Tako Tsubo Cardiomyopathy is age dependent in men, but not in women

Amber Otten, Jan Paul Ottervanger, Tomas Symersky, Isala klinieken
Angela Maas, Radboud UMC

NVVC 01-11-2013
Background

- TTC is a transient depression of left ventricle function
- Frequently occurs following a physical or emotional stressor
Background

• TTC mimicks STEMI in +- 50% of TTC
• TTC is initially treated as STEMI with angiography
• TTC is more prevalent in older women (65-70yr)
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- TTC is associated with smoking, hyperlipedemia and stress
- Vergeleken met alle opnames, 6837 TTC

Background - Hypothesis

1. Different baseline data in non TTC and TTC patients?
2. Are these differences present in both men and women?
Study design

- 8385 patients presenting with STEMI 1998-2011
  - 7680 patients with reperfusion/coronary lesion: excluded
  - 669 patients eligible for retrospective analysis
    - 6 patients with insufficient data: excluded
      - 599 non-TTC
      - 35 TTC
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35 TTC

=0.4% of total

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# Results (1)

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<tr>
<th>Risk Factors, n(%)</th>
<th>Women with TTC (n=26)</th>
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<tbody>
<tr>
<td>History of MI</td>
<td>3%</td>
<td>7%</td>
<td>0.51</td>
<td>11%</td>
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<td>0.98</td>
</tr>
<tr>
<td>History of CABG</td>
<td>4%</td>
<td>3%</td>
<td>0.41</td>
<td>0%</td>
<td>4%</td>
<td>0.56</td>
</tr>
<tr>
<td>History of PCI</td>
<td>0%</td>
<td>3%</td>
<td>0.40</td>
<td>11%</td>
<td>9%</td>
<td>0.81</td>
</tr>
<tr>
<td>History of Stroke</td>
<td>8%</td>
<td>3%</td>
<td>0.20</td>
<td>0%</td>
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# Results (2)

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<td>1019(43%)</td>
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<td>646(19%)</td>
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<td>Hyperlipidemia</td>
<td>6(23%)</td>
<td>479(20%)</td>
<td>0.74</td>
<td>1(11%)</td>
<td>1430(22%)</td>
<td>0.69</td>
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<td>5(19%)</td>
<td>882(38%)</td>
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<td>3(33%)</td>
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| Tako Tsubo Cardiomyopathy is age dependent in men, but not in women | 01-11-2013 |

- **Age**
  - Men: 50, 61
  - Women: 67, 67

- **P-values**
  - Men: P = 0.004
  - Women: P = 0.78

- **Graph**
  - Comparison of age distribution between men and women with or without TTC.
Conclusion

- Women have an increased prevalence of TTC compared to men
- This is not associated with differences in baseline risk factors
- Men with TTC are younger than men without TTC
- No age difference is present in women
Discussion

• Is there a different mechanism of TTC in men and women?
  • TTC is associated with microvascular disease (less blush grade in TTC)
  • Sex hormones influences susceptibility of myocardium to stress? (mouse models)
  • Men more often physical stress as a trigger?
• More often misdiagnosis in older men, because more often coronary artery disease
Thank you for your attention
Extradi’s

Patel et al, J of cardiac failure, 19, 2013

Fig. 1. Type and distribution of stress triggers in men, young women (<50 y), and older women (≥50 y).
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<td>Killip class &gt; 1</td>
<td>4%</td>
<td>11%</td>
<td>0.33</td>
<td>0%</td>
<td>7%</td>
<td>0.40</td>
</tr>
<tr>
<td>CK maximum</td>
<td>426</td>
<td>1792</td>
<td>&lt;0.001</td>
<td>362</td>
<td>2075</td>
<td>0.02</td>
</tr>
<tr>
<td>CKmb maximum</td>
<td>53</td>
<td>228</td>
<td>&lt;0.001</td>
<td>124</td>
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