Type 2 Endoleak with AAA Sac Enlargement can be Dangerous and Should be Treated

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Disclosure

• Support from Medtronic for the Engage registry

Pr Verhagen

He is not afraid of leaks

Type 2 endoleak are not always benign

When the leak becomes a disaster, Pr Verhagen does not answer his cell phone. He is travelling abroad giving conferences
Three Dangers of Type 2 Endoleak and Sac Growth

- To ignore endoleaks, mimicking T2E.
- To underestimate the consequences of T2E
- To underestimate the risk of death

Increased Incidence of Sac Growth Conversion to Open Repair Reintervention Rupture

Three Dangers of Type 2 Endoleak and Sac Growth

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T2E True or Mimicked?

TE2 True or Mimicked?
T2E True or Mimicked?

Three Dangers of Type 2 Endoleak and Sac Growth

- To ignore other sources of endoleak
- To underestimate the consequences of TE2.
- To underestimate the risk of death

T2E Mimicked

Cuff

TE2 True or mimicked?
Own Experience TE2 and Rupture (1995-2018)

Patients with type 2 endoleaks (249/3000 EVAR)

- 7 ruptures (54 months after EVAR)
- 0 rupture: type II endoleak only
- 5 Ruptures: late Type III endoleak
- 2 Ruptures: late Type I endoleak
- 1 death

Sac Enlargement

Hypothetic Consequences

- Sealing Zones Enlargement?
- Type 1a and 1b Endoleak?
- Stent Graft Instability with type III endoleak?

ENGAGE Registry: Five years results:

- 11% of patients that had a Type II later developed a Type I endoleak.

Courtesy of Dr. Reijnen, Unpublished Data

TE2 Analysis from ENGAGE Registry - 5 years

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Isolated Type II Endoleak</th>
<th>Type II - Later development of Type I</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>197</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>FF Rupture</td>
<td>99.5%</td>
<td>80.2%</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>FF aneurysm related mortality</td>
<td>99.5%</td>
<td>90%</td>
<td>0.003</td>
</tr>
<tr>
<td>Secondary Endo Procedure</td>
<td>21.8%</td>
<td>67.5%</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Three Dangers of Type 2 Endoleak and Sac Growth

- To ignore endoleaks, mimicking T2E
- To underestimate the consequences of T2E
- To underestimate the risk of death
In Summary: TE2

- When isolated the risk of rupture is low but not nihil
- Type 3 endoleak can mimic a type 2 endoleak
- Sac growth increases the risk of type 1 and 3 endoleak and death

Conclusion

Type 2 Endoleak with a Sac enlargement can be dangerous and Should be Treated

Vote for the motion

If Pr Verhagen is not available this is my e-mail
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