Robotic Thymectomy

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Robotic Thymectomy

Disclosures

• Bard: Speaker’s bureau
• Baxter: Consulting
Robotic Thymectomy
Standard Approach
Robotic Thymectomy

**VATS Thymectomy**

- Several published series for myasthenia gravis
- Some series for deliberate treatment of thymoma (10)
- Variable approaches: left, right, bilateral
Robotic Thymectomy

VATS Thymectomy

• Recent series of 119 patients over 10-year period with 58 thymomas (32 associated with MG)
• Right-sided approach, 4 incisions

Thirugnanam A and Lin S. Asian Cardiovas Thorac Ann 2010;18
Robotic Thymectomy
VATS Thymectomy

- Mean thymoma size 50 mm (10-90 mm)
- 25 Stage I, 25 Stage II, 7 Stage III, 1 Stage IVA
- 2 local recurrences (1 Stage I, 1 Stage 3)
- No deaths with mean f/u 4.9 years

Thirugnanam A and Lin S. Asian Cardiovas Thorac Ann
Robotic Thymectomy

- 3-arm approach
- Camera: 4-5\textsuperscript{th} ICS anterior axillary line
- Left arm: inframammary fold, mid-clavicular line
- Right arm: 2-3\textsuperscript{rd} ICS anterior axillary line
- Left or right
Robotic Thymectomy

Robotic Thymectomy
Robotic Thymectomy

- Total of 43 published articles
- Early experience focused on thymectomy for myasthenia gravis
- Increasing studies focusing on role of robotics in primary treatment of thymoma (5)
## Robotic Thymectomy

### Thymoma

<table>
<thead>
<tr>
<th>Author</th>
<th>Patients (N)</th>
<th>SA</th>
<th>Masaoka stage I/II</th>
<th>TS (cm)</th>
<th>5-year survival (%)</th>
<th>FU (months)</th>
<th>RR (%)</th>
<th>OC (%)</th>
<th>OT (min)</th>
<th>POS (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roviaro et al.</td>
<td>22</td>
<td>uVATS</td>
<td>22</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>4.5</td>
<td>4.5</td>
<td>75*</td>
<td>6*</td>
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<tr>
<td>Cheng et al.</td>
<td>44</td>
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<td>27/17</td>
<td>7.7*</td>
<td>100</td>
<td>34.6*</td>
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<td>0</td>
<td>194*</td>
<td>7.6*</td>
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<td>Odaka et al.</td>
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<td>uVATS</td>
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<td>–</td>
<td>21.6*</td>
<td>0</td>
<td>0</td>
<td>194*</td>
<td>4.6*</td>
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<tr>
<td>Agasthian et al.</td>
<td>50</td>
<td>uVATS</td>
<td>25/25</td>
<td>5*</td>
<td>100</td>
<td>58*</td>
<td>2</td>
<td>0</td>
<td>150*</td>
<td>5*</td>
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<td>Pennathur et al.</td>
<td>18</td>
<td>bVATS</td>
<td>5/13</td>
<td>3.5*</td>
<td>100</td>
<td>27**</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>2.9*</td>
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<td>Takeo et al.</td>
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<td>15/19</td>
<td>5.2*</td>
<td>100</td>
<td>65*</td>
<td>2.8</td>
<td>0</td>
<td>219*</td>
<td>10.5*</td>
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<td>Kimura et al.</td>
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<td>–</td>
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<td>14*</td>
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<td>Liu et al.</td>
<td>76</td>
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<td>61.9*</td>
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<td>1.3</td>
<td>141.7*</td>
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<td>Ye et al.</td>
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<td>1.3</td>
<td>1.3</td>
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<td>4.4*</td>
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<td>Ye et al.</td>
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<td>2.9*</td>
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<td>Keijzers et al.</td>
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<td>100</td>
<td>36**</td>
<td>2.7</td>
<td>13.5</td>
<td>149*</td>
<td>3**</td>
</tr>
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<td>Present series</td>
<td>134</td>
<td>robotic</td>
<td>46/71</td>
<td>4.4*</td>
<td>97</td>
<td>48*</td>
<td>0.7</td>
<td>8.9</td>
<td>146*</td>
<td>4**</td>
</tr>
</tbody>
</table>

SA, surgical access; bVATS, bilateral video-assisted thoracic surgery; uVATS, unilateral video-assisted thoracic surgery; TS, tumor size; FU, median follow-up; RR, recurrence rate; OC, open conversion; OT, operative time; POS, post-operative length of stay. *, mean value; **, median value.
Robotic Thymectomy

**Thymoma**

- Largest series from Marulli et al on multi-institutional European experience
- 134 patients undergoing robotic thymectomy for thymoma
- 38% left; 59.8% right; 2.2% bilateral
- 52% with associated MG
- 97% 5-year survival

Robotic Thymectomy

Locally Advanced Thymomma
Robotic Thymectomy

Summary

- Existing robotic technology an ideal approach to mediastinal disease
- Major advantage to robotic approach for management of the mediastinum in lung cancer
- Robotics should be the standard for total thymectomy for MG and isolated thymoma
Thank You!