Treatment of ruptured aortic aneurysms
Surgery versus VAR

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

Consulting and speakers fee

WL Gore & Associates
Medtronic

Unrestricted research grants

Medtronic
W.L Gore & Associates
Philips Medical Systems
<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Coronary artery disease or CHF</td>
<td>50%</td>
</tr>
<tr>
<td>Preexisting hypertension</td>
<td>30-50%</td>
</tr>
<tr>
<td>COPD</td>
<td>30-40%</td>
</tr>
<tr>
<td>Chronic renal disease</td>
<td>5%</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>6%</td>
</tr>
</tbody>
</table>
EVAR is established, and in most centers there is an EVAR-first strategy

The most prominent challenges are

Logistics
Complex anatomy
Expanding use of EVAR

Fig 1. Percentage of ruptured abdominal aortic aneurysms (rAAA) that underwent endovascular repair.

Fig 2. Mortality rate of open (gray bars) vs endovascular (EVAR, black bars) repair of ruptured abdominal aortic aneurysms (rAAA).

EVAR-first strategy for rAAA

The interpretation of current results from the literature is difficult because of patient selection criteria, definition of anatomic suitability for EVAR, and definition of hemodynamic stability.

On the other side several authors have demonstrated that a predefined strategy and systematic approach of rAAA, that includes EVAR, is associated with improved mortality. Unstable patients with rAAA may be particularly benefited by EVAR and should not be excluded from endovascular repair.
EVAR-first strategy for rAAA

Moore et al concluded that there was evidence of a lower mortality rate after the introduction of the intention-to-treat EVAR protocol: **30.0% vs 17.9%**

*J Vasc Surg 2007;45:443-50*

There were similar conclusions in several publications on implementation of an intention-to-treat eEVAR protocol

*J Vasc Surg 2010;51:9-18*  

Also in population based studies with historical control (Nationwide Inpatient Sample database using International Classification of Diseases), mortality for rAAA repair decreased from **44.3% to 39.9% (P < .0001)** in pre-EVAR era (1993 to 1998) with the post-EVAR era (2001 to 2005).

EVAR for rAAA

Figure 1. Forest plot of 30-day or hospital mortality in 24 studies comparing EVAR and open surgery in patients with a ruptured AAA.

_EuroIntervention. 2011;7:852-8_
AJAX trial

Improve trial 3 years

BMJ 2017;359:j4859
At three years, compared with open repair, an endovascular strategy for suspected ruptured abdominal aortic aneurysm was associated with a survival advantage, a gain in QALYs, similar levels of reintervention, and reduced costs.
Open repair of an abdominal aortic aneurysm

Endovascular repair of an abdominal aortic aneurysm

Stent-graft inserted through right and left common femoral arteries

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