Acute non-A non-B aortic dissection: definition, treatment and outcome

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02.12.2016, Munich
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<th>Type II</th>
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**Aortic dissection**
Aims

To evaluate the incidence, clinical presentation, treatment and outcome of patients with Non-A Non-B aortic dissection (involving the arch, but not ascending aorta)
University Heart Center Freiburg

4000 surgical procedures

300-400 open and endovascular aortic procedures

60 – 80 aortic dissection
Methods

Time: 2001-2016

Cumulative caseload: 396 acute dissections

Study cohort: 43 (11%) acute Non-A Non-B dissections
Non-A Non-B subtypes

Type 1, n=21

Type 2, n=22
Clinical presentation

60 (53; 66) years old

84% males

84% hypertension

23% nicotine abuses

2% Marfan syndrome

7% cardiogenic shock

33% at least one organ malperfusion
Aortic anatomy

Arch configurations

- 28% 2-fold more
- 2%
- 16% 4-fold more

Dissection extension

93%
Entry location

50% 19%

2% 23%

7%
Non-A Non-B treatment

Emergency

- Malperfusion
- Aortic rupture
Aortic repair

- **Elective** 16%
- **Emergency** 33%
- **Urgent** 40%
- **No repair**

- 5 aortic ruptures
- 4 iliac m.
- 2 visceral m.
- 2 iliac and visceral m.
- 1 suspected type A

Additional conditions:
- 5 new visceral m.
- 2 new iliac m.
- 2 uncontrolled pressure
- 2 persisting pain
- 1 aortic aneurysm
- 1 PAU
- 1 rapid diameter increase
- 2 aortic ruptures emergencies
Aortic repair

Type 1
14 TEVAR Zone 3
3 FET
Freedom from aortic repair

Log rank, $P = 0.541$

Patients at risk:

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<th>Type 2</th>
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<td>21</td>
<td>3</td>
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<td>22</td>
<td>5</td>
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In-hospital mortality

Type 1

5%

0%

17%

Type 2

overall

urgent, elective

emergency

14%

0%

37%
**Retrograde type A dissection**

Type 1

- 5%
- \( n = 1 \)
- No in-hospital mortality

Type 2

- 18%
- \( n = 4 \)

All except for 1 after TEVAR

26% TEVARs for type 2 developed type A dissection
Survival

Log rank, $P = 0.495$

Patients at risk:

Type 1:
- Year 0: 21
- Year 1: 19
- Year 2: 15
- Year 3: 14
- Year 4: 12
- Year 5: 9

Type 2:
- Year 0: 22
- Year 1: 16
- Year 2: 14
- Year 3: 12
- Year 4: 11
- Year 5: 9

Time (years)
Secondary aortic interventions

33%

- 7 TEVARs
- 5 open aortic repairs
- 2 hybrid arch replacement
Entry tear closure

Type 1

90%

P=0.067

Type 2

62%
Open entry tear after primary repair

Total $n=8$

- $n=4$ aortic aneurysm
- $n=2$ died
- $n=1$ Type A
- $n=1$ cons.
Aortic reinterventions

Entry tear

Closed

Open

P=0.067
Non-A non-B type 1 - FET
Conclusions

- Incidence 11%
- 1/3 emergency surgery for malperfusion or rupture
- 2/3 aortic repair within 2 weeks
- Entry tear closure should be aimed
- TEVAR in type 2 should be avoided