

### EndoVAC therapy for vascular infection Traitement de l'infection vasculaire par VAC-thérapie

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#### Disclosure

Speaker name:

#### **Martin Björck**

□ I have the following potential conflicts of interest to report:

#### Consulting

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



#### **Uppsala university**

- Founded in 1477
- The oldest hospital in Sweden
- >60% of vascular surgical patients are referred from other hospitals



### **Clinical Problem**

#### Standard treatment of infected vascular grafts:

- Radical operation with complete resection of the graft
- Extensive local debridement
- Revascularization by extra-anatomic bypass

- This is sometimes difficult, or risky, due to:
  - Difficult anatomy
  - Severe co-morbidities



### Novel technique: EndoVAC

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J ENDOVASC THER 2011;18:666-673

◆ CLINICAL INVESTIGATION -

#### EndoVAC, a Novel Hybrid Technique to Treat Infected Vascular Reconstructions With an Endograft and Vacuum-Assisted Wound Closure

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- 1) Re-lining with stentgraft
- 2) Surgical revision
- 3) VAC-treatment

and long-term antibiotic





#### Case: EndoVAC



- Standard CEA with a Dacron-patch for symptomatic carotid artery stenosis
- Postoperative TIA, embolization from an intimal flap at the lower end of the CEA
- Stented one month after CEA





### EndoVAC



- Three months after primary surgery the patient develops an infection – with a fistula to the neck
- She is referred to Uppsala University Hospital



#### Viabahn 6x50mm

#### viabahn 8x50mm



















### EndoVAC



- VAC treatment with intermittent NPWT created granulation tissue covering the stentgraft completely
- Secondary suture after 12 days
- 3 months antibiotic treatment
- Follow up 58 months (almost 5y)
- No recurrent infection



# The Uppsala experience 2007 - 2014

- 15 patients, 16 procedures (age 16-91 years):
  - 5 infected carotid patches after CEA (Dacron)
  - 2 infected carotid-carotid-subclavian cross-over by-pass for a Stanford type B aortic dissection (Dacron)
  - 2 infected carotid-subclavian by-passes
  - 2 infected fem-pop bypasses (ePTFE)
  - 3 infected patches after femoral TEA (Dacron)
  - 2 infected vascular accesses (after ECMO and EVAR)







### Bacteriology

Negative

#### Other

#### Staphylococcus aurius

### Coagulase negative staphylococci



### **Duration of therapy**

VAC-treatment for a median 19 (9-54) days

Antibiotics for a median of 6 (1-18) months







### Outcome

viversitet after 3-years (8 months-7 years) follow-up

 Four patients died in severe co-morbitities, unrelated to this therapy

- 1, 2, 9, and 51 months after treatment

- One had a transient stroke, one a temporary hypoglossal palsy, and one a late stentgraft thrombosis
- All patients healed their infections
- No recurrent infection was observed





### Conclusions

- Surprisingly good short- and long-term outcome
  - All deaths were related to the underlying conditions
  - Only minor / non permanent complications
- EndoVAC is a feasible option in demanding situations, such as to avoid clamping the only open carotid artery
- Expand indications to less hostile situations?



## Endovascular treatment of mycotic aortic aneurysm





#### **European multicentre collaboration** 16 centres from 8 countries



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Endovascular Treatment of My colic Aortic Anenry sms: A European Multicenter Study Karl Sörelics, Kevin Mani, Martin Björck, Petr Sediry, Carl Magnos Wahlgren, Peter Taylor, Oliver Lyons, Rachel E. Chugh, Matt Thompson, Jack Brownrigg, Krassilvancev, Meryl Davis, Mithael P. Jerkins, Usman Jaffer, Matt Bown, Zoran Rancir, Dieter Mayer, Jan Burbwall, Michael Gawenda, Tilo Köbel, Elixène Jean-Baptiste, Frans Moll, Paul Berger, Christos D. Liapis, Konstantinos G. Moulakabis, Marcus Langenskiöld, Häkan Roos, Thomas Larzon, Artai Prouzam, Anders Wanhainen and The European Mytotic Aurtic Aneuryan collaborators

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