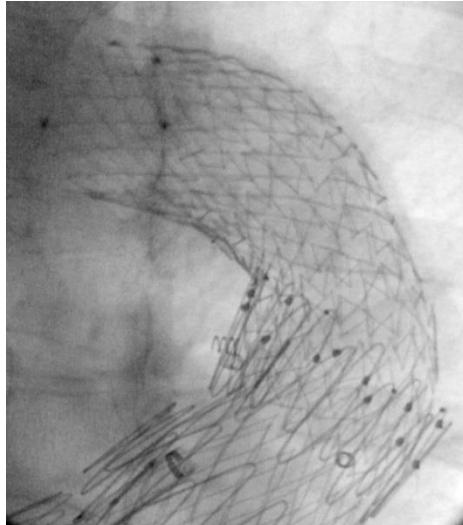
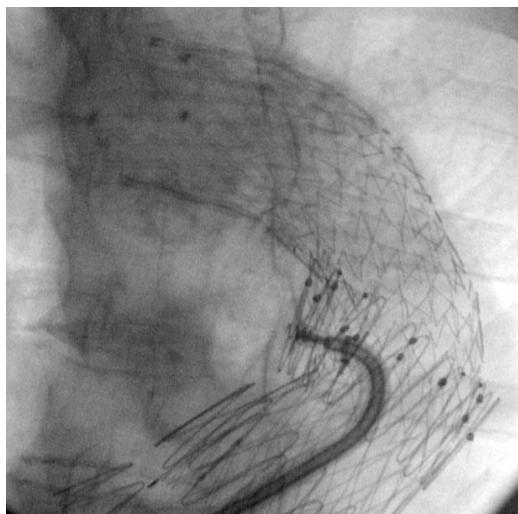
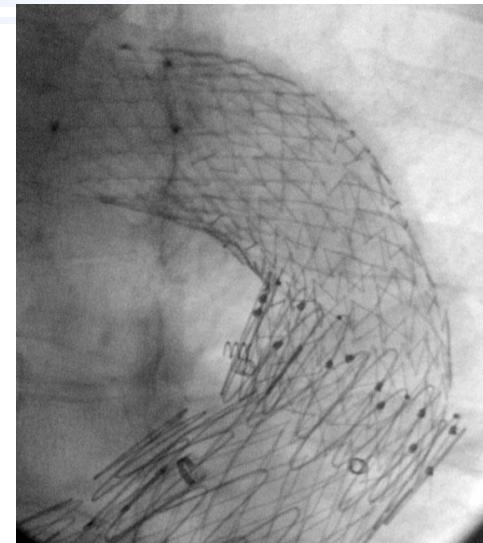
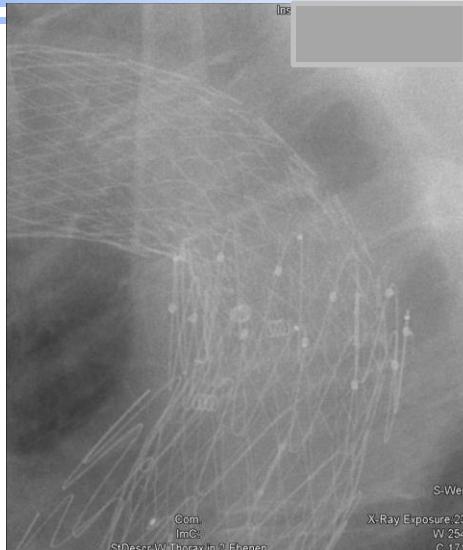
# EndoAnchoring for TEVAR



Nonalignment with infolding after TEVAR – transaxillary EndoAnchoring

# EndoAnchoring for TEVAR

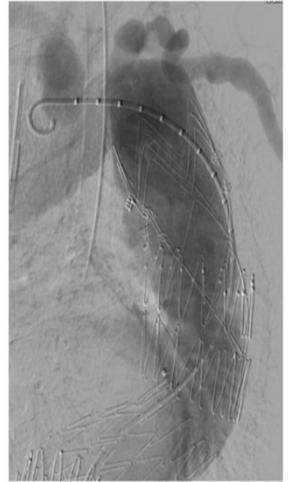
Branched  
endo graft  
with aortic  
elongation  
and stent  
protrusion =  
coarctatio



# EndoAnchoring for TEVAR

## Perioperative results:

- Technical success 8/8 (100 %)
- 3-8 EndoAnchors per patient implanted
- Sheath repositioning in 20-30 %
- 1 anchor lost and retracted
- 1 cerebral embolisation of the left vertebral in transaxillary approach – patient deceased



# Endoanchoring for TEVAR

## Results during FU:

- Follow-up 16 Months (8- 36)
- No migration or disconnection observed
- No dissection, periaortal hematoma or infection
- 2 Type II endoleaks with stable aneurysm diameter
- 1 Type III endoleak (BEVAR, reintervention with TEVAR)
- Renal function without deterioration
- No aneurysm related mortality



# Endoanchoring for TEVAR

We consider EndoAnchors for treatment in:

- Nonalignment
- Short neck / kinking
- Migration / side-branch malperfusion
- Stent graft protrusion
- Partial stent graft collaps
- Typ I endoleak

as therapy option with promissing early results



# University Hospital Regensburg