Treatment of Endograft Migration with type 1A Endoleak with Chimney Grafts: Technical Tips and results

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Introduction

• Endovascular repair of Abdominal Aortic Aneurysms is has become the mainstay of treatment
• Endoleak type I and Migration represents a major challenge for the vascular surgeon and in many cases is a real nightmare.

Disclosure

• Nothing

fEVAR vs chEVAR

• Emergency cases
  – Difficult availability of fEVAR
  – 4-6 weeks
  – Impossible to waist "gold time" waiting for the graft.
• Size of access vessels is complicated in normal cases but, inside a previous graft it gets even more complicated.
• Technically chEVAR is easier
• chEVAR is great for rescue
• Cost advantages

Introduction

• Options to correct the migration of and Endoprosthesis or a big Type I Endoleak can be difficult to obtain and performed at the time that the patient has a complication.

Balloon Expandable Cover Stents vs Self Expandable Covered Stents

• BECS
  – High radial Force
  – Good Fluoroscopic visibility
  – Increase adaptability due to flaring
• SECS
  – Remarkable flexibility
  – Kink resistance
  – Less need for supporting stent
Type 2 endoleak, 12 months after EVAR

Laparoscopic ligation of Lumbar & Accessory Left Renal Artery

Control 6 months after Laparoscopic approach
Chimney technique to correct the complication with Thoracic endograft COOK® and CSES Viabahn GORE®

Angio CT control 6 months after the chEVAR
76 years old man
AAA with single kidney

AAA Zenith
COOK

6 months post
Post EVAR
No endoleak
or Migration

12 months after EVAR
procedure
Type I Endoleak
Endoleak type I and Migration
76 years man
EVAR five months previous in other Institution
They send him to ER with abdominal pain and Angio CT

Why Chimney technique?
Parallel Graft =New neck > 5 cm
Cuff as 2nd Option=6mm neck

Tortuosity of the aorta and Neck angulation
Perform C-arm rotations to maintain control and visibility of all wires all time

What is the first chicken or the egg? ¿Cannulate first visceral branches, or ascending the main body first?

First deploy Main Body, Cuffs or Tubes and then SECS

Alignment of all components
Final Result
No Endoleak
No kinks
All 4 branches are patent

To avoid “Gutters” use 10cm SECS
Oversize 20% + 50% of each SECS diameter

Results
- 6 patients
  - 6 Endoleak type I
  - 6 Migration
  - Age 76y (65-85)
  - DM 4/6
  - Hypertension 5/6
  - Smoking 4/6
  - Cardiac Disease 3/5
  - PAD 3/6
- Total Follow Up 31 moths

<table>
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<tr>
<th>Falling Graft</th>
<th>New Graft</th>
<th>Design</th>
<th># Visceral Branches</th>
<th>Branches Grafts</th>
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<td>Chimney</td>
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TOTAL 6 CH 13 Self Expandable Cover Stent
Results

- Average length of parallel grafts: 10 cm
- Patency: 100%
- Compression: 7.6% (1/13)
- Secondary interventions: 0/6
- Mortality:
  - Related to the procedure: 0/6
  - Cardiovascular: 1/6

Conclusion

- chimneyEVAR seems to be a good option to those patients with Endoleak type I and Migration. Is safe and effective.
- chimneyEVAR avoids the need to open a patient with this complication
- "Gutter", endoleaks, branch occlusions and dislocations of grafts with chimneyEVAR are potential events but some technical important details avoid this complications.
- Durability of the technique should be evaluated in longer follow up studies