The weakening of the aortic wall in endoleaks type II

A histochemical and molecular analysis

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Disclosure

Speaker name: A-L Menges

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
Central research question

What happens in the AORTIC ANEURYSM WALL in secondary expansion due to endoleak type II?

**WHY** is it relevant?
Morphology in secondary expanding aneurysm NOT known

**HOW** did we analyze it?
Immuno-histochemical and molecular analysis

**WHAT** is the outcome?
Atrophy of the aneurysm wall
**Methods**

**Patient cohort**
- 9 patients
- male, 81 ± 7a
- Expansion by 30 ± 8 % after EVAR

**Tissue extraction**
- OR

**Tissue analysis**
- IHC n=6
  - HE, CD45, CD68, Ki67, CD34
- PCR n=5
  - IFNγ, IL6, TGFβ, KLF4, BCL2, VEGF, MMP9
Exemplary results

<table>
<thead>
<tr>
<th>Control aorta</th>
<th>AAA</th>
<th>Sec exp AAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M=1.3, n=12</td>
<td>M=2.0, n=42</td>
<td>M=0.9, n=6</td>
</tr>
</tbody>
</table>

HE – 80x

p=0.03

p=0.01

p=0.0002
# Results

<table>
<thead>
<tr>
<th></th>
<th>IHC</th>
<th>PCR</th>
<th>AAA</th>
<th>sec. exp. AAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intima-/Media thickness</td>
<td>HE</td>
<td>↑</td>
<td>↓↓↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.0 mm</td>
<td>0.9 mm</td>
</tr>
<tr>
<td>2</td>
<td>Chronic inflammation</td>
<td>CD45, CD68, IFNγ, IL6, TGFβ</td>
<td>↑</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-4x</td>
<td>1-2x</td>
</tr>
<tr>
<td>3</td>
<td>Matrix-remodeling</td>
<td>Ki67, CD34, KLF4, BCL2, VEGF</td>
<td>↑</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-5x</td>
<td>0-2x</td>
</tr>
<tr>
<td>4</td>
<td>Proteolytic imbalance</td>
<td>HE, MMP9</td>
<td>↑</td>
<td>↑↑↑</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40x</td>
<td>1000x</td>
</tr>
</tbody>
</table>
Thank you

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