
Self reported time post-hysterectomy and future cardiovascular risk factor levels in a population-based cohort of women: The CARDIA Study

J Bower, P Schreiner, University of Minnesota, Minneapolis, MN.

Most women who undergo hysterectomy live with the positive and negative health consequences for many years, which may include adverse effects on cardiovascular disease (CVD) risk over time. In the CARDIA cohort, we investigated the association of time since hysterectomy with future risk factor levels over 20 years in women free of CVD. Self-reported hysterectomy status was obtained at baseline (ages 18-30 years) and exams 2, 7, 10, 15 and 20 years later. Women with hysterectomy at baseline (n=25), hysterectomy first reported at Year 20 (n=142), or bilateral oophorectomy (n=25) were excluded, leaving 1,816 women for analyses. Years of exposure relative to Year 20 were calculated from the first exam year of reported hysterectomy. Linear regression was used to examine age-adjusted and multivariable-adjusted associations between cumulative exposure and Year 20 BMI, SBP, HDL-c, LDL-c, triglycerides (TG) and fasting glucose (GLC) levels. Multivariable models controlled for age, age², smoking, education, race, and baseline levels of each Year 20 risk factor. Women in 3 exposure groups (5, 10 and >10 years) were compared to women with no hysterectomy. In age-adjusted analyses, women with 5 years of exposure had more adverse mean BMI, HDL-c, SBP, and GLC levels (all p<.05) versus no hysterectomy; BMI was higher for those with 10 and >10 years of exposure, and TG and GLC were higher at >10 years. After multivariable adjustment, only GLC was higher with 5 years of exposure as well as at 10 years; >10 years exposure was associated with higher TG levels (Table). BMI, SBP, and HDL-c no longer differed by hysterectomy status. More adverse levels of TG and GLC followed hysterectomy, with higher GLC apparent in years immediately after hysterectomy and higher TG appearing with longer exposure. Our prospective findings suggest that CVD risk factors may remain elevated for years following self-reported hysterectomy and underscore the need for early risk factor surveillance.

Mean Risk Factor Levels at Year 20 CARDIA Exam Adjusted for Year 0 Risk Factor Levels, Demographics, and Smoking Status

Cumulative Exposure to Hysterectomy (years)	BMI (kg/m²)	SBP (mmHg)	HDL-c (mg/dL)	LDL-c (mg/dL)	TG (mg/dL)	Fasting Glucose (mg/dL)
No hysterectomy (n=1681)	29.5	114	59.6	107	81.2	95.4
5 (n=81)	30.0	114	59.7	109	83.1	103*
10 (n=20)	29.9	116	57.5	106	85.6	111†
>10 (n=34)	29.4	113	62.4	102	100†	89.8
<i>P</i> for trend	.72	.76	.47	.39	.01	.31

*p<.05, †p<.01 compared to no hysterectomy