Percutaneous EVAR (PEVAR) vs. open surgical access for EVAR: A single center RCT and the multicenter PiERO RCT: An overview of cost effectiveness and complications of both procedures

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NOTHING TO DISCLOSE

Patients and methods

1 patient, 2 techniques

Objective and subjective outcome

Randomization

122 patients

122 percutaneous access

122 surgical access

58 contralateral devices 64 main devices

64 main devices 64 contralateral devices

3 conversions 2 conversions
Complications

- No significant differences in complications
- Significantly less pain at day 1 for PEVAR
- Significantly less surgical site complications at 2 weeks for PEVAR

**Time and cost comparison**

<table>
<thead>
<tr>
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<th>Percutaneous access</th>
<th>Surgical access</th>
</tr>
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<tbody>
<tr>
<td><strong>N</strong></td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td><strong>Outer sheath diameter (French)</strong></td>
<td>16.3 (6 - 24)</td>
<td>17.4 (8 - 26)</td>
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<td><strong>Duration (minutes)</strong></td>
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<tr>
<td>Access time (until insertion of sheath)</td>
<td>8.0 (2.3 - 16.0)</td>
<td>11.8 (5.5 - 28.6)</td>
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<tr>
<td>Closure time (until completion of skin closure)</td>
<td>4.5 (1.5 - 25.0)</td>
<td>13.1 (7.5 - 27.4)</td>
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<td>Total access time</td>
<td>12.5 (4.8 - 32.0)</td>
<td>24.9 (13.8 - 56.0)</td>
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<td>Material cost for single side access (€)</td>
<td>627.6 (274.2 - 1450.2)</td>
<td>591.4 (369.5 - 1217.0)</td>
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</table>
Number of closure devices used per patient

Conclusions

• Complication rates of PEVAR are comparable to surgical vascular access
• PEVAR is significantly more convenient for patients (less pain)
• PEVAR causes less surgical site complications

• If less than 2 closure devices are used per groin, complete PEVAR is significantly cheaper than surgical access

• Not all patients are suitable for PEVAR
Thank you!

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