

[EP04.05] Relationship Between Infertility and Cardiovascular Disease Risk

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Objective

Infertility affects about 10–15% of women of reproductive age worldwide and has been associated with increased maternal morbidity. Given that cardiovascular disease (CVD) is a leading cause of death, it is important to clarify the potential link between infertility and CVD risk, although large-scale studies remain limited and findings inconsistent. This study aims to investigate the association between infertility and future CVD risk using a large-scale cohort database.

Methods

This large-scale retrospective cohort study used data from the UK Biobank, which recruited participants aged 40–69 years between 2006 and 2010 with ongoing follow-up. Cardiovascular outcomes were compared between women diagnosed with infertility and control women without infertility but with a history of live births, including both ASCVD and non-ASCVD events. Cox regression models adjusted for multiple covariates, and propensity score matching was applied to improve comparability between groups.

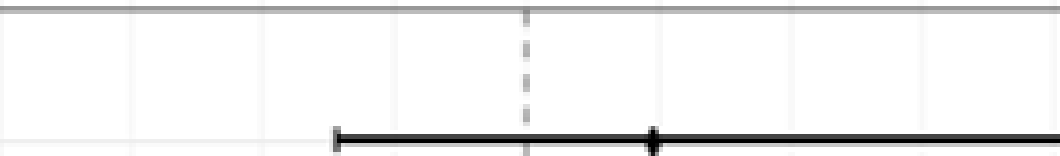
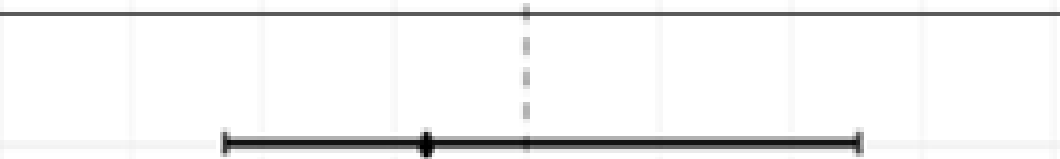
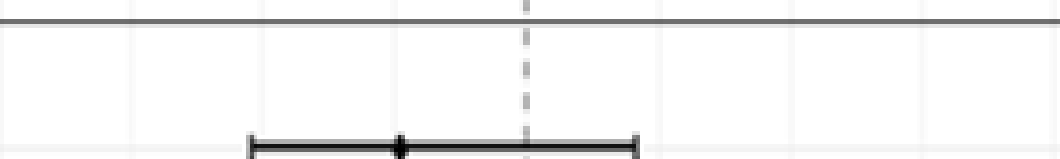
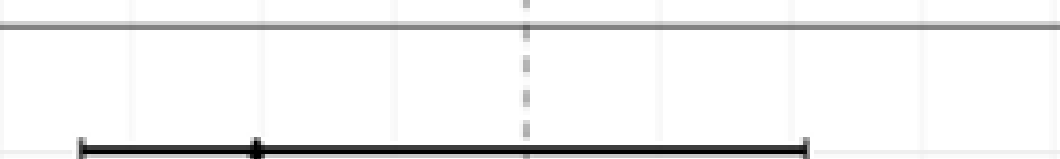
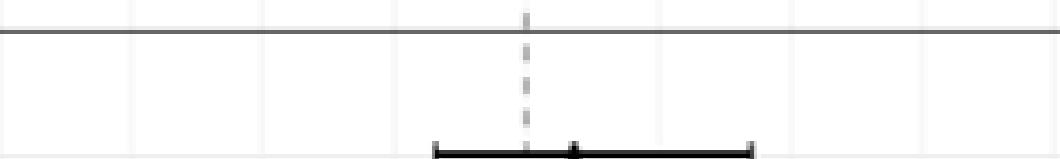
	Adjusted hazard ratio (95% CI)		p-value
Total CVD	1.00 (0.86-1.17)		0.986
ASCVD	1.16 (0.68-1.10)		0.237
Coronary artery disease	0.81 (0.61-1.06)		0.117
Ischemic stroke	1.24 (0.64-2.40)		0.520
Peripheral artery disease	0.81 (0.43-1.63)		0.554
Non-ASCVD	1.11 (0.93-1.33)		0.259
Heart failure	0.76 (0.48-1.21)		0.255
Aortic stenosis	0.49 (0.16-1.53)		0.218
Mitral regurgitation	1.31 (0.76-2.26)		0.336
Atrial fibrillation/flutter	1.09 (0.83-1.43)		0.529
VTE	1.31 (1.00-1.70)		0.047*

Figure 1. Adjusted hazard ratios of CVD in women with history of infertility

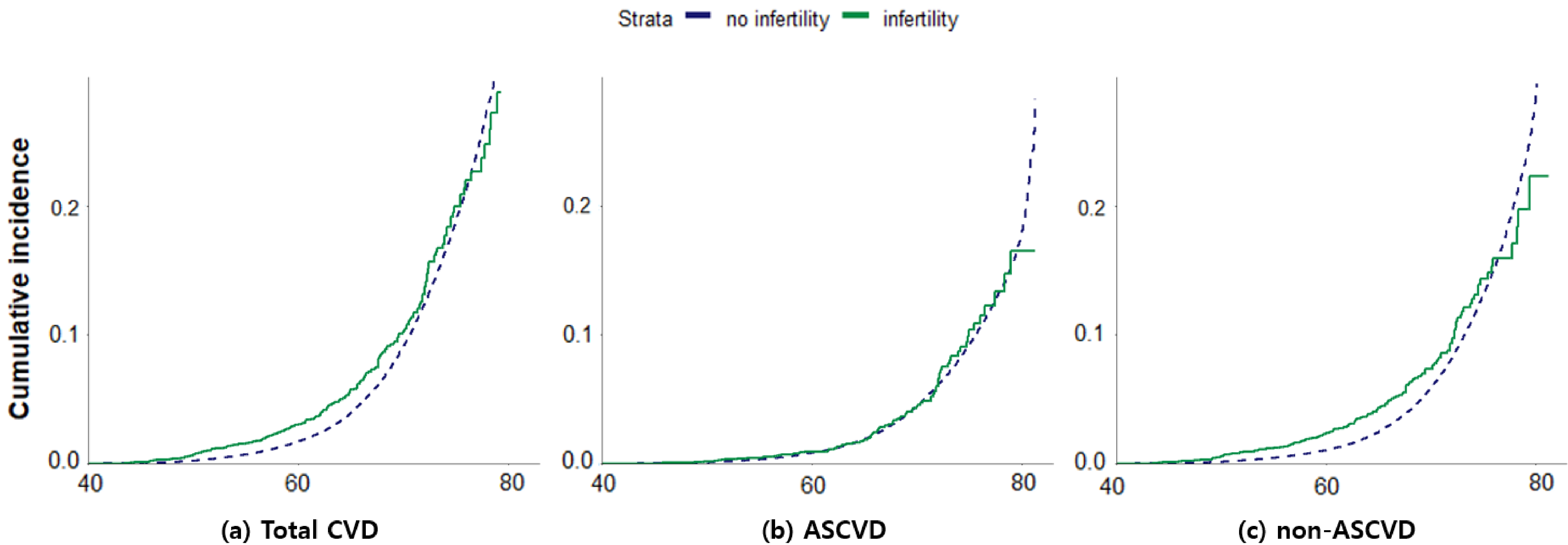


Figure 2. Cumulative incidence of cardiovascular disease according to the presence of infertility

Results

This study included 206,167 women, with 4,174 diagnosed with infertility and 210,959 parous women without a history of infertility. After adjusting for covariates, there were no significant differences in the CVD risk between the two groups. Similarly, propensity score matching (comprising 4,174 women with infertility and 20,710 control women) showed no significant differences in CVD risk between the groups.

Conclusion

There was no significant association between infertility and increased CVD risk after adjusting for potential confounders. It suggests that while infertility and CVD share some risk factors, infertility itself may not independently increase CVD risks.