



Symptomatic Presentation For Complex Aortic Aneurysms Is Associated With Increased Mortality When Compared With Asymptomatic Patients

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Background

- Patients treated for symptomatic infrarenal aneurysms have worse outcomes compared to those treated electively.
- This has not been quantified in patients with juxtarenal and thoracoabdominal aneurysms.
- In this study, we assess outcomes of patients who underwent endovascular repair for symptomatic and asymptomatic complex aortic aneurysms.

Methods

Inclusion Criteria:

- Complex aortic repair in VQI
- Non-ruptured aneurysm
- Repair within 48 hours of presentation

Outcomes:

- Primary: All-cause mortality
- Secondary: re-interventions and complications

Results

Cohort:

- 3757 total patients (442 (11.7%) symptomatic)
- Symptomatic patients were more likely to:
 - Be younger (71 vs 74 p<0.001)
 - Be female (40% vs 24%, p<0.001)
 - Be non-white (29% vs 16%, p<0.001)
 - Have had a prior aneurysm repair (3.6% vs 2.7%, p<0.001)

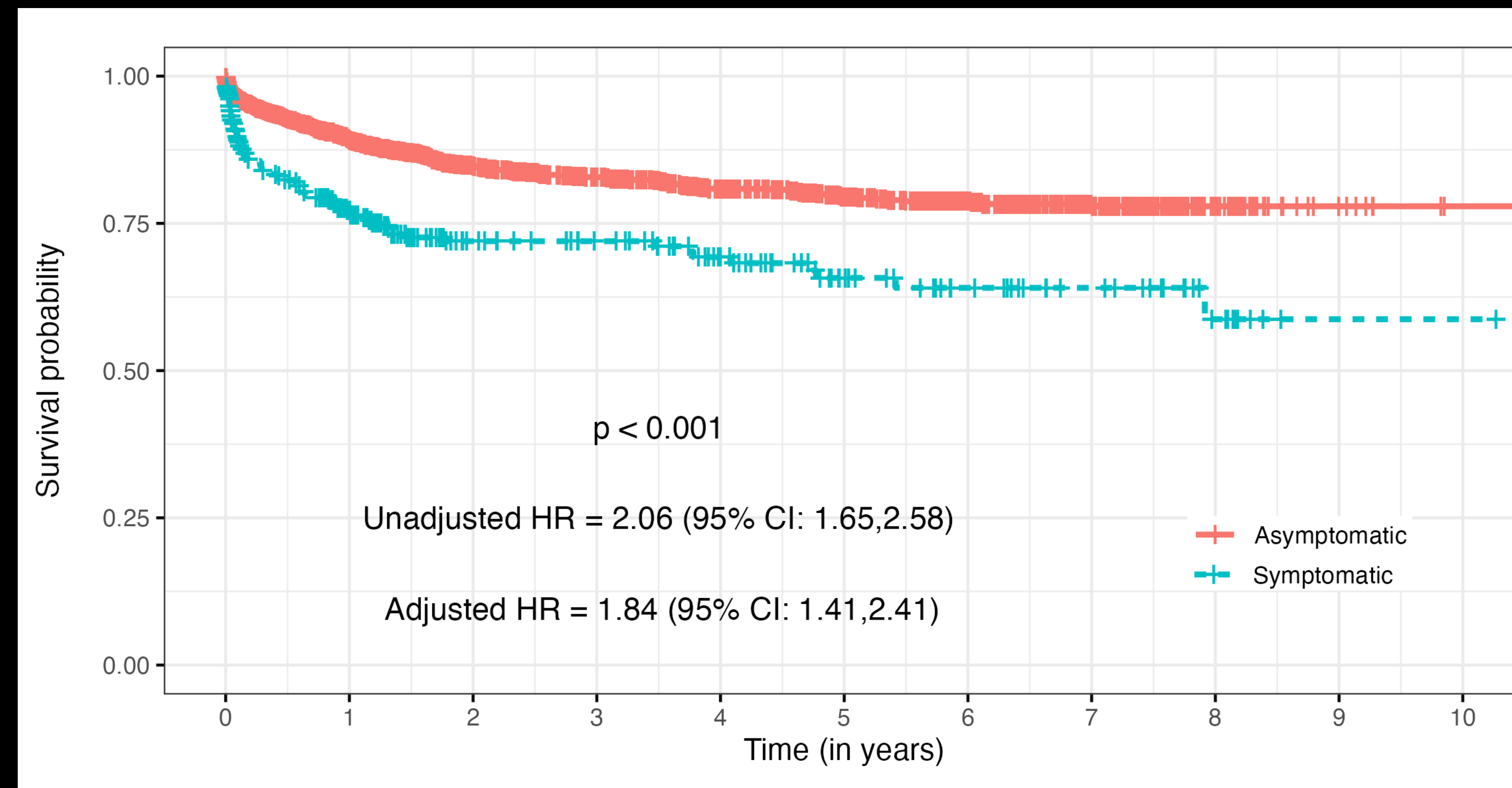


Figure 1: Survival analysis of patients with symptomatic and asymptomatic presentation of complex aortic aneurysm who underwent repair. (HR = hazard ratio, CI = confidence interval)

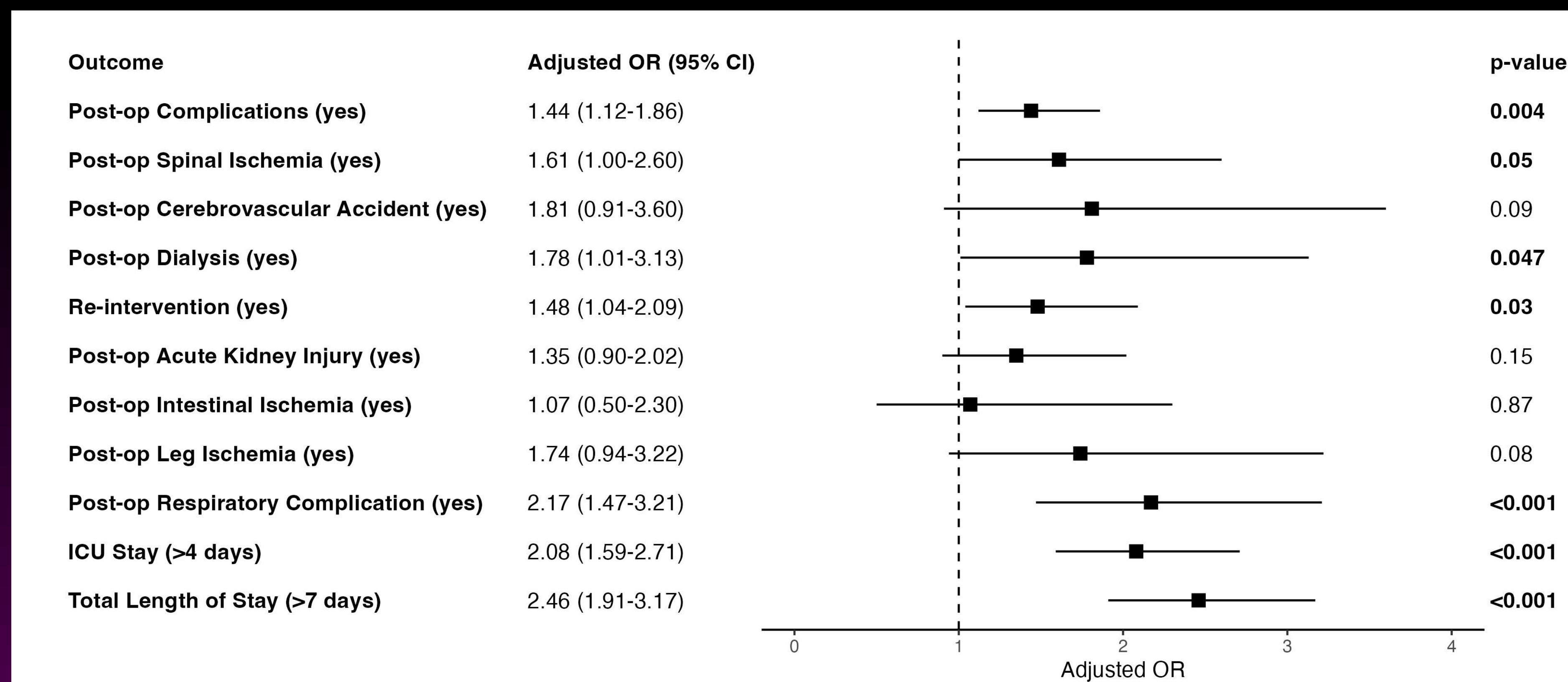


Figure 2: Forest plot presenting the adjusted odds ratios for patients with symptomatic presentation on binary secondary outcomes.

Results

Anatomic Details:

- Larger aneurysm diameters (66 vs 61, p<0.001)
- More commonly had dissection (8.4% vs 1.1%, p<0.001),
- More frequently had a thoraco-abdominal aneurysm (vs juxtarenal) (41% vs 21%, p<0.001).

Post-Operative Outcomes:

- Higher in-hospital mortality (6% vs 2%, p<0.001),
- More reinterventions (12% vs. 6%, p<0.001),
- Increased dialysis (5.0% vs 1.9%, p<.0001)
- Spinal cord ischemia (8% vs 3%, p<0.001)

Year	Survival Proportion (95% CI)	
	Asymptomatic	Symptomatic
1	0.89 (0.88 – 0.90)	0.77 (0.72 – 0.81)
5	0.79 (0.79 – 0.82)	0.66 (0.58 – 0.72)
10	0.78 (0.75 – 0.80)	0.59 (0.46 – 0.70)

Table 1: Estimated survival rate and 95% confidence intervals at one, five, and ten years for patients undergoing complex aortic repair

Conclusions

- Patients who underwent complex endovascular repair for symptomatic aneurysms had worse long-term outcomes including increased mortality.
- Symptomatic patients were more commonly, women, persons of color and younger patients and presented with more aggressive disease, thoracoabdominal aneurysms, and larger diameters.
- Earlier intervention and access to care may improve outcomes for patients undergoing complex aortic repair