

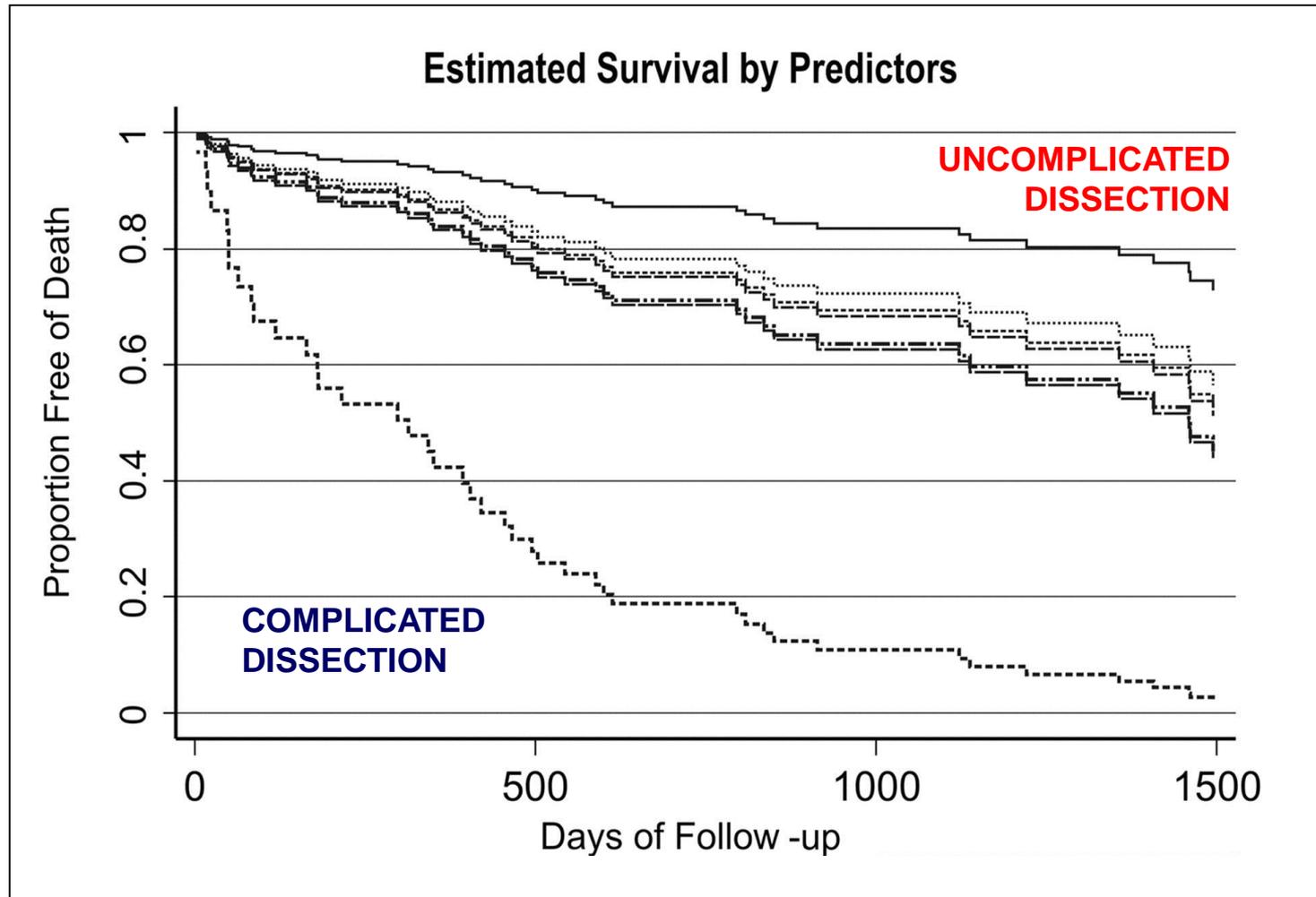
Can we predict type B aortic dissection outcomes when the patient arrives?

R Clough, D Barillà, P Delsart, G Ledieu, R Spear,
S Crichton, J Sobocinski, S Haulon

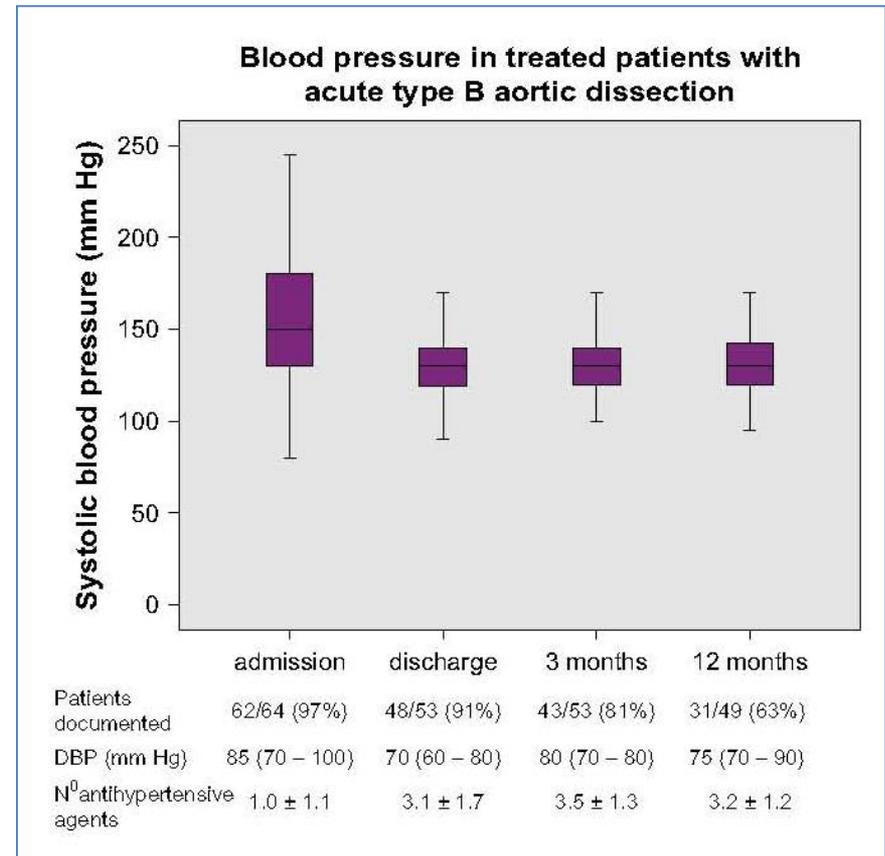
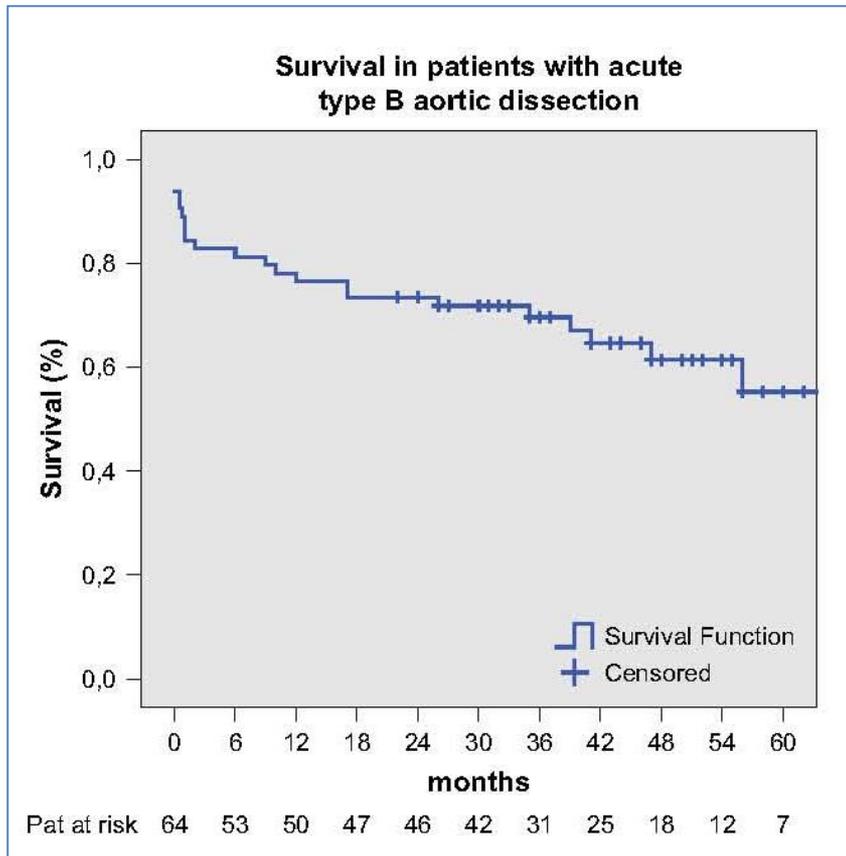
Aortic Centre, Hôpital Cardiologique, CHRU Lille, France



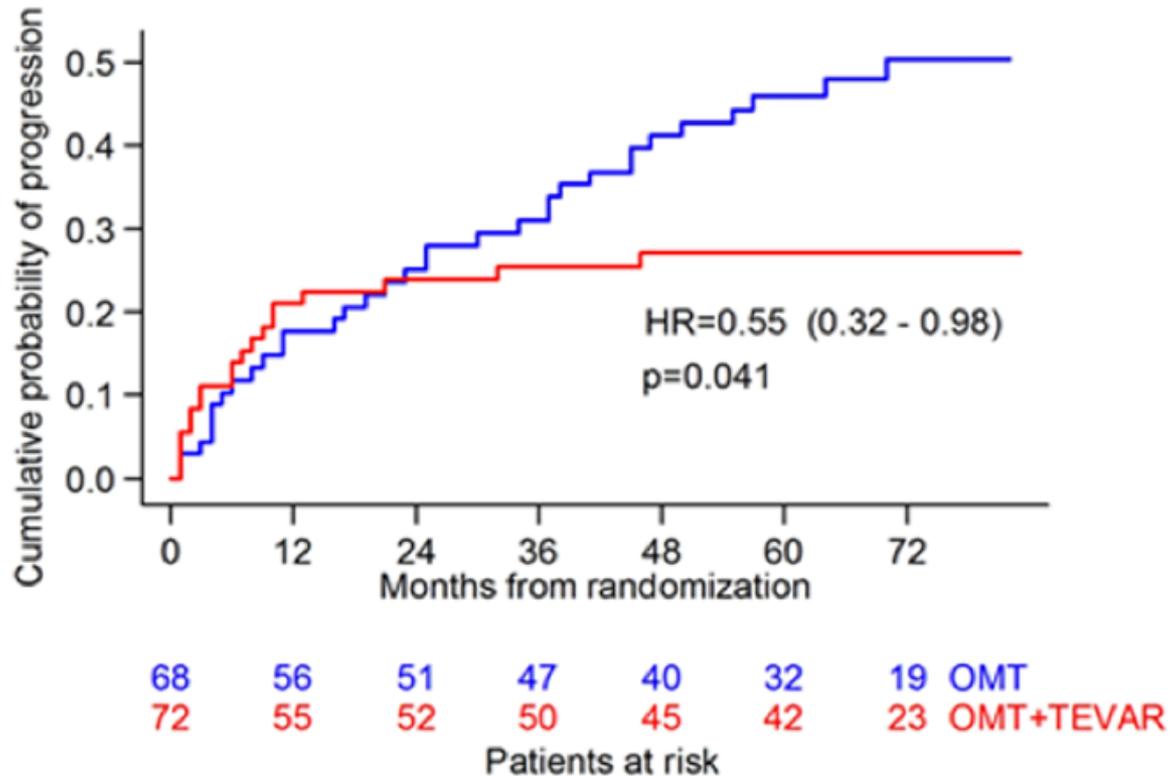
Type B dissection: IRAD survival data



Type B dissection: IRAD survival data



INSTEAD survival data



Continued incidence of aortic events during follow-up

Aims

11 year experience in the management of patients with acute type B aortic dissection

- i. Features on presentation that relate to poor outcome
- ii. Evaluate the relative effectiveness of medical and endovascular treatment

Methods

- Data collected 2004-2015
- Complicated patients were treated endovascularly
- Uncomplicated patients were treated medically
- Complications:
 - Rupture
 - End-organ ischaemia
 - On-going pain despite good BP control
- Clinical and imaging follow-up at 1 month, 6 months, 1 year and annually thereafter
- Aortic events during follow up were defined as: rupture, malperfusion, extension of the dissection and aneurysm formation

Endovascular repair

- Standard OR with c-arm / hybrid OR
- Spinal drain not routinely used
- Carotid-carotid bypass if LCCA covered
- LSCA revascularisation for:
 - Dominant left vertebral
 - Left arm AV fistula for haemodialysis
 - Patent LIMA graft
 - Atretic or absent right vertebral artery
- Stent graft over-sized by 10-15%

Medical treatment

- Medical management by a specialist in aortic dissection and blood pressure control
- Aim SBP<130mmHg
- One or more of:
 - B-blocker
 - Calcium-channel blocker
 - Alpha-receptor blocker
 - Diuretic
 - ACE-inhibitor
 - Angiotensin-receptor blocker

Results

- 136 consecutive patients
- Average age 61.4 ±13.4 years
- Male 76%
- Complicated 43% (59/136)
- Urgent 12.5% (17/136)
- Co-morbidities:
 - Hypertension 71%
 - Diabetes 10%
 - Connective tissue disease 6%

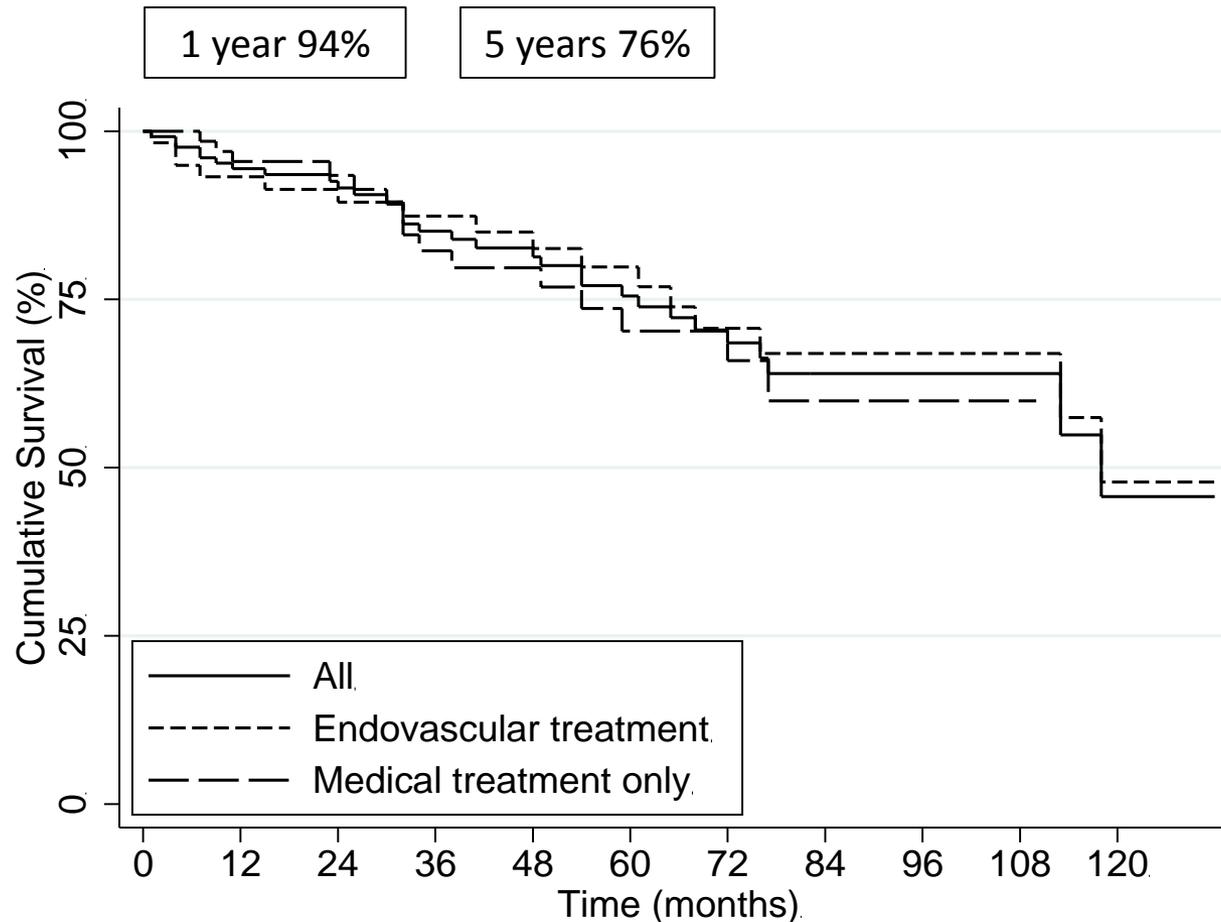
Complicated dissection (n=59)

- Indications for intervention
 - Renal ischaemia 46%
 - Impending rupture 25%
 - Visceral malperfusion 24%
 - Limb ischaemia 22%
- In-hospital events
 - Pulmonary complications 12%
 - Neurological (CVA, SCI) 8%
 - ACS 4%
 - Dialysis 3%

Follow-up

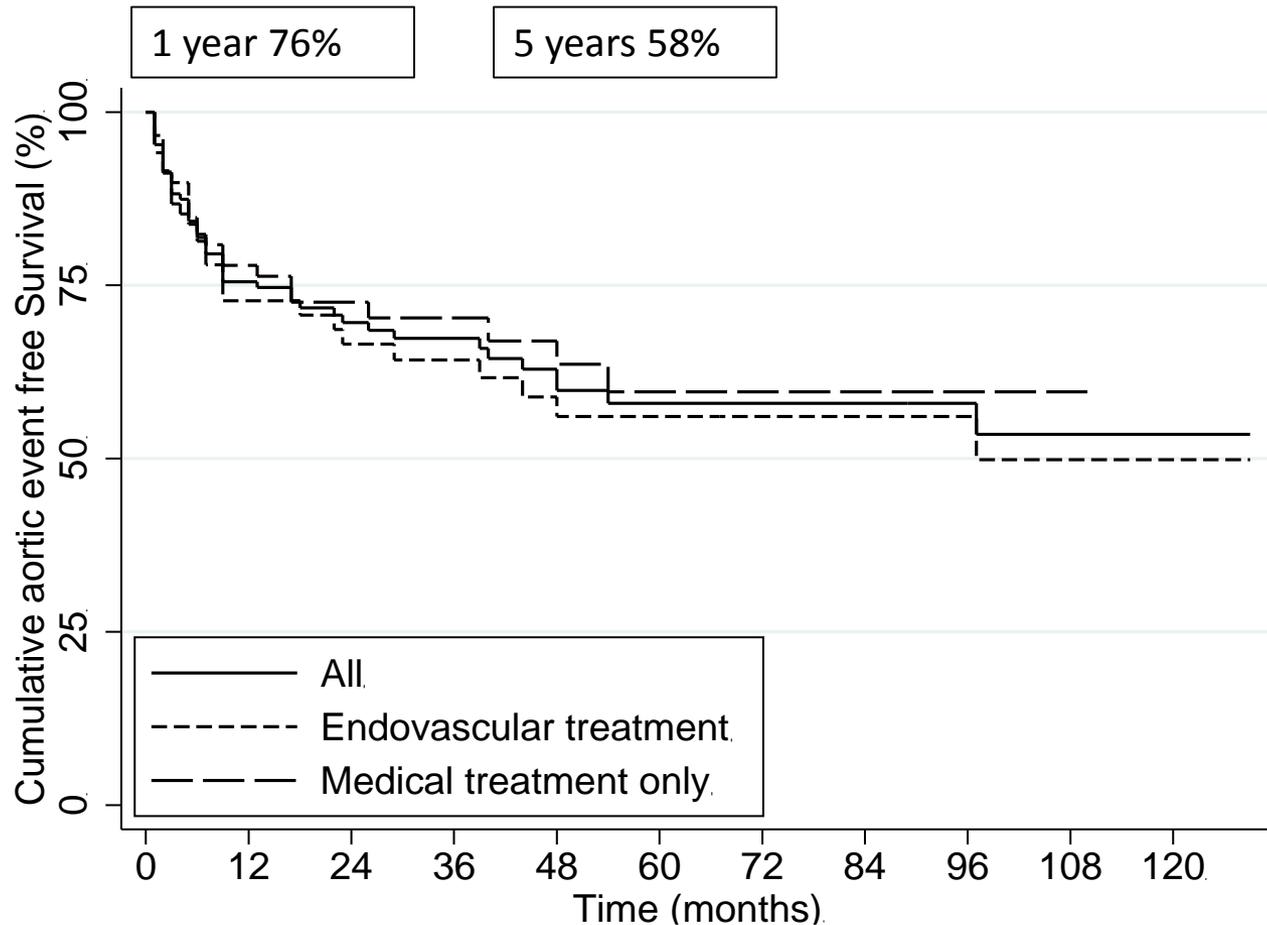
- 52 months (1-132)
- 31 deaths, 6 aortic-related
- 46 aortic events
 - Aneurysm formation 26
 - Extension of dissection 11
 - Malperfusion 9
 - Rupture 2

All cause survival



There was no difference in all cause survival between endovascular and medical treatment and medical treatment alone (HR 0.84 (0.40-1.74), $p=0.637$)

Aortic event-free survival



There was no difference in aortic event-free survival between endovascular and medical treatment and medical treatment alone (HR 1.18 (0.66-2.11), $p=0.570$)

Predictors: All cause survival

Significant effect:

- Age HR 1.24 (1.07-1.45) p=0.006
- Active BP Rx HR 0.71 (0.54-0.93) p=0.013

No effect:

- Treatment type: endovascular vs medical
- On admission
 - Heart rate
 - Systolic blood pressure
 - CRP
- Anatomy: entry tear, diameter, false lumen status
- Gender

Predictors: **Aortic event-free survival**

Significant effect:

| | | |
|------------------------|---------------------|---------|
| • Size of primary ET | HR 1.07 (1.02-1.11) | p=0.004 |
| • Diam. thoracic aorta | HR 1.07 (1.03-1.11) | p=0.002 |
| • Diam. thoracic FL | HR 1.05 (1.01-1.09) | p=0.009 |
| • Heart rate | HR 0.98 (0.96-0.99) | p=0.012 |
| • Height | HR 1.04 (1.01-1.08) | p=0.012 |

No effect:

- Treatment type: endovascular vs medical
- Gender
- On admission
 - Systolic blood pressure
 - CRP

Conclusion

- Active management of patients with acute type B aortic dissection in a centre specialising in aortic disease results in good long-term survival despite presenting features traditionally associated with adverse outcome
- All patients require close lifetime surveillance as aortic events, even after endografting, continue to occur during follow up

