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How to prevent gutter endoleak in the arch

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Conflict of Interest - Disclosure

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1. Employment or Leadership Position

none

2. Advisory Role or Expert Testimony

none

3. Stock Ownership

none

4. Patent, Copyright, Licensing

none

5. Honoraria

none

6. Financing of Scientific Research

none

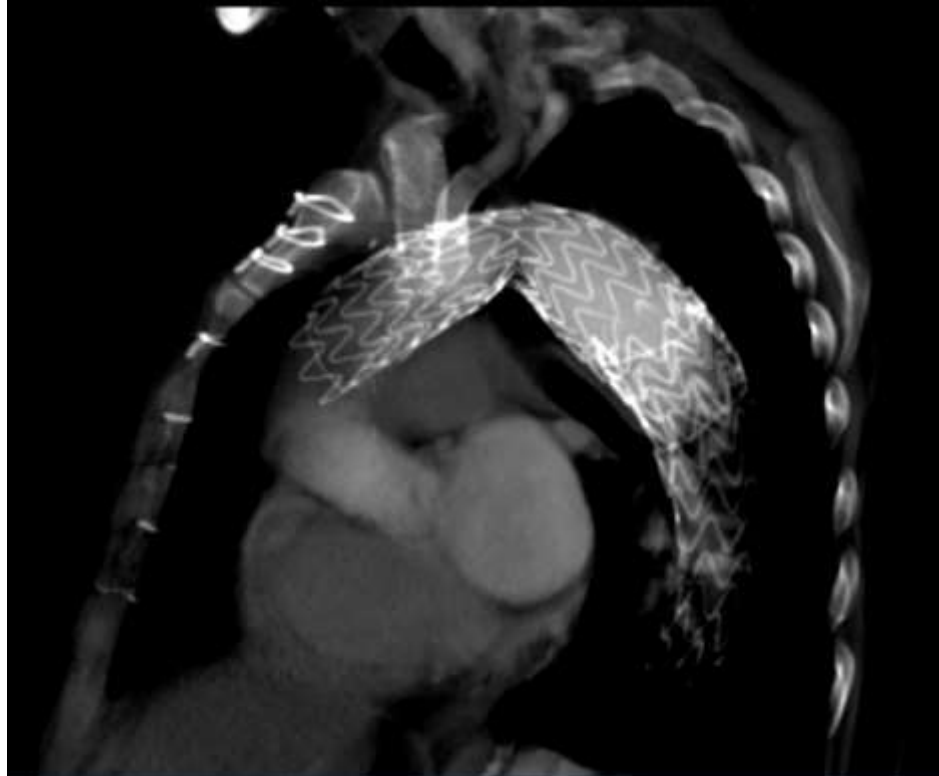
7. Other Financial Relationships

none



Objective:

- Anatomical and technical parameters.
- Gutter endoleak (ELIa).
- Chimney grafts in the aortic arch.





Methods (2010-2017)

A retrospective analysis of patients who had undergone TEVAR with the CG technique (ChTEVAR).

The preoperative as well the 1st and follow-up postoperative CTA were evaluated.



Methods

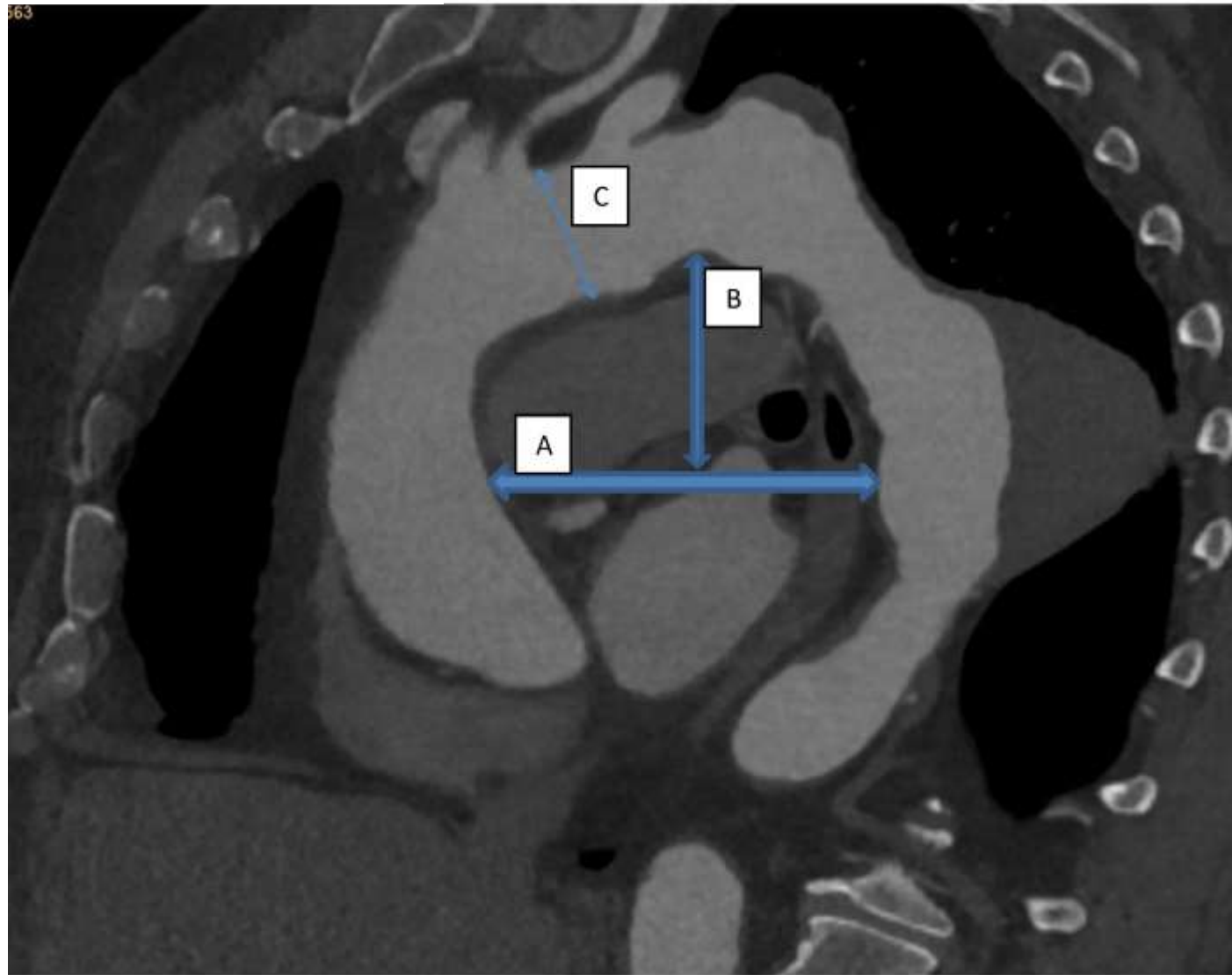
The presence of a sealing with a minimum 10mm length was investigated.

Sealing defined presence of at least 10% main stent graft oversizing regarding the aortic diameter.



Methods

- Diameter of the proximal and distal landing zones.
- Length of overlap.
- Oversizing.
- Horizontal aortic arch curve diameter.
- Longitudinal curve diameter.
- Type of configuration (parallel or crossing) of the CGs in BCT.





Results (N= 35)

BCT	LCCA	BCT&LCCA
2	8	25

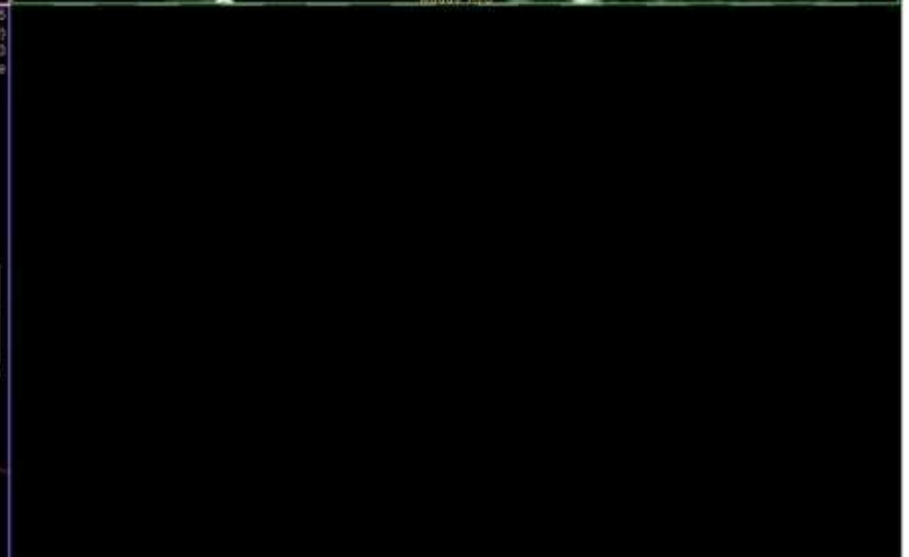
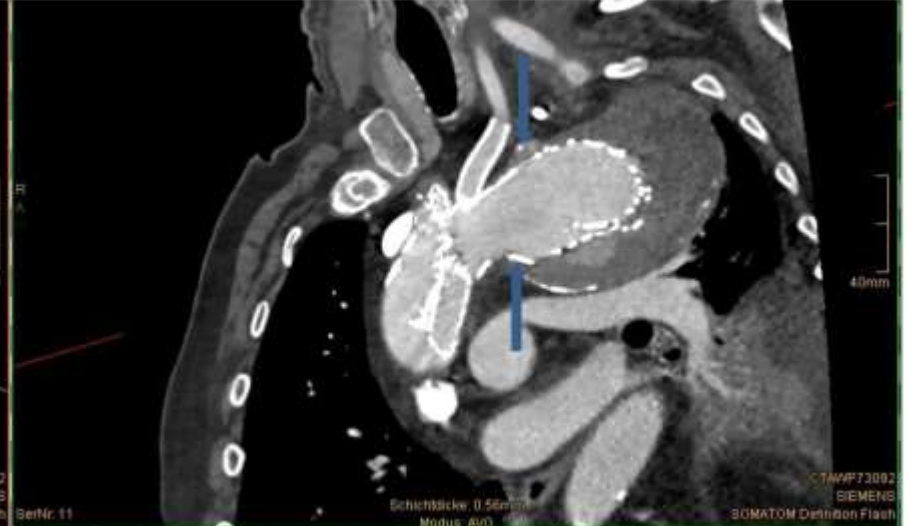
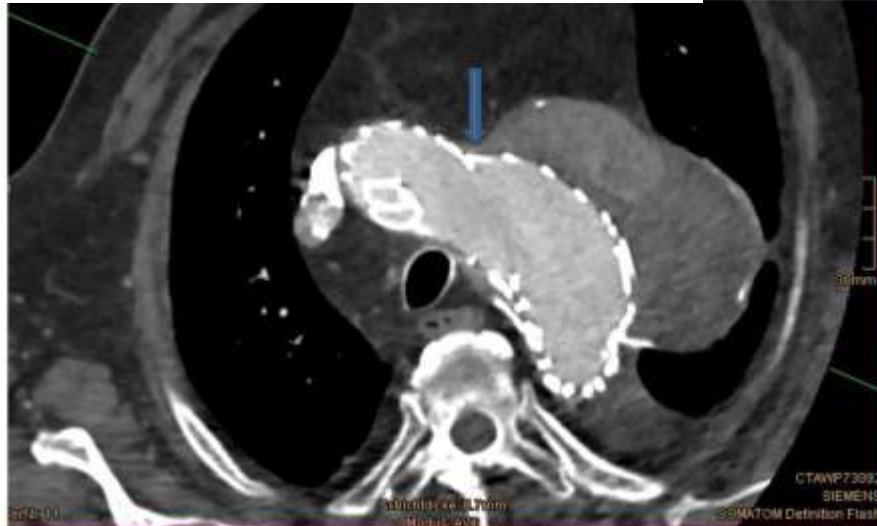


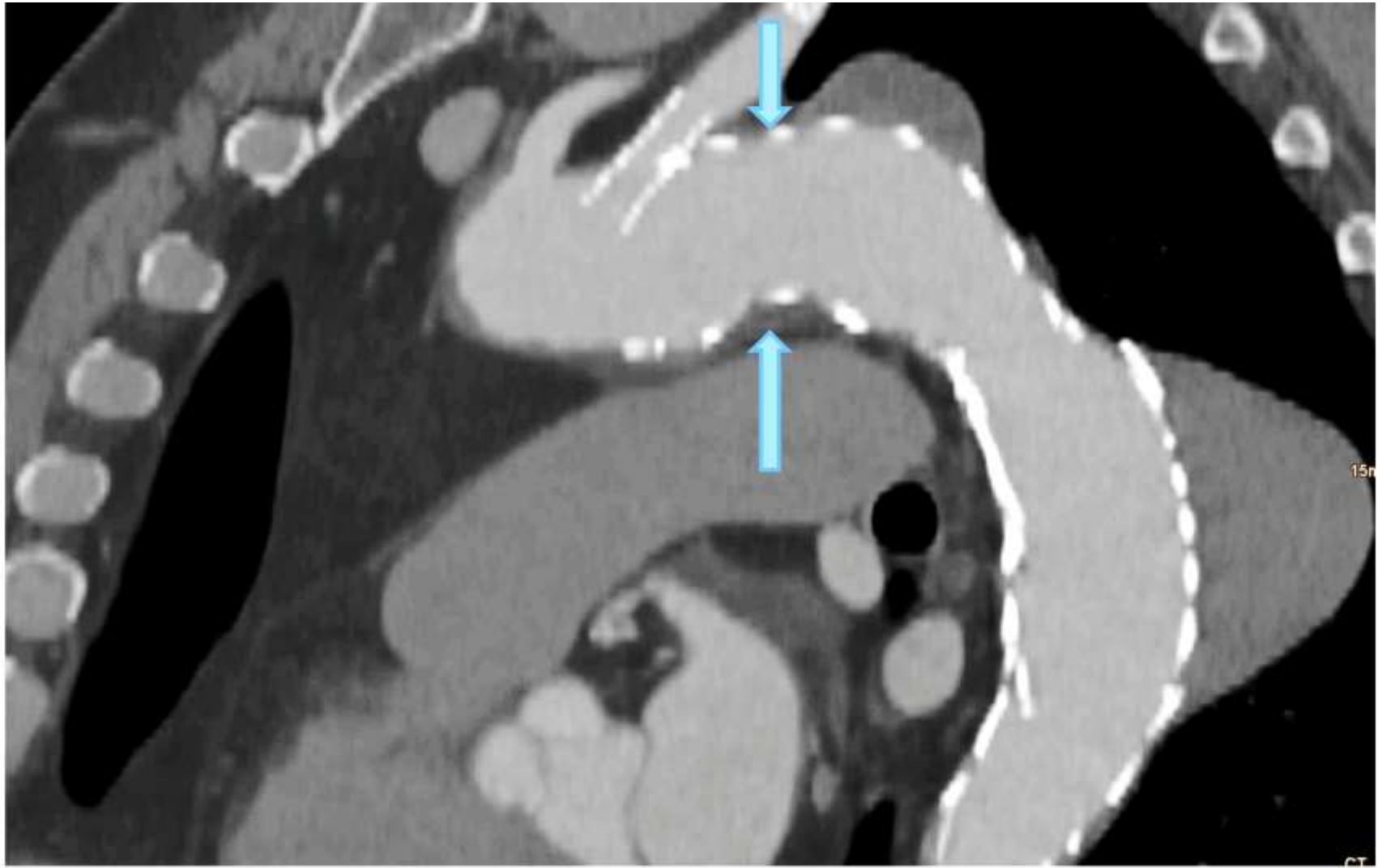
Results

- *Five patients had EL Ia and they all had either no or a sealing ring distal to the most distal chimney of less than 10mm vs. patients with a longer sealing zone ($P < .036$).*



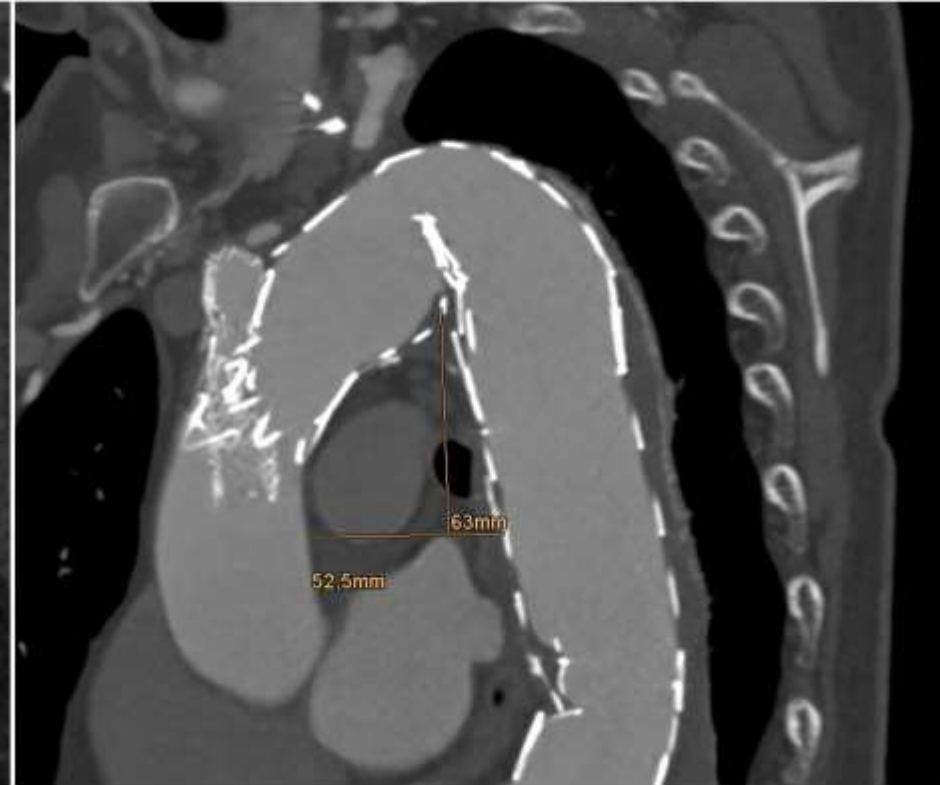
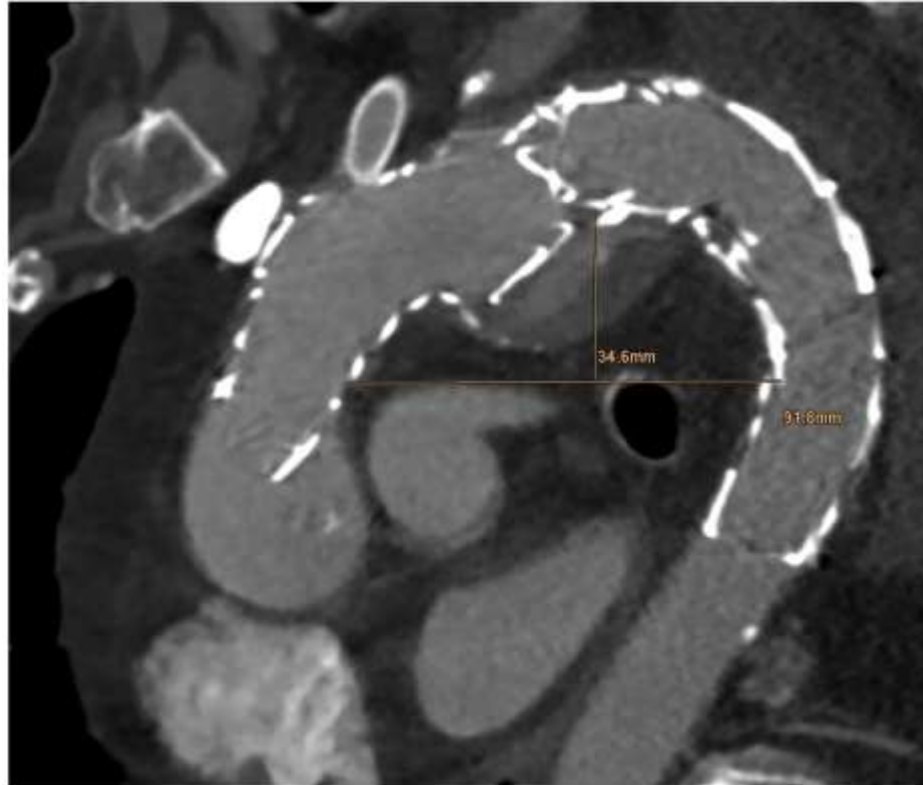
	ELIa Group	Control
Degenerative Aneurysm	3 (1 had RAA)	15
Aortic Dissection (chronic/acute)	1 (had RAA)	9(5(1 RAA)/4)
Ruptured Aneurysm	1	3
Other Pathologies:	0	3
PAU	0	2
Previous Type I EL	0	1





15m

CT





	EL Ia	no EL Ia	P
Overlap LCCA-CG and Aorta	58mm, 53-75mm	43mm, 25-62mm	.015
Overlap BCT-CG and Aorta	61mm, 43-70.5mm	60mm, 52-67.5mm	.367
Overlap LCCA-CG and main Stent	49mm, 41-62,5mm	39mm, 16-56.5mm	.295
Overlap BCT-CG and main Stent	61mm, 43-70.5mm	51mm, 42.5-57.5mm	.273
Overlap Aorta and main Stent	33mm, 26-58.5mm	35mm, 24.5-47mm	.962
Main Stent-graft Oversizing	14%, 10-15%	12%, 7-18%	.945
Diameter of proximal landing Zone	35mm, 34-37mm	37mm, 33-41mm	.802
Diameter of distal landing Zone	26mm, 23-34mm	30mm, 24-34mm	.766
Aortic diameter proximal to pathology	36mm, 30-39mm	34mm, 28-37mm	.837
Preoperative horizontal curve diameter	85mm, 83-97.5mm	73mm, 57.5-85mm	.033
Preoperative longitudinal curve diameter	41mm, 33-59mm	41mm, 33-47mm	.671
Length of the proximal landing zone	33mm, 26-58.5	35mm, 24.5-47mm	.962



Conclusion

- A sealing ring distal to distal chimney $> 10\text{mm}$ seems to be associated with a reduced risk of gutter endoleak.
- In contrast to other studies, a longer overlap between LCCA-CG and the aorta was associated with a gutter endoleak.



Limitations

- The relatively few patients and single center nature



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Thank you very much for your attention!



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