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A SUCCESSFUL TREATMENT OF AN INFECTED AORTIC ANEURYSM (PAU) BY CHIMNEY EVAS : CASE REPORT

Clinic for Vascular and Endovascular Surgery

St. Marien Hospital Bonn, Germany



Disclosure

Speaker name:

.....Sotirios Goulas, MD, MSc, FEBVS.....

I have the following potential conflicts of interest to report:

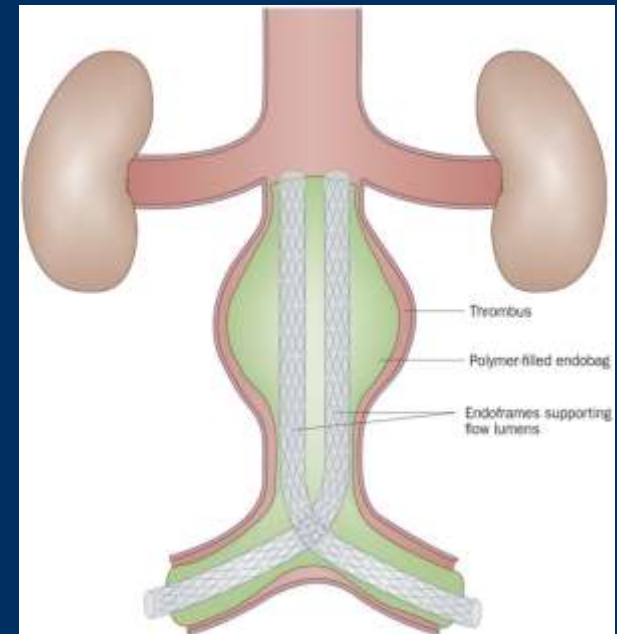
- Consulting
 - Employment in industry
 - Stockholder of a healthcare company
 - Owner of a healthcare company
 - Other(s)
- I do not have any potential conflict of interest

- The EVAS (Endovascular Aneurysm Sealing) enriched our endovascular therapeutic options.
- The Combination with the Chimney technique gave solutions in certain cases.

Early Experience With Endovascular Aneurysm Sealing in Combination With Parallel Grafts for the Treatment of Complex Abdominal Aneurysms: The ASCEND Registry.

Thompson et al.

J Endovasc Ther. 2017 Dec;24(6):764-772





Endovascular Aneurysm Sealing

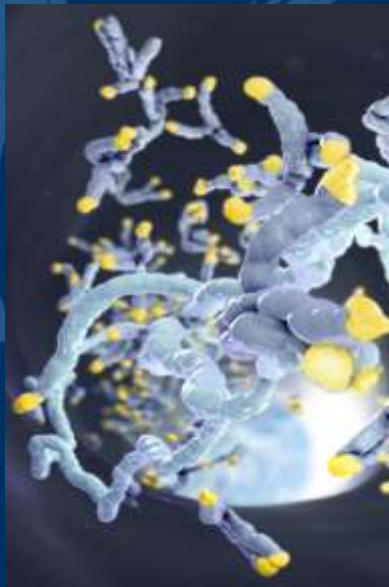
Our indications and special preparations

Indications:

- Narrow Bifurcation 15-22 mm
- Large lumbar arteries
- Short Neck -outside IFU
- Aortoiliacal Aneurysms

Preparations:

- Personal Measurement with Centerline
- Stentgrafts length (100-200 mm)
- Stentgrafts available?
- Appropriate Polymer Quantity

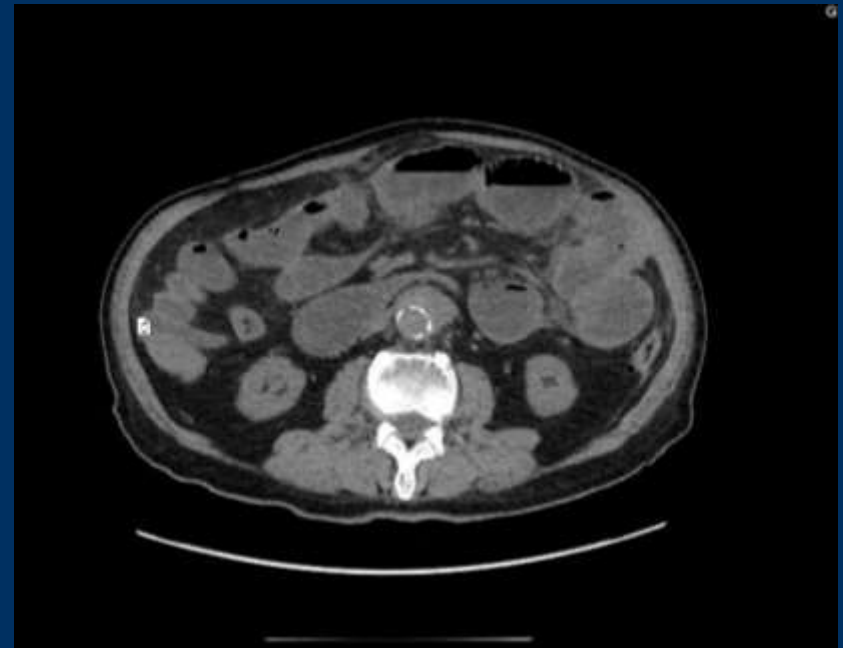


Our patient

- A 89 y. o. patient was admitted in one of our co-operative hospitals because of high temperatures, abdominal pain and deterioration of his general condition.
- The CT scan revealed an IMA-Occlusion with necrosis of the sigmoid and peritonitis. A sigmoidectomy (Hartmann) was successfully performed by the general surgeons.

Previous medical history

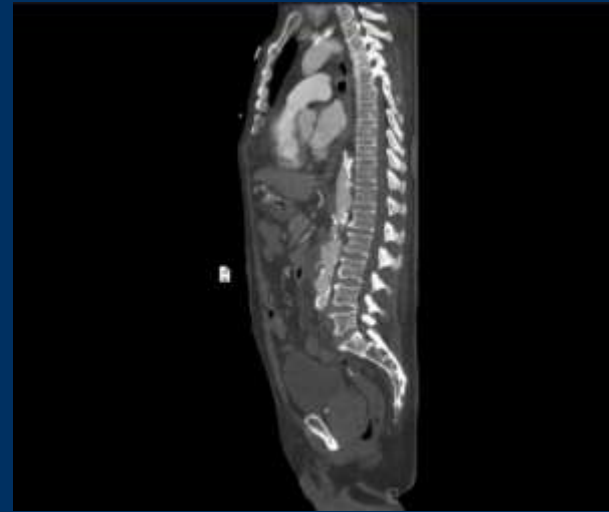
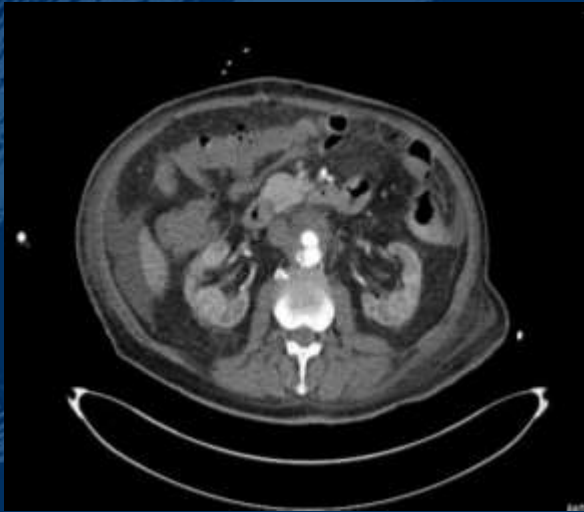
- Paroxysmal atrial fibrillation
- Stable CAD: Infarction in 1968
- Diabetes mellitus (oral agents)
- PAD
- Amputation of the right arm in 1938



Postoperative the patient suffered from complications

- Postoperative GI-bleedings (Forrest Ia and Forrest Ib), which were treated successfully (endoscopic).
- Acute renal failure.
- Delirium.
- The CT-scans revealed also an infectious saccular aneurysm (PAU) just below the renal arteries.

The next step was a transportation in our hospital, in order the infected aneurysm to be treated



The Rationale of our Treatment

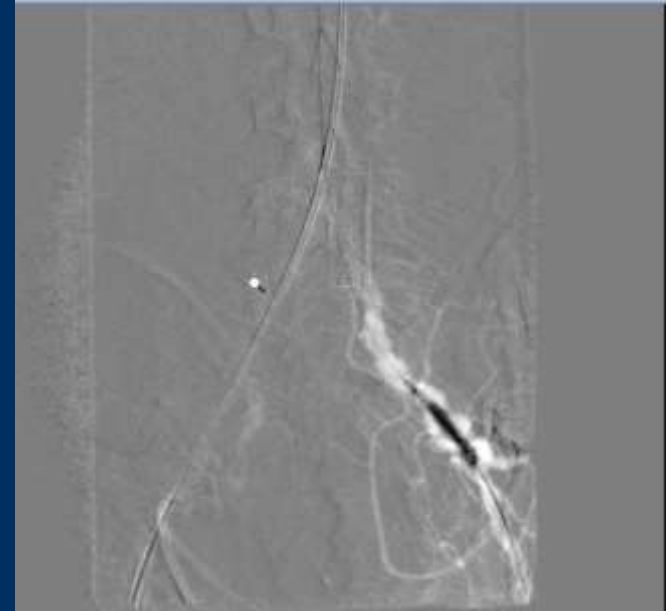
- An OR was in this case not to recommend.
- An EVAS could safely seal the area of the saccular aneurysm and was preferred to an EVAR.
- The preservation of the renal arteries was important (after the renal failure), the right renal artery was at risk in an EVAR/EVAS. A chimney could preserve the patency of the RRA.

A Chimney-EVAS was our choice

- Cut down exposure of both femoral arteries.
- Exposure of the right subclavian artery.
- 7 Fr sheath in the subclavian artery.
- The Terumo wire could not initially catheterize the aortic arch. Catheterization until the descending aorta and further the area of the kidneys (Cook sheath).

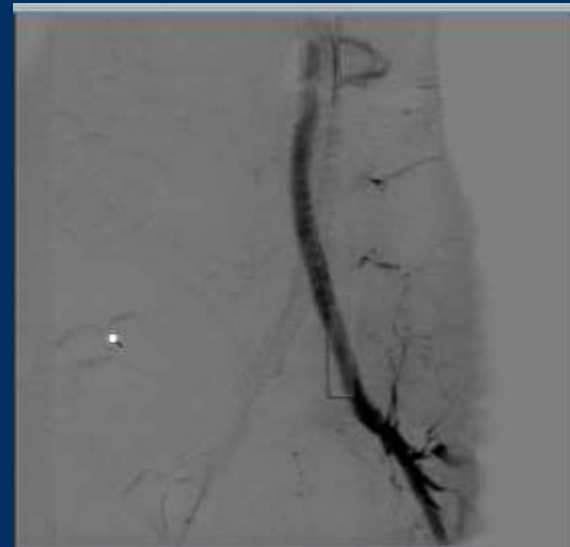


- Sheaths in the CFAs and Introduction of the Terumo wires in both sides.
- The left EIA should be dilatated (PTA-balloons 6mm and 8 mm) due to stenosis.
- Pigtail catheter over the Terumo and angiography.



Further Procedure

- Careful catheterization of the RRA (Terumo/vertebral catheter/ Amplatz).
- Back-up-Maier wires replace the Terumo and the Nellix-Stents are introduced (150 mm bds.).
- An E-Ventus Stent-Graft is placed in the RRA.
- Dilatation of the Nellix stents and the E-Ventus (7 and 10 atm respectively).



- Feeling of the endobags with NaCl 0.9%. The required quantity for the 180 mmHg pressure was 12 ml.
- Introduction of the 12 ml polymer and dilatation of all Stents.
- After the solidification of the polymer the balloons are deflated.



The final angiography showed a satisfactory result, the procedure was completed without problems (Op time 2 h 41 min, fluoro time 37 min 7 sec, 5769,31 cGy/cm2)

- The postoperative CTA showed a very good result.
- 5 days later the patient was released to a rehabilitation unit (under antibiotics).
- 15 months after the operation the patient lives without late complications.



Discussion

- The Chimney Technique is an established method for treating difficult cases. The Ch-EVAS was a variation of the method with comparable results.

Sealing devices in Chimney Aortic Repair (CH EVAS) Versus Chimney Aortic Repair with Conventional Devices (CH EVAR): A Systematic Review.

Mazzacaro et al. Cardiovasc Intervent Radiol. 2019 Jan 2 (Epub ahead of print)

- In many cases this Technique was the solution in the failure of other endografts (collapsed etc.).

Endovascular Aneurysm Sealing (EVAS) Alone or in Combination with Chimney Grafts (chEVAS) for Treating Complications of Previous Endovascular Aneurysm Repair (EVAR) Procedures.

Paraskevas et al. Cardiovasc Intervent Radiol. 2018 Jul; 41(7):1015-1020

Discussion

- The endovascular treatment plays a significant role also in the infectious aneurysms. (according to the most opinions as a bridging).
- The Chimney EVAS can help in infectious aneurysms with difficult morphologies.

Endovascular treatment of paravisceral mycotic aneurysm: Chimney endovascular sealing the end of the road.

Rabellino et al. World J Cardiol. 2017 Jul 26;9(7): 629-633

Our point of view

- In emergency cases of infectious aneurysms EVAS can give us solutions (as bridging or sometimes as permanent treatment).
- The Chimney-EVAS is feasible and widens our endovascular therapeutic range.



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