Management of the Ruptured Abdominal Aortic Aneurysm: 10-year experience at a tertiary centre in the North of England

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Presentation aim:

• Describe the **post-operative mortality** patterns observed following **EVAR and OSR** for **ruptured AAA** in our **tertiary vascular centre** in the UK.

Study design:

• Observational cohort study.
• Retrospective analysis of a prospective database.
• Primary end-point: Mortality.
Inclusion Criteria

• Known intervention performed between Jan 2007 - Dec 2016 at the Leeds Vascular Institute.
• An AAA.
• Patients above 18 years.

Exclusion criteria

• Prior aortic intervention.
• Complex procedures.
• Urgent interventions.

NVR AAA dataset
Jan 2007 – Dec 2016
N = 815

Primary aortic intervention
N = 722

EVAR/OSR
N = 681

EVAR
N = 286
OSR
N = 154

EVAR/OSR
N = 681

EVAR
N = 58
OSR
N = 88

EVAR
N = 286
OSR
N = 154

Elective
N = 440

Previous Aortic intervention
EVAR, n = 51
OSR, n = 23
Both, n = 2
Type unknown, n = 17

Urgent, n = 93
# Results – Baseline demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Ruptured EVAR (N = 58)</th>
<th>Ruptured OSR (N = 88)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n, %)</td>
<td>48 (82.8%)</td>
<td>72 (81.8%)</td>
<td>0.884</td>
</tr>
<tr>
<td>Age [years] (mean, 95% CI)</td>
<td>76.5 (73.8 - 79.3)</td>
<td>76.8 (75.4 – 78.3)</td>
<td>0.856</td>
</tr>
<tr>
<td>Pre-Intervention AAA size [mm] (mean, 95% CI)</td>
<td>79.3 (74.4 - 84.1)</td>
<td>76.4 (73.3 – 79.4)</td>
<td>0.313</td>
</tr>
<tr>
<td>Hardman Index# (Score 1-5)</td>
<td>1 (0 - 3)</td>
<td>1 (0 - 3)</td>
<td>0.395</td>
</tr>
<tr>
<td>No. of co-morbidities* (median, range)</td>
<td>2 (1 - 6)</td>
<td>2 (1 - 5)</td>
<td>0.386</td>
</tr>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Current (n, %)</td>
<td>17 (29.3%)</td>
<td>18 (20.5%)</td>
<td>0.239</td>
</tr>
<tr>
<td>• Ex-smokers (n, %)</td>
<td>17 (29.3%)</td>
<td>27 (30.7%)</td>
<td>0.859</td>
</tr>
<tr>
<td>Pre-operative CT scan (n, %)</td>
<td>54 (93.1%)</td>
<td>59 (67.0%)</td>
<td>0.000</td>
</tr>
<tr>
<td>EVAR Turndown (n, %)</td>
<td>69 (78.4%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*the consciousness status was not routinely evident on retrospective review of case notes.
*these were restricted to diabetes, hypertension, chronic lung disease, ischaemic heart disease, chronic heart failure, chronic renal failure, stroke.
$ imaging was unavailable on our systems for 4 patients.
Results – rAAA survival analysis

Log-rank, p=0.388

30 mortality
EVAR: 17.2%
OSR: 35.2%
p=0.024

<table>
<thead>
<tr>
<th>Modality</th>
<th>EVAR*</th>
<th>OSR*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0/58</td>
<td>0/88</td>
</tr>
<tr>
<td>EVAR</td>
<td>23/24</td>
<td>36/40</td>
</tr>
<tr>
<td>OSR</td>
<td>24/15</td>
<td>39/13</td>
</tr>
<tr>
<td>EVAR-censored</td>
<td>25/7</td>
<td>41/10</td>
</tr>
<tr>
<td>OSR-censored</td>
<td>25/0</td>
<td>43/0</td>
</tr>
</tbody>
</table>

*cumulative events/remaining cases
Immediate post-operative outcomes following OSR are significantly poorer compared to patients eligible for EVAR.

Majority of patients were ineligible for EVAR due to anatomical restrictions, a potential prognostic marker.