Euro Heart Survey
on Valvular Heart Disease

Alec Vahanian, Bernard Iung
on behalf of the Scientific Expert Committee

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Euro Heart Survey on VHD
Inclusion Criteria

• Age $\geq$ 18 years, and

• Primary and significant valve disease as defined by echocardiography:
  - AS = max. jet velocity $\geq$ 2.5 m/s.
  - MS = valve area $\leq$ 2cm²
  - MR = grade $\geq$ 2/4
  - AR = grade $\geq$ 2/4 or,

• Diagnosis of suspected or definite endocarditis, or,

• Previous valve intervention
Enrollment and Data Analysis

- 5001 patients included
- 92 tertiary and community hospitals from 25 countries (including 76 volunteer centres)
- Electronic CRF filled by DCO and attending physician, and transmitted via Internet
- First patient in: April 1, 2001
  Last patient in: July 31, 2001
  Last patient out: August 31, 2001
  Database locked: December 15, 2001
Type of VHD

5001 patients

Native Valve Disease
- Aortic: 45%
- Mitral: 34%
- Multiple: 20%
- Right: 1%

Previous Intervention
- Conservative: 19%
- Valve Replacement: 81%

Total
- 3547 (71%)
- 1454 (29%)
Single Native Valve Disease

Euro Heart Survey on Valvular Heart Disease
Single Native Valve Disease
Etiology

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Age

Euro Heart Survey on Valvular Heart Disease
Cardiovascular Risk Factors

Euro Heart Survey on Valvular Heart Disease
## Coronary Artery Disease

<table>
<thead>
<tr>
<th>Region</th>
<th>CAD Present (%)</th>
<th>1-VD (%)</th>
<th>2-VD (%)</th>
<th>3-VD (%)</th>
<th>Left Main (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>57</td>
<td>16.5</td>
<td>14</td>
<td>26</td>
<td>0.5</td>
</tr>
<tr>
<td>Eastern</td>
<td>37</td>
<td>14</td>
<td>11.5</td>
<td>11</td>
<td>0.5</td>
</tr>
<tr>
<td>Western</td>
<td>40</td>
<td>14</td>
<td>11</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>35</td>
<td>12.5</td>
<td>11</td>
<td>9</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>14</strong></td>
<td><strong>11</strong></td>
<td><strong>13</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>
Interventions Performed

1269 patients

Native Valve Disease
1105 (87%)

Aortic
58%

Mitral
24%

Multiple
17%

Right
1%

Previous Intervention
164 (13%)

Conservative
29%

Valve Replacement
71%

AS
81%

AR
19%

MS
42%

MR
58%

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## Pre-operative Symptoms

<table>
<thead>
<tr>
<th></th>
<th>NYHA Class (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Aortic Stenosis</td>
<td>16</td>
</tr>
<tr>
<td>Aortic Regurgitation</td>
<td>21</td>
</tr>
<tr>
<td>Mitral Stenosis</td>
<td>15</td>
</tr>
<tr>
<td>Mitral Regurgitation</td>
<td>15</td>
</tr>
</tbody>
</table>
## Pre-operative Investigations
### Regional Variation

<table>
<thead>
<tr>
<th>Region</th>
<th>TEE (%)</th>
<th>Stress Test (%)</th>
<th>Cath. (R+L) (%)</th>
<th>Coronary Angio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>36</td>
<td>11</td>
<td>46 (17)</td>
<td>85</td>
</tr>
<tr>
<td>Eastern</td>
<td>24</td>
<td>4.5</td>
<td>57 (28)</td>
<td>80</td>
</tr>
<tr>
<td>Western</td>
<td>39</td>
<td>9.9</td>
<td>72 (54)</td>
<td>91</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>19</td>
<td>6.4</td>
<td>63 (30)</td>
<td>83</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29</strong></td>
<td><strong>7.5</strong></td>
<td><strong>63 (40)</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>
Type of Intervention
Native Valve Disease

N= 512
AS
AR
MS
MR

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30-Day Mortality
Comparison with Surgical Registers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aortic valve replacement no CABG</td>
<td>3.7</td>
<td>3.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Aortic valve replacement + CABG</td>
<td>6.3</td>
<td>7</td>
<td>4.3</td>
</tr>
<tr>
<td>Mitral valve repair no CABG</td>
<td>2.2</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td>Mitral valve replacement no CABG</td>
<td>5.8</td>
<td>6.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Mitral valve repair or replacement + CABG</td>
<td>10.1</td>
<td>8.6</td>
<td>8.2</td>
</tr>
<tr>
<td>Multiple valve replacement (with or without CABG)</td>
<td>7.2</td>
<td>11.4</td>
<td>6.5</td>
</tr>
</tbody>
</table>
Infective Endocarditis

- Management during the acute phase is comparable to the most recent registries, however it can be improved: absence of blood cultures before Rx in 29% of pts.

- Prophylaxis is not adequate:
  - among the patients with IE, 50% with known VHD did not receive prophylaxis during a procedure at risk

- Education should be improved:
  - only 30 to 50% are followed by dentist
  - 50 to 75% have received education
Anticoagulation

- Education of patients only performed in 22% of pts.

- Use of combination ASA + Vit K antagonists in only 9% of pts. after valve replacement (grade IIa in ACC/AHA guidelines)

- In patients with bioprosthesis or valve repair, Vit K antagonists are not continued up to the third post-op month in 60-70% of pts. (grade I in ACC/AHA guidelines)

- High use of LMWH (41%) in the early post operative period
Scientific Expert Committee

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