

Different techniques to the treatment of complex aortic arch aneurysms – single center experience

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

- Consultant of Terumo Aortic
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

Introduction

Aortic arch is still a battlefield between open and endovascular procedures. The management of this pathology remains a clinical challenge.

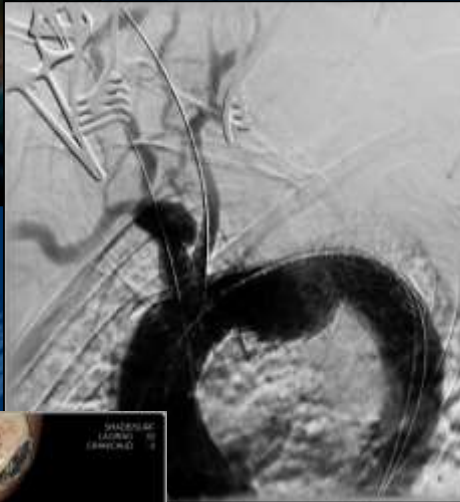
The aim of the study was to present different approach to the treatment of complex aortic arch aneurysms in our site illustrating the development of endovascular techniques within the last 3 years.

Materials and methods

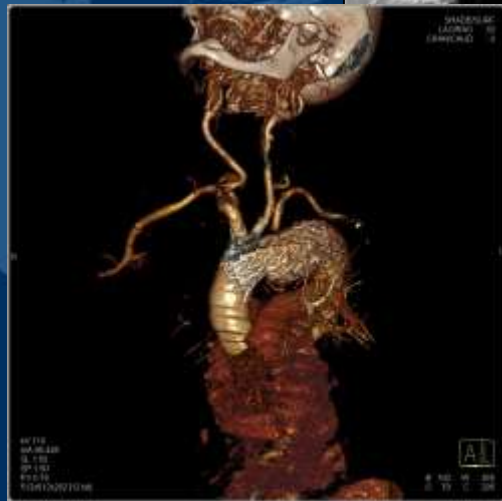
- 2017-2019
- eleven patients (7M, 4F)
- Aneurysms:
 - isolated arch aneurysms (5 true, 1 false)
 - two true aneurysms of the arch and descending aorta
 - two false aneurysms of the arch and descending aorta
 - one dissecting aneurysm of thoracic and abdominal aorta originating between the left carotid artery and left subclavian artery

Results

- 2 x debranching of the supraaortic vessels
- thoracic stent-grafts:
 - **four “of the shelf”** (2 x Zenith, 1 x E-vita, 1 x TAG)
two of them with the use of chimney technique
 - **seven custom-made Relay** (3 x proximal scallop , 1 x fenestration,
3 x double branch)
- 100% technical success without any neurological complications
- all patients alive
- all stent-grafts patent, no endoleaks



TEVAR
+ internal debranching

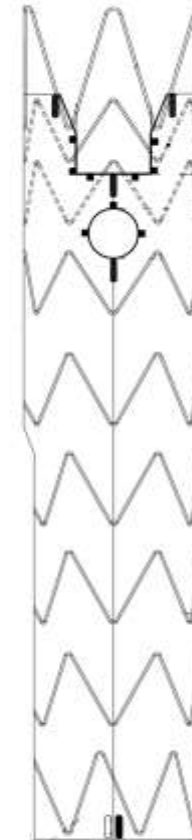
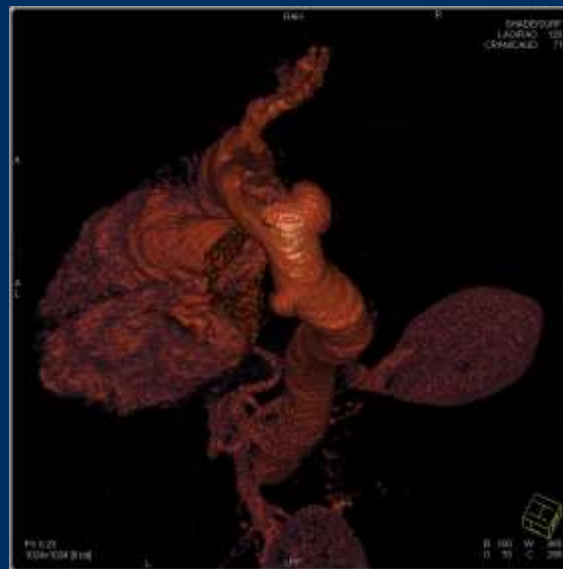


TEVAR + two chimneys



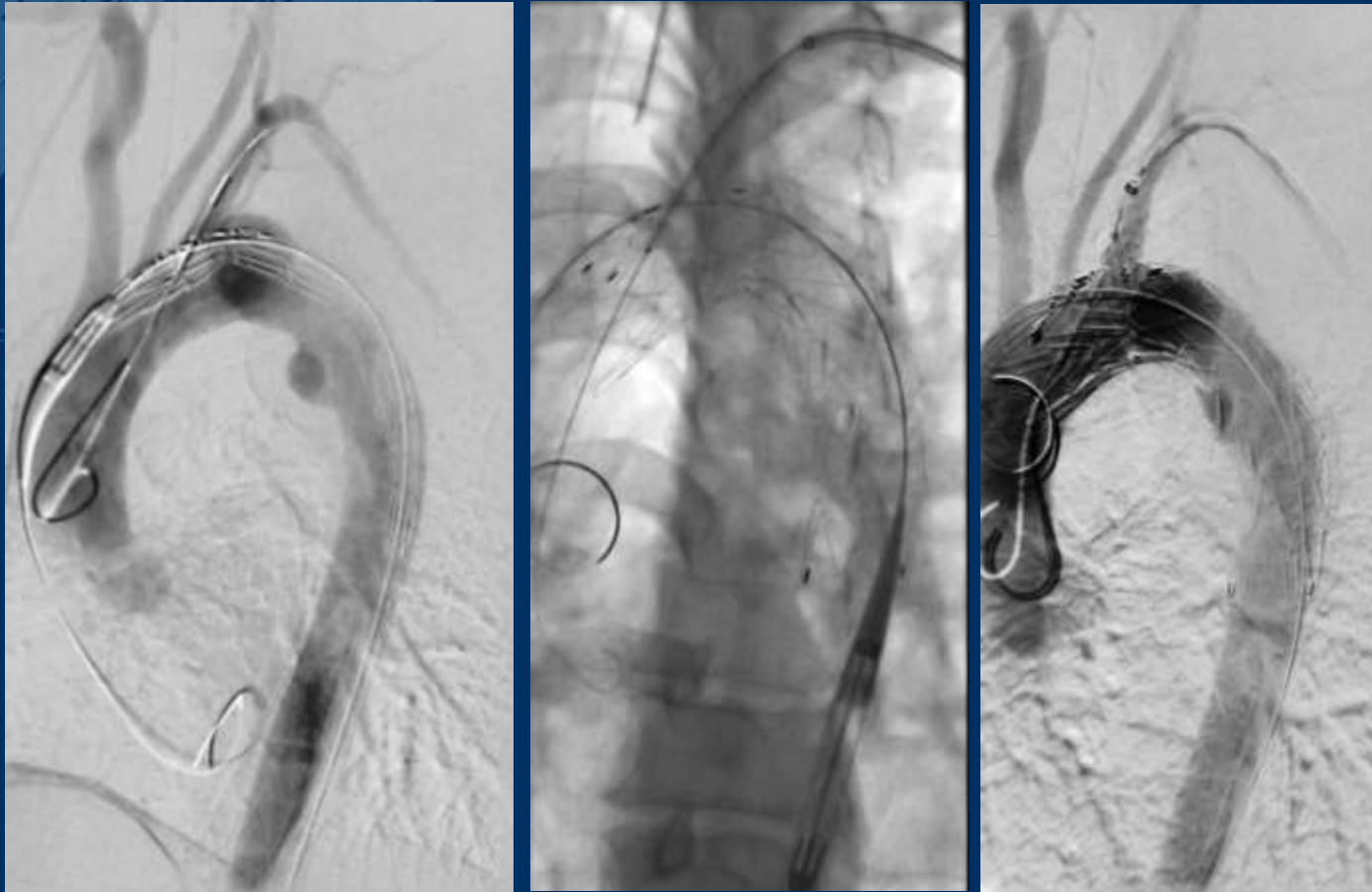
CASE 1 – Bolton Custom Made stent-graft wih scalop for LCCA and fenestration for LSA

- 45yo male
- no co-morbidities
- Two pseudoaneurysms in aortic arch



Procedure

- Implantation of Bolton Custom Made stent-graft with scallop for LCCA and fenestration for LSA (Lifestream)



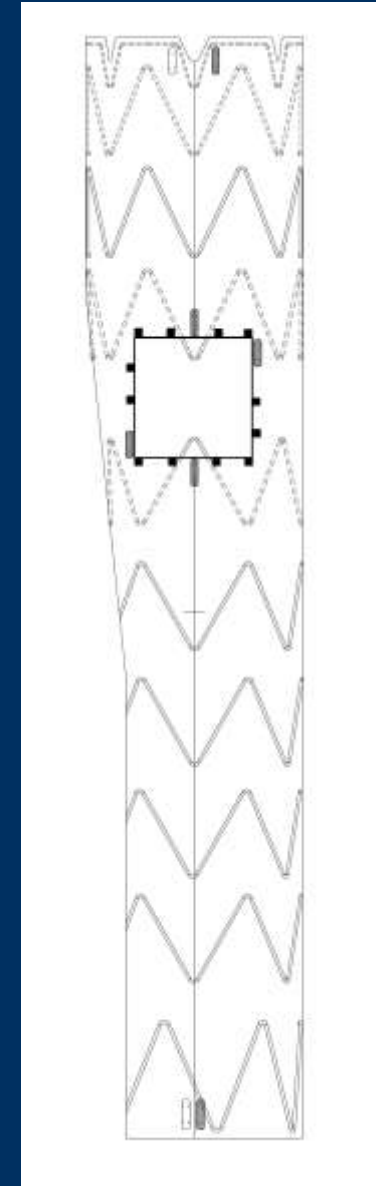
Follow-up

Control CTA 12 months after the procedure



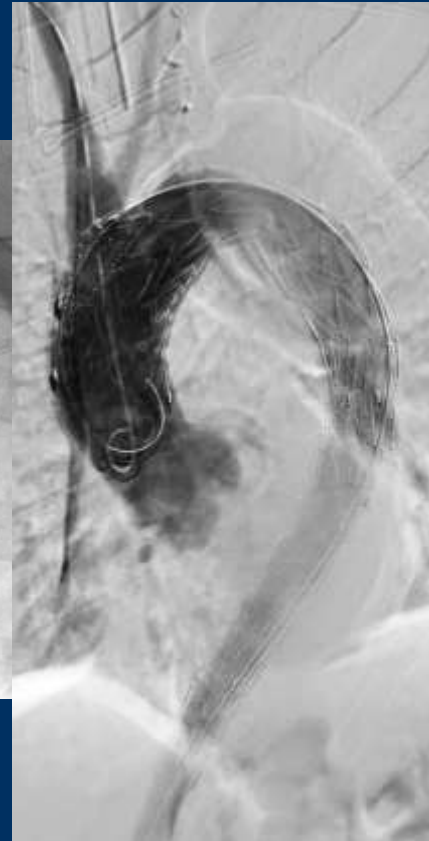
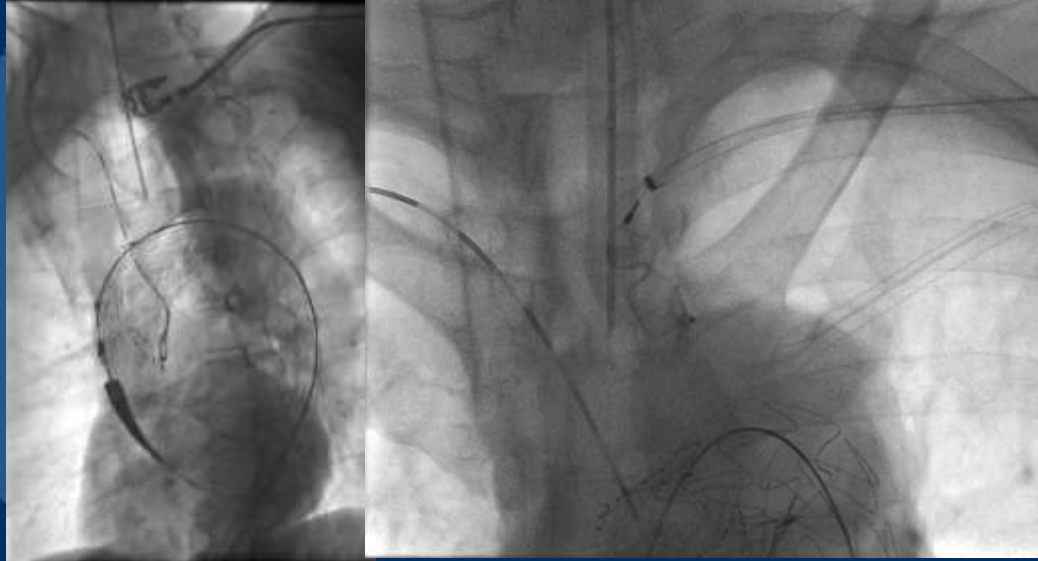
CASE 2 – Fenestrated stent-graft + LSA occlusion

- 58yo male
- co-morbidities: hypertension, CAD,
- Aortic arch aneurysm with Type B dissection, bovine aortic arch, lower limbs ischaemia



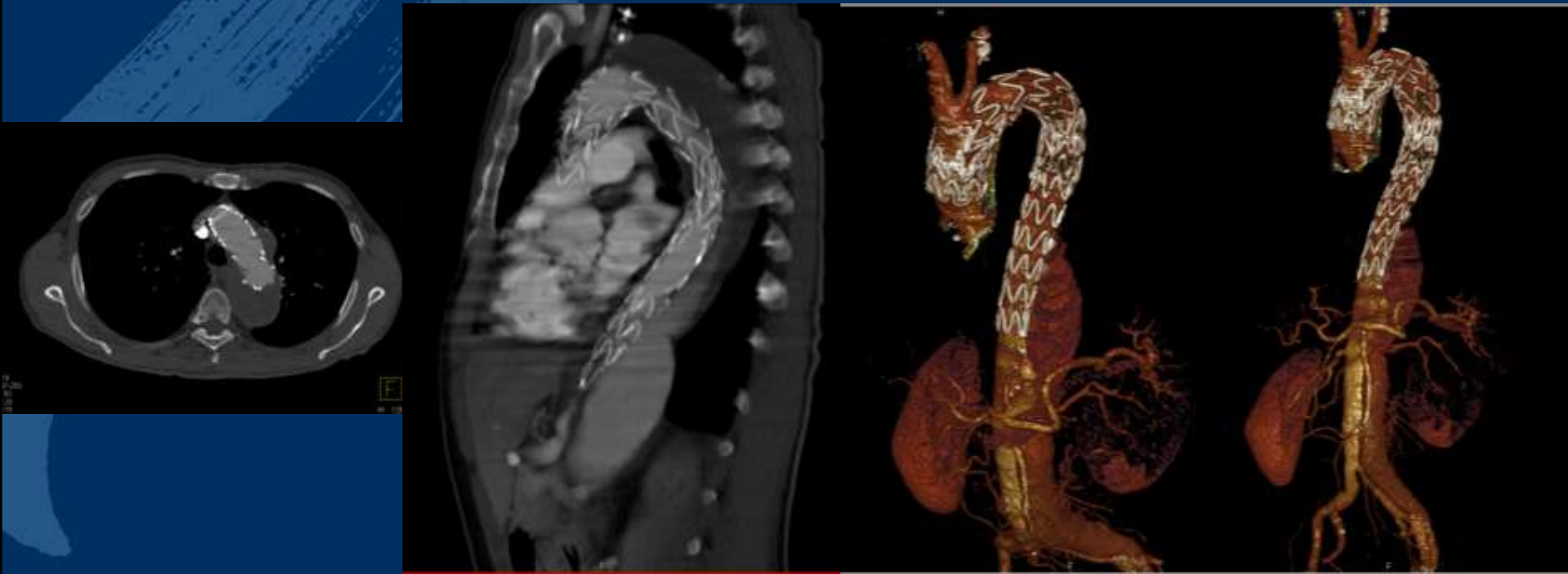
Procedure

- Implantation of Bolton Custom Made fenestrated graft + Relay Plus Thoracic stent-graft into descending aorta
- Occlusion of LSA with Amplatzer Vascular Plug



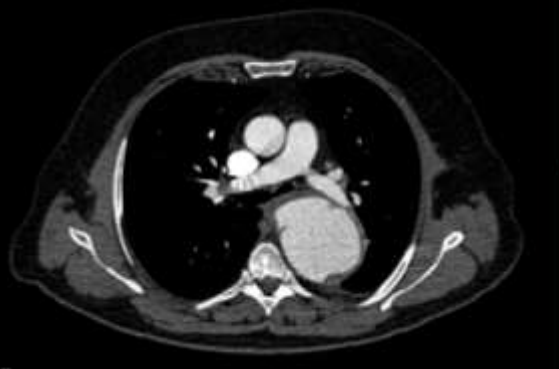
Follow-up

Control CTA 12 months after the procedure



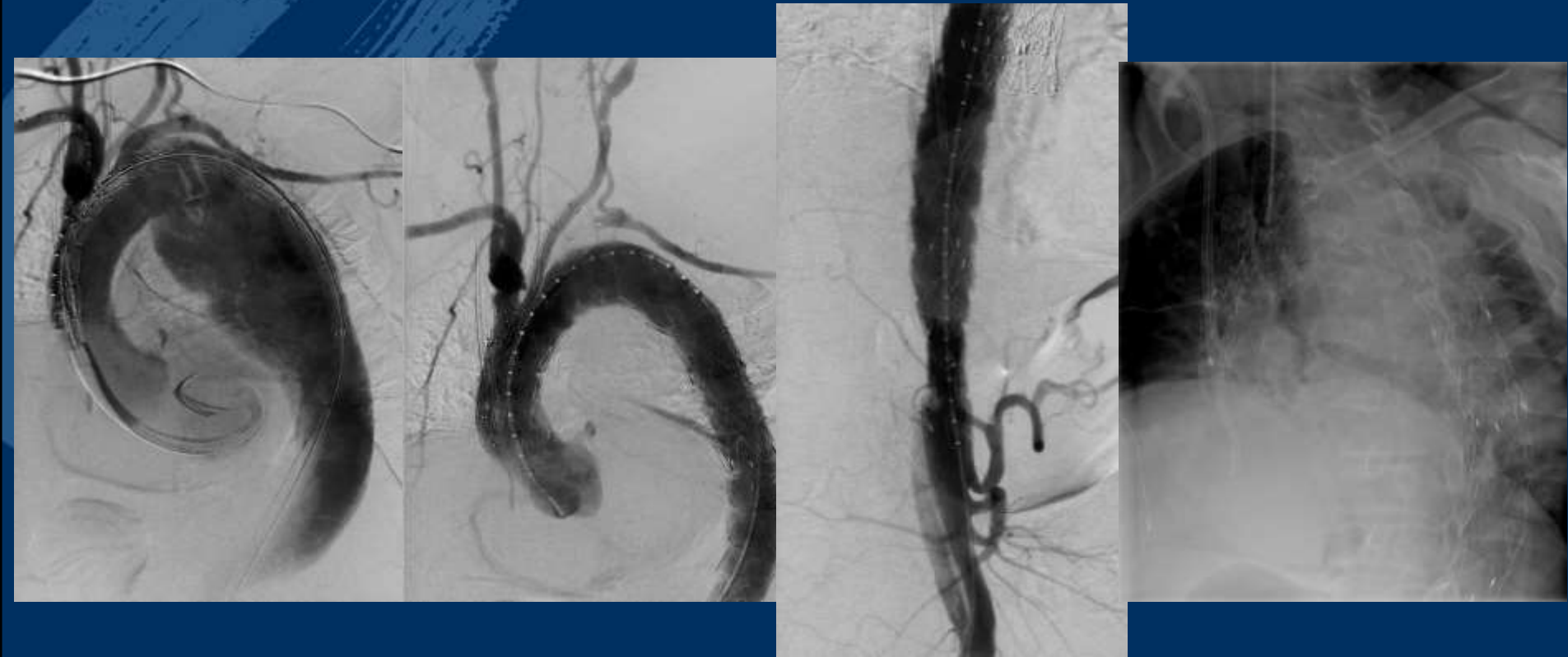
CASE 3 – Double-branch Bolton Custom Made stent-graft + LSA occlusion + tapered Relay Plus prosthesis into descending aorta

- 61yo male
- co-morbidities: hypertension, CAD, renal insufficiency (on dialysis)
- TAA with dissection (max diam. 83mm)



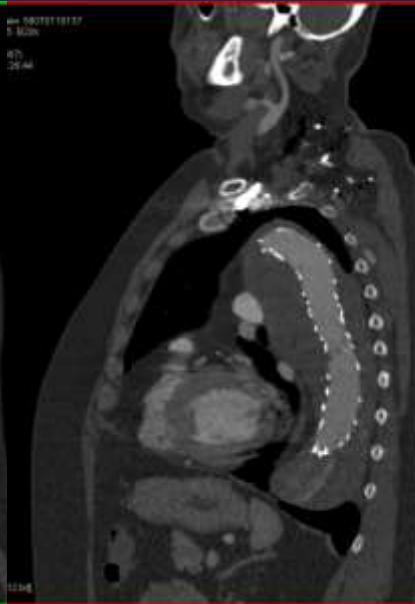
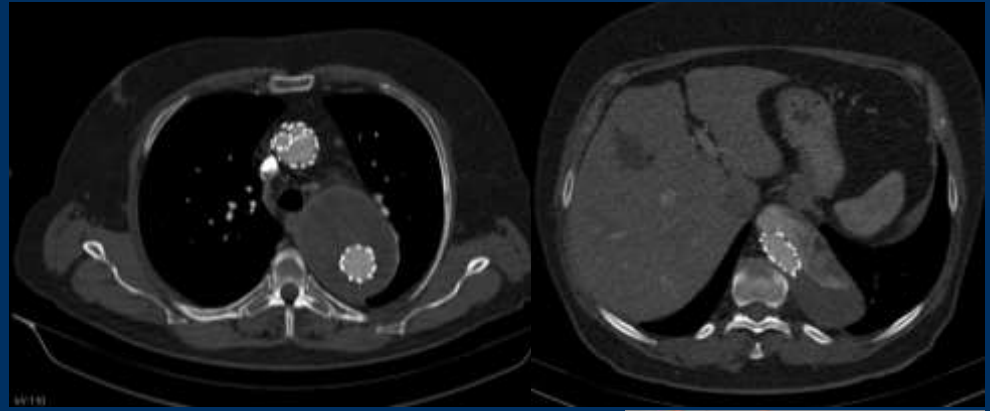
Procedure

- Implantation of double branch Bolton Custom Made graft
- Implantation of Relay Plus Thoracic stent-graft into descending aorta
- Occlusion of LSA with Amplatzer Vascular Plug



Follow-up

Control CTA one month after the procedure



Conclusions

Availability of endovascular devices dedicated for treatment of aortic arch lesions is still limited, therefore in case with complex anatomy the operator is pressed to be very flexible in choosing the treatment option.

These procedures should be limited to select expert centers where the design and deployment procedure of branched endografts can be further developed to reduce stroke risks.

From our perspective the double branch device is the most promising technology.

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