Not So
Type 2 Endoleaks With Sac Growth Should Rarely Be Treated: They Infrequently Lead To Rupture And Treatment Is More Dangerous Than The Rupture Risk
Hence JM Verhagen, MD PhD
Professor and Chief of Vascular Surgery
Erasmus University Medical Center
Rotterdam, The Netherlands

Disclosures
- Medtronic
- WL Gore
- Philips
- Endologix
- Arsenal AAA

Basically, it all comes to:

Look how good I am, I can fix this really well!

Small detail:
Non of the panel members have ever proven that treating type 2 ELs changes anything in the clinical outcome
Nor that treating type 2 EL does more good than harm!

I'm here to tell you a different story

Type 2 endoleaks are NOT dangerous and should NOT be treated

Look harder for the true cause!

Type 2 EL can't be that relevant

- EVAR for ruptures works really well although almost all patients have patent lumbers
Type II endoleaks after endovascular repair of abdominal aortic aneurysm are not always a benign condition.

- T2EL had no influence on survival
- T2EL was no predictor of rupture, even in presence of sac growth
- No ruptures in the unsuccessfully treated patients
- Combination of T2EL with T1 or T3 EL was associated with more re-interventions

Intervention did NOT alter the AAA growth
- Embolization of sac or sidebranches did NOT show benefit
- Unexpected type-1 and 3 leaks were found

Type 2 endoleaks are NOT dangerous and should NOT be treated
Look harder for the true cause!

Systematic review on 21,744 patients
- 9 patients ruptured possibly due to a type II endoleak
0.7% of all patients with a type II endoleak
0.04% of all patients........
About half of these ruptures occurred in the absence of sac expansion.....

Follow-up after endovascular aortic aneurysm repair can be stratified based on first postoperative imaging

<table>
<thead>
<tr>
<th>Overall outcome</th>
<th>Low risk N=112</th>
<th>High risk N=104</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 with expansion</td>
<td>3 (1.4)</td>
<td>13 (11.4)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Let's look at level 1 evidence

Systematic review
Type II endoleak after endovascular aneurysm repair
D. A. Soffioth, P. W. Stather, E. Cheke, M. J. Bowan, and R. D. Sayers

British Journal of Surgery 2011; 108: 1262-1270
Type 2 endoleaks are NOT dangerous and should NOT be treated

Look harder for the true cause!

Systematic review

Treatment Results for Persistent Type 2 Endoleaks

Treatment success

- Only 27 patients showed decrease in sac size
- 27 patients receiving successful treatment?

Adverse events

- Adverse events reported
  - Serious complication: 3.0%
  - Secondary re-intervention: 16.2%
  - Conversion: 5.1%
  - Rupture: 1.0%
  - Intervention-related mortality: 0.5%

Adverse events

- Remember, these numbers far exceed the risk of rupture due to type 2 EL!

Poor outcome is predicted by something else

- Start with ignoring type 2 EL
- Look for real causes of poor outcome:
  - Type 1 & 3 EL
  - Position dependent EL
- Watch proximal and distal seal
Ignoring type 2 EL may be shocking

• Type 2 EL should possibly be named

"Sentinel endoleak"

• It guide you to a potential problem, but treating it does NOT cure the patient

Type 2 EL treatment

Type 2 endoleaks are NOT dangerous and should NOT be treated

Look harder for the true cause!

Not So

Type 2 Endoleaks With Sac Growth Should Rarely Be Treated:
They Infrequently Lead To Rupture And Treatment Is More Dangerous Than The Rupture Risk

Hence JM Verhagen, MD PhD
Professor and Chief of Vascular Surgery
Erasmus University Medical Center
Rotterdam, The Netherlands