

Gender-Based Comparative Analysis of Outcomes Following Minimally Invasive Direct Coronary Artery Bypass: A 20-Year Study

Maria Comanici , Abu A. Farmidi, Fabio De Robertis, Toufan Bahrami, Sunil K. Bhudia, Shahzad G. Raja
Department of Cardiothoracic Surgery, Harefield Hospital, London, UK



1

BACKGROUND

Minimally Invasive Direct Coronary Artery Bypass (MIDCAB) is an evolving revascularization strategy with limited data on **long-term outcomes**, particularly **by gender**. Understanding whether men and women experience similar benefits or face unique risks is essential for optimizing patient selection and management.

2

OBJECTIVE

To compare **perioperative outcomes** and **long-term survival** following MIDCAB between **males and females**, and to identify **gender-specific predictors** of long-term mortality through a 20-year single-centre retrospective analysis using propensity score matching.

3

METHODS

Design

Retrospective cohort of **676 MIDCAB** patients (**138 females, 538 males**).

Time Frame

1996 – 2023

Matching

129 male-female propensity score matched **pairs** on baseline characteristics

Analysis

Kaplan-Meier survival curves and **Cox regression** to identify predictors of long-term mortality.

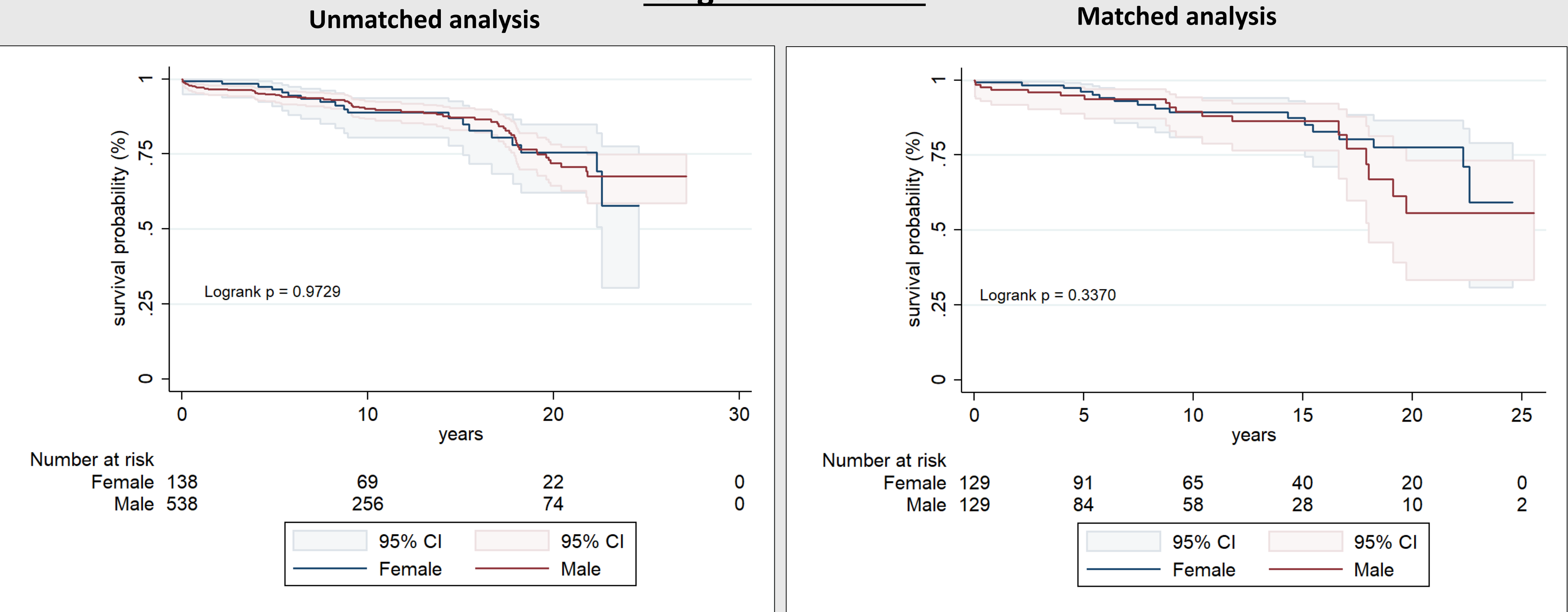
4

RESULTS

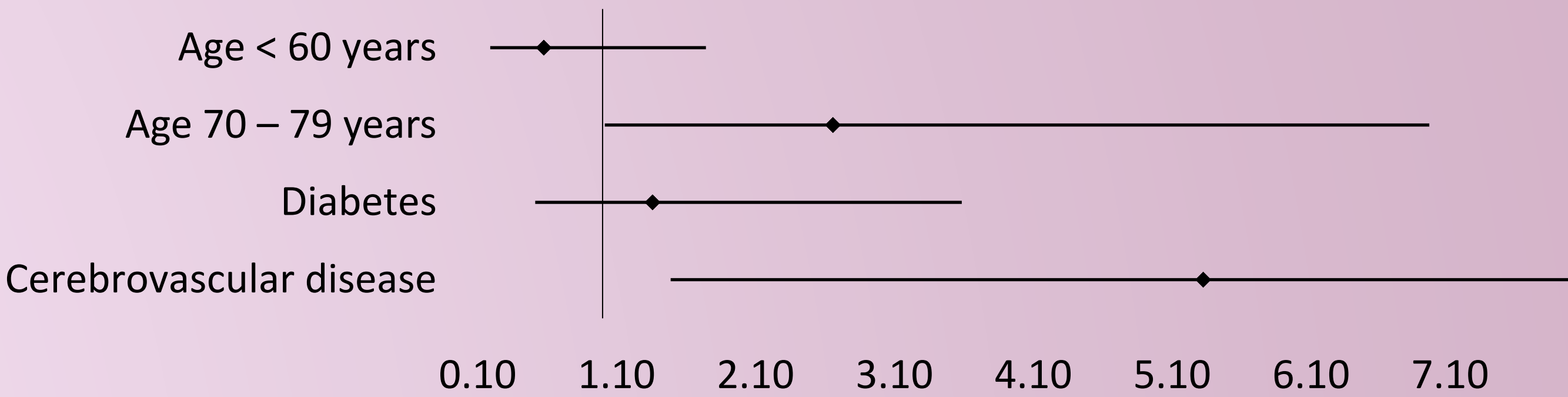
In-Hospital Outcomes

Outcome	Unmatched (n = 676)			Matched (n = 258)		
	Female (n = 138)	Male (n = 538)	P value	Female (n = 129)	Male (n = 129)	P value
Reoperation	4 (2.9)	13 (2.4)	0.789	4 (3.1)	3 (2.3)	0.702
Tracheostomy	0 (0)	1 (0.2)	0.612	0 (0)	0 (0)	-
TIA/CVA	3 (2.2)	5 (0.9)	0.228	3 (2.3)	3 (2.3)	1.000
RRT	2 (1.4)	6 (1.1)	0.681	1 (0.8)	2 (1.6)	0.561
Death at 30 days	0 (0)	6 (1.1)	0.213	0 (0)	1 (0.8)	0.316

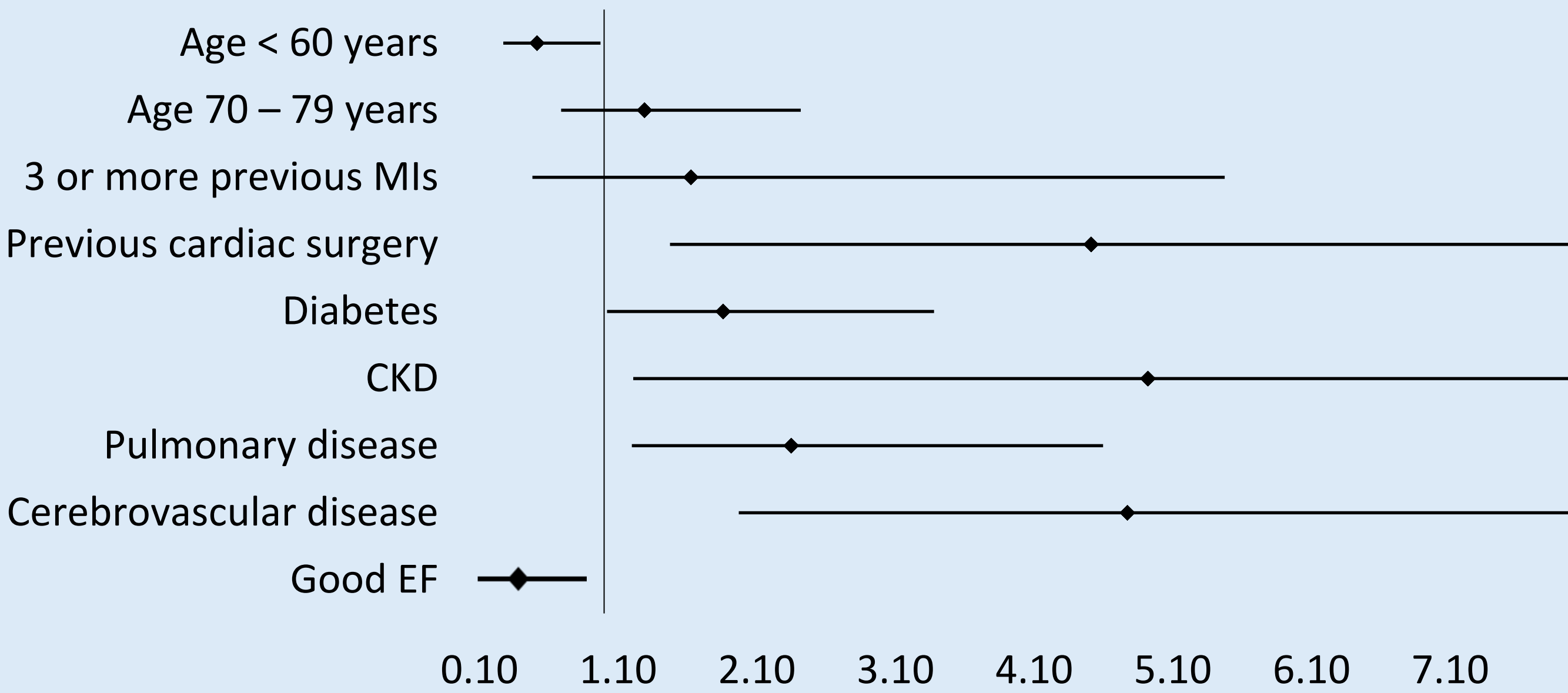
Long-Term Survival



Cox regression for long-term mortality in females



Cox regression for long-term mortality in males



5

CONCLUSION

MIDCAB provides comparable perioperative outcomes and long-term survival for both, males and females. This study highlights **critical gender-specific predictors of mortality**, emphasizing the necessity for **personalized preoperative risk assessment** and postoperative management.