Mid-term follow up after traumatic thoracic aortic rupture

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Disclosure

Speaker name:
Beatrix Cucuruz

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest
Reason for traumatic aortic injury

- traffic accident
- fall from high altitude
- ski accident
- airplaine crash
- iatrogenic
- shot/ stitch injury
Reason for traumatic aortic injury – our patients

- traffic accident  n=52 (80%)
- fall from high altitude  n=13 (20%)
- ski accident
- airplaine crash
- iatrogenic
- shot/ stitch injury
Methods

N= 65 patients

- 6 patients with open aortic repair
- 59 patients treated with endovascular stentgraft implantation

- follow up: mean 5 yrs (6 months – 16 years)
Perioperative outcome

N= 65 patients

- 6 patients with open aortic repair: 2 deaths during surgery
- 59 patients treated with endovascular stentgraft implantation: 5 death during hospital stay

perioperative mortality: 7/65 (11%)
Perioperative outcome

N= 65 patients

- 6 patients with open aortic repair: 2 deaths during surgery
- 59 patients treated with endovascular stentgraft implantation: 5 death during hospital stay
- 1 conversion to open surgery
- 1 collaps of the stentgraft after 2 days
- no paraplegia due to endovascular stentgraft implantation
Risk factors for perioperative mortality

N= 59 patients (endovascular treatment)

- ISS score (p=0.018; 40.97±3.3)
- ASA score 4 (5/22; p=0.002)
- hypotonia, MAD <60 for > 30 min (bleeding) (5/25; p=0.006)
- preoperative resuscitation (3/7; p=0.001)
Follow up

N= 59 patients (endovascular treatment)

- 3 reintervention due to nonalignment
- 8 revascularization of LSA due to symptoms (8/30; 27%)
- no aortic related deaths
LSA reconstruction

N = 1 patients intraOP reconstruction VA from aortic arch
   -> chimney LSA
LSA reconstruction

N= 1 patients intraOP reconstruction VA from aortic arch
  -> chimney LSA

N=8 patients during follow up
  -> diziness n=3
  -> forearm flap n=1
  -> pain left arm n=4

  -> carotido-subclavian bypass
Follow up

N= 65 patients

- 7 died perioperatively (11%)
- 1 death after 8 months due to liver failure (cholangiitis)
- lost: 10 patients
- follow up 47 patients (mean 5 yrs; ½ - 16 years)
### Follow up after TEVAR: literature

<table>
<thead>
<tr>
<th>Study author</th>
<th>year</th>
<th>n</th>
<th>periOP mortality</th>
<th>survival</th>
<th>reintervention</th>
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<tbody>
<tr>
<td>Kopp</td>
<td>2008</td>
<td>16</td>
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<td>Sincos</td>
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<td>4 (19%)</td>
<td>81% at 33.3 months</td>
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<td>Patel</td>
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<td>Lioupis</td>
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<td>24</td>
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<td>88.7% at 5 yr</td>
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<td>Martinelli</td>
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<td>27</td>
<td>2 (7.4%)</td>
<td>79.1% at 5 yr</td>
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<td>Marone</td>
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<td>2 (7.1%)</td>
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<td>Piffaretti</td>
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<td>Canaud</td>
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<td>Spiliotopoulous</td>
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<td>76</td>
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<td>Azzizadeh</td>
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<td>4 (5%)</td>
<td>82% at 5 yrs</td>
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<tr>
<td>Steuer</td>
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<td>74</td>
<td>7 (9%)</td>
<td>81% at 5 yrs</td>
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<td>Khashram</td>
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<td>11 (12.5%)</td>
<td>81% at 5 yrs</td>
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<td>Wojciechowski</td>
<td>2016</td>
<td>22</td>
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</table>
Conclusion

- periOP mortality related to ISS score
- overstenting LSA during emergency is acceptable in case of regular anatomy
- regular follow up is necessary to detect possible stent graft nonalignment or discomfort due to LSA overstenting
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