

Sex-based differences in perioperative outcomes but not long-term survival outcomes after Stage IV colorectal cancer surgery

A two-centre Australian cohort study

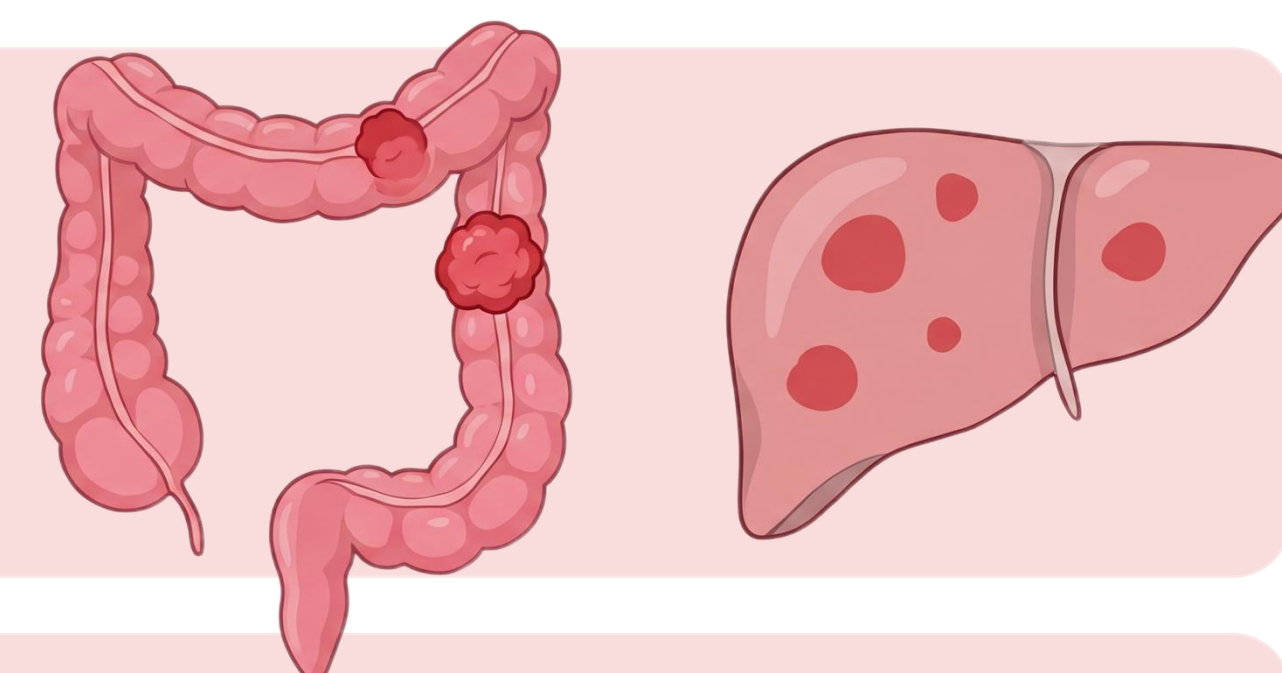
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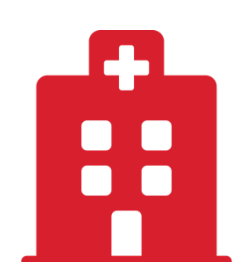
About one in five people with colorectal cancer present with Stage IV disease. Women are less likely to have metastatic surgery, but whether sex still matters once patients are selected for resection has not been well characterised in Australia.

We compared presentation, perioperative outcomes and overall survival between men and women undergoing resection for Stage IV colorectal cancer.



METHODS

Retrospective cohort · Cabrini Monash Colorectal Neoplasia Database | 2010 – 2022



2 centres

Cabrini (private) and The Alfred (public)



412 patients

Stage IV, colon or rectal resection



208 men · 204 women

compared throughout



13 years

Resections from 2010 to 2022

Analysis

Kaplan–Meier
and log-rank test

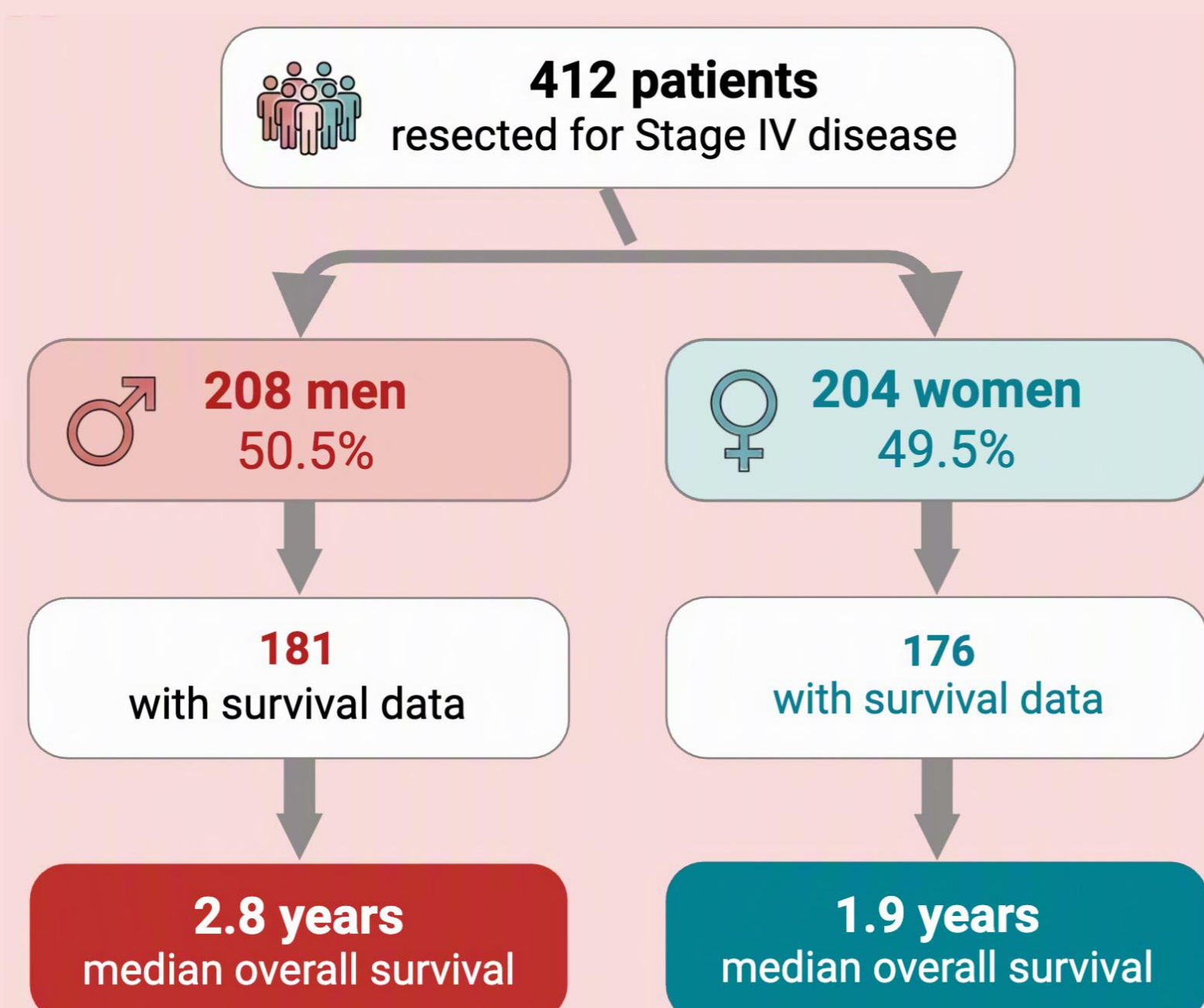
Cox regression
adjusted, complete-case

Sex × predictor
interaction tests (exploratory)

Primary outcome
overall survival

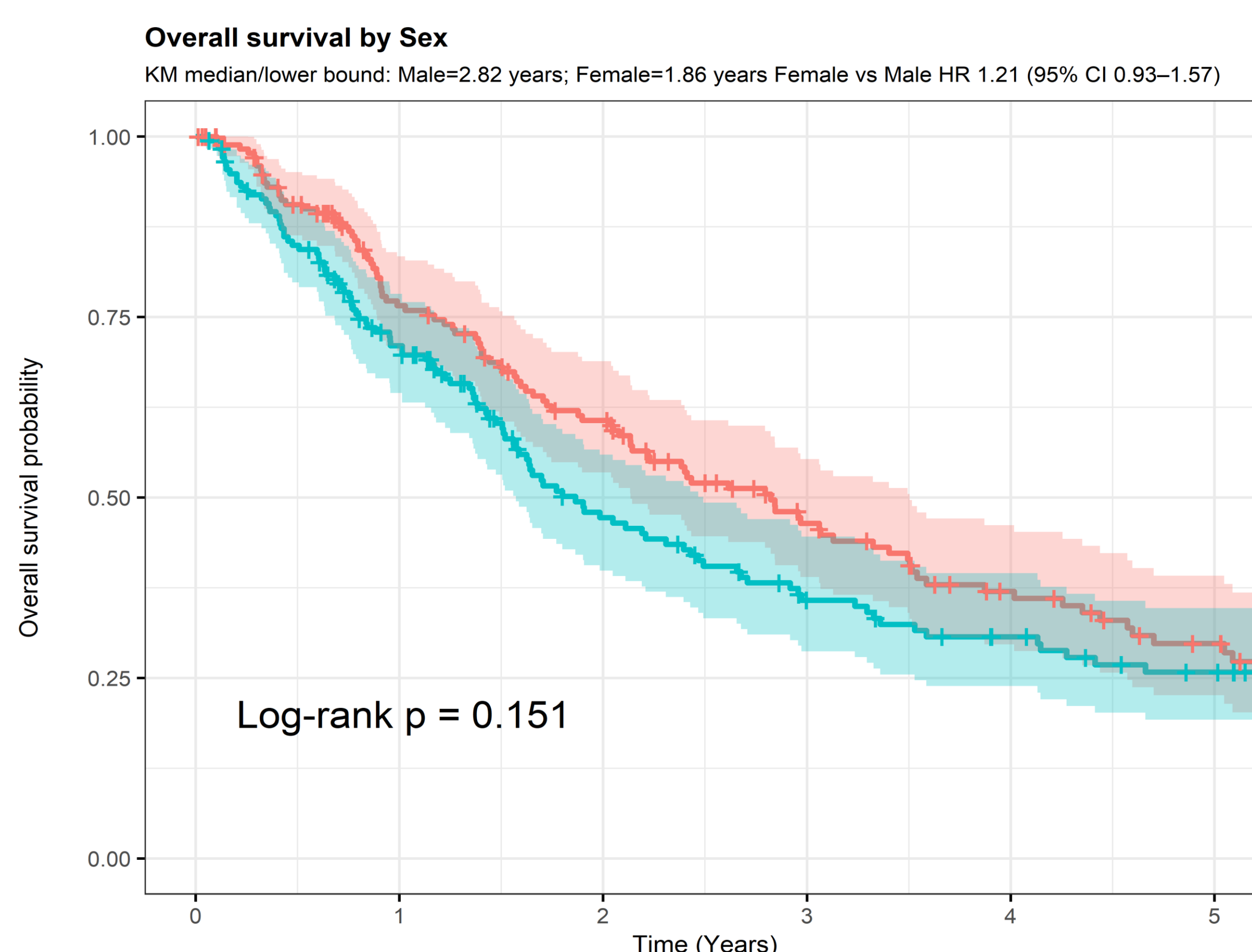
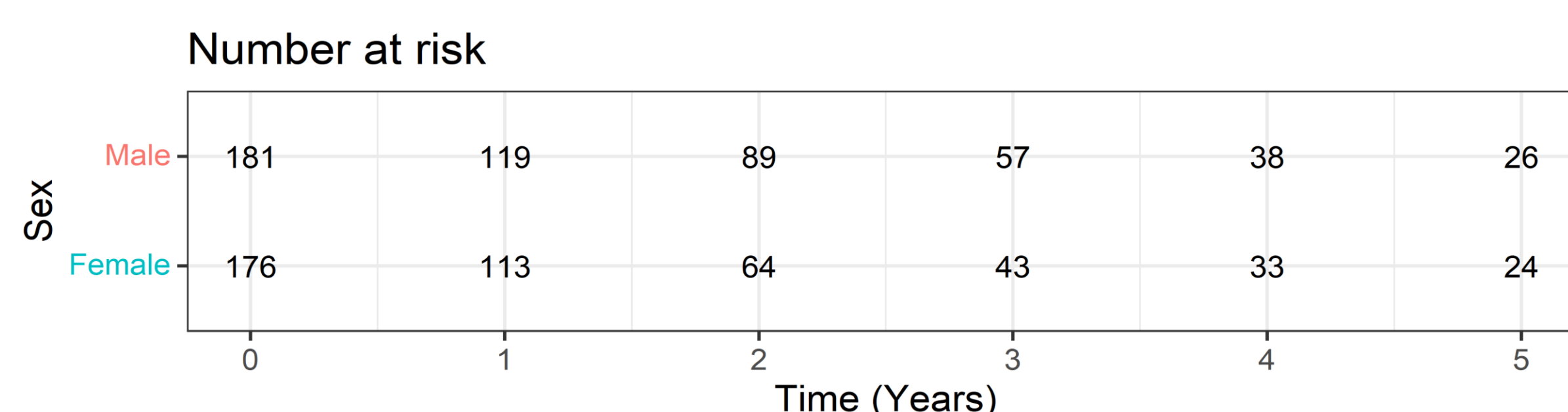
RESULTS

Patient flow



357 of 412 patients had evaluable survival data

Overall survival by sex



No significant difference in survival

UNADJUSTED · women vs men

HR 1.21

95% CI 0.93–1.57 · p = 0.151

ADJUSTED · women vs men

HR 1.30

95% CI 0.92–1.84 · p = 0.131

5-YEAR OVERALL SURVIVAL

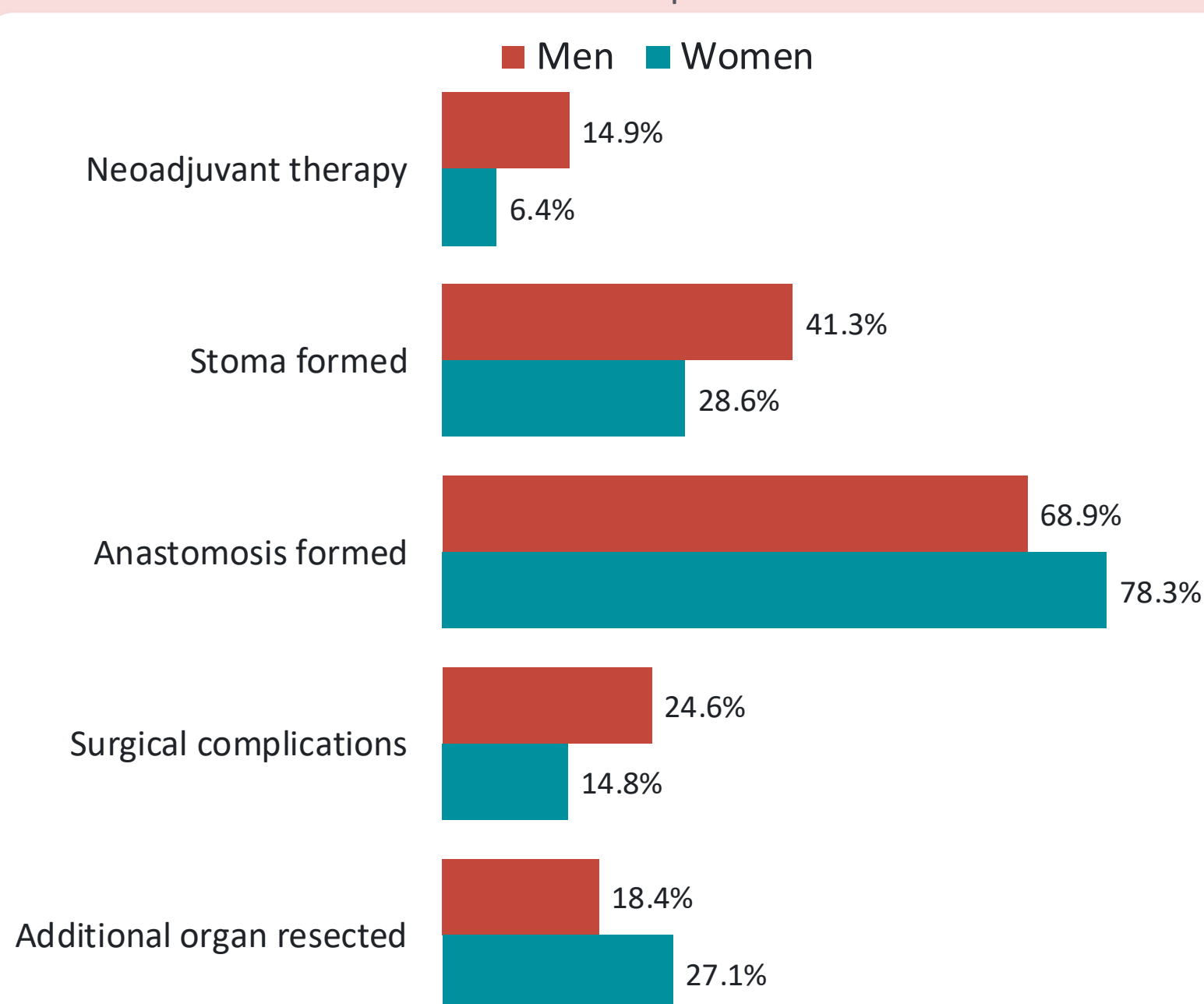
29.8% vs 25.8%

men vs women

Confidence intervals do not rule out a clinically relevant difference in either direction.

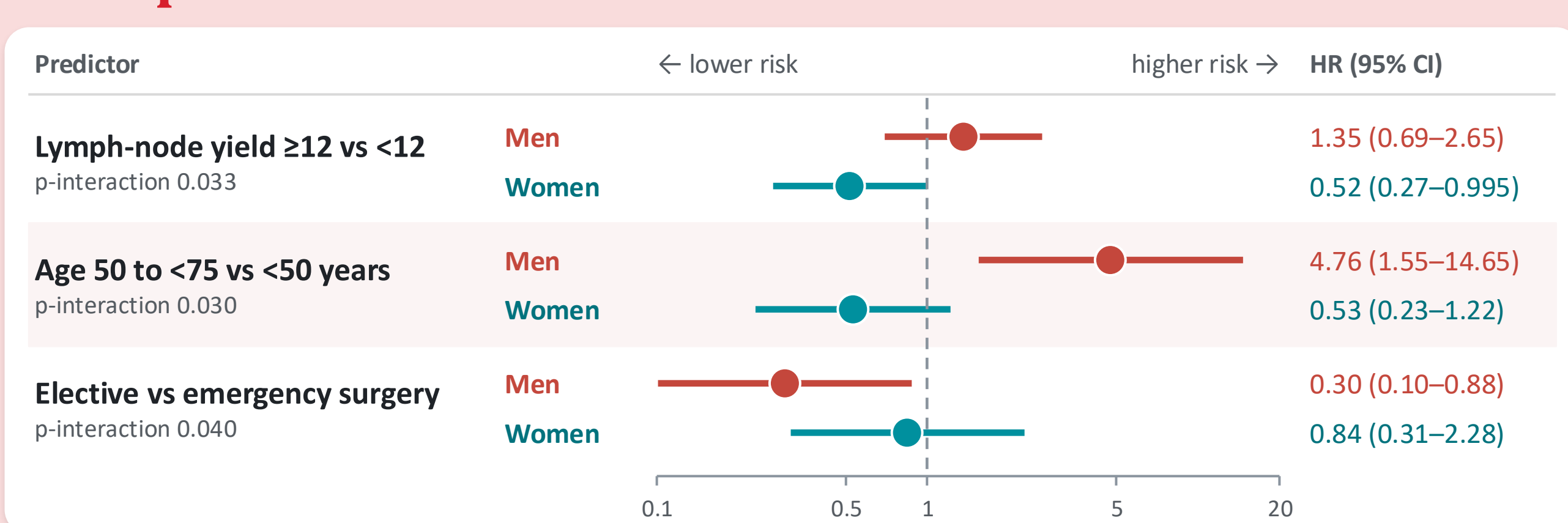
Management at surgery

% of each sex · all differences p < 0.05

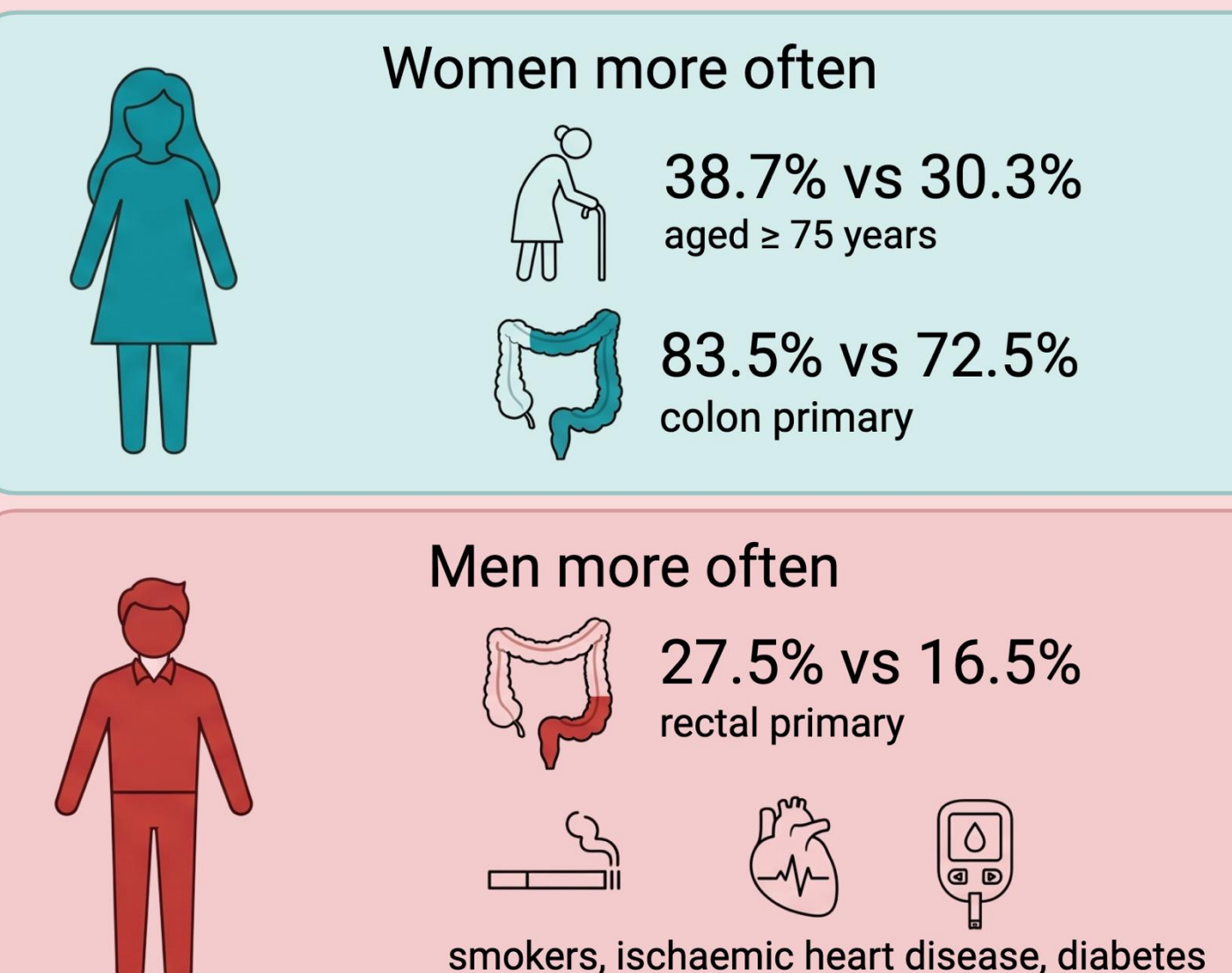


Sex-specific survival effects

Adjusted hazard ratio for death · log scale · exploratory



Who presented?



DISCUSSION



Selection may level the field

Women are less often offered metastatic surgery, yet once selected, survival is similar. Our findings fit this pattern (Ljunggren 2023; Wagner 2026).



Tumour site drives management

Men had more rectal primaries, which likely explains more neoadjuvant therapy and stomas. Women more often had colon primaries, and more were aged ≥ 75 years.



Node yield may matter by sex

Adequate node yield (≥12) was linked to lower risk in women only (HR 0.52). Node yield may partly reflect host immune response (Bundred 2025).



Limitations

Retrospective two-centre cohort; wide confidence intervals; interaction tests exploratory and not corrected for multiple comparisons.



TAKE-HOME MESSAGE

Among patients selected for Stage IV resection, men and women differed in presentation and surgical management, but survival did not differ significantly.

Equivalence was not established. Lymph-node yield and age may carry different prognostic weight by sex, a hypothesis for larger cohorts.



Scan for full references