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Ovary-sparing hysterectomy: Is it right for your patient?

It may be, if her surgery is not cancer-related.

Practice changer

Advise patients undergoing hysterectomy for benign conditions that there are benefits to conserving their ovaries. The risk of coronary heart disease (CHD) and death is lower in women whose ovaries are conserved, compared with those who have had them removed.¹

Strength of recommendation:

B: A large, high-quality observational study.

Parker WH, Broder MS, Chang E, et al. Ovarian conservation at the time of hysterectomy and long-term health outcomes in the Nurses' Health Study. *Obstet Gynecol.* 2009;113:1027-1037.

Ovarian conservation is not the norm

Data from the University Health-System Consortium Clinical Database indicate that between 2002 and 2008, about 55% of women who had a hysterectomy that was not cancer-related underwent oophorectomy. Rates of concurrent oophorectomy included:

- 68% of women ages 65 and older
- 77% of women ages 51 to 64
- 48% of women ages 31 to 50
- 3% of women ages 18 to 30.

A recent analysis from the Centers for Disease Control and Prevention found that among women who underwent hysterectomy for any reason between 1994 and 1998, 55% also had their ovaries removed.³

ILLUSTRATIVE CASE

A 44-year-old woman with a family history of early CHD is considering hysterectomy for painful uterine fibroids. She's thinking about undergoing concurrent bilateral oophorectomy to prevent ovarian cancer and asks for your input. How would you advise her?

Hysterectomy is the most common gynecologic surgery in the United States. In 2003, more than 600,000 hysterectomies were performed; 89% were not associated with malignancies.²

Hormones and CHD: An unanswered question

Over the last several decades, there has been a great deal of interest in the relationship between hormones and CHD, much of it stemming from the controversy about hormone replacement therapy (HRT). The findings of the Women's Health Initiative implicated combined exogenous hormones (estrogen and progestin) as a risk factor for CHD.⁴ Endogenous hormone production, however, may protect against CHD; some studies have demon-

PURLs methodology

This study was selected and evaluated using FPIN's Priority Updates from the Research Literature (PURL) Surveillance System methodology. The criteria and findings leading to the selection of this study as a PURL can be accessed at www.jfponline.com/purls.

strated a decreased risk of cardiovascular death with later age of menopause.^{5,6}

Current oophorectomy recommendations are age-specific. The American College of Obstetricians and Gynecologists (ACOG) recommends that strong consideration be given to ovarian conservation in premenopausal women who are not at risk for ovarian cancer. For postmenopausal women, however, ACOG recommends consideration of oophorectomy as prophylaxis.⁷ These recommendations are based on expert opinion. Previous studies suggest that ovarian conservation may improve survival in specific age groups.^{8,9} The large, high-quality observational study reviewed here provides further guidance about the role of ovarian conservation across all age groups.

STUDY SUMMARY

■ Oophorectomy increases risk of CHD and death

This observational study¹ was part of the Nurses' Health Study. It included 29,380 women, of which 16,345 (55.6%) underwent hysterectomy with bilateral oophorectomy and 13,035 (44.4%) had hysterectomy with ovarian conservation. Women with unilateral oophorectomy were excluded, as were those who had a history of CHD or stroke, and women for whom pertinent data, such as age, were missing. A follow-up survey was sent to participants every 2 years for 24 years, with an average return rate of 90%.

Women who had undergone bilateral oophorectomy had an increased risk of CHD and all-cause mortality (TABLE). The authors estimated that with a postsurgical life span of approximately 35 years, every 9 oophorectomies would result in 1 additional death. The authors also pointed out there were no age exceptions: Ovarian-sparing surgery was linked to improved survival in every age group.

Oophorectomy did have a protective effect against breast cancer, ovarian cancer (number needed to treat=220), and total cancer incidence, but it was associated with an increased incidence of lung

TABLE	
Oophorectomy (vs ovarian conservation) increases key risks¹	
RISK FACTOR	MULTIVARIATE-ADJUSTED HR (95% CI)
CHD (fatal and nonfatal)	1.17 (1.02-1.35)
Breast cancer	0.75 (0.68-0.84)
Lung cancer	1.26 (1.02-1.56)
Ovarian cancer	0.04 (0.01-0.09)
Total cancer	0.90 (0.84-0.96)
Total cancer mortality	1.17 (1.04-1.32)
All-cause mortality	1.12 (1.03-1.21)

CHD, coronary heart disease; CI, confidence interval; HR, hazard ratio.

cancer (number needed to harm=190) and total cancer mortality. There was no significant difference in rates of stroke, pulmonary embolus, colorectal cancer, or hip fracture.

WHAT'S NEW

■ Ovarian conservation: Better for all ages

The evidence is clear: Conserving the ovaries, rather than removing them, during hysterectomy is associated with a lower risk of CHD and both all-cause and cancer-related mortality.

What about the patient's age? A 2005 analysis suggested that ovarian conservation conferred a survival benefit compared to oophorectomy in women <65 years.⁸ Similarly, a 2006 cohort study found increased mortality in women <45 years who underwent concurrent oophorectomy.⁹ But this is the first study to demonstrate that ovarian-sparing surgery is associated with improved survival in women of every age group.

CAVEATS

■ Study sample and HRT use could affect outcome

The average age of patients in the treatment (oophorectomy) arm was higher than that of patients in the control group; the women in the treatment group were older at the time of hysterectomy (46.8 vs 43.3 years), as well. This should not bias the results, which were adjusted by age



Do you advise women undergoing hysterectomy for benign conditions to:

- Undergo concurrent oophorectomy
- Opt for ovarian conservation
- Opt for one or the other, depending on whether they are pre- or postmenopausal
- Follow the recommendation of their gynecologist
- Other

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FAST TRACK

Tell patients undergoing hysterectomy for benign reasons that women are nearly 30 times more likely to die of cardiovascular disease than ovarian cancer.

and many other variables.

Nonrepresentative sample. This group of nurses is not representative of the general population in several important aspects, including socioeconomic status, educational level, and race (94% Caucasian). This may limit the generalizability of the findings.

Study design. The observational design and the fact that the patients themselves decided whether or not to undergo oophorectomy also raise the possibility of unmeasured confounding factors.

Cancer risk. Women with known BRCA mutations were not studied separately, but the results were adjusted for family history of breast or ovarian cancer. The authors stated that a subgroup analysis of women with a family history of ovarian cancer had similar outcomes, although the data were not included

HRT use. As might be expected, patients in the oophorectomy arm of the study were more likely to use HRT. Since the completion of the study in 2000, practice recommendations have shifted against combined HRT use. Unopposed estrogen, which is not thought to increase the incidence of cardiovascular disease, remains a treatment option for women who have undergone hysterectomy and oophorectomy. But the overall effect of unopposed estrogen on survival is still uncertain.⁴ It is unclear how the recent decline in the use of exogenous hormones would affect these results.

BARRIERS TO IMPLEMENTATION

■ FP-GYN communication can be difficult

This study provides important information for primary care physicians to discuss with female patients and their gynecologists. However, some doctors may not have relationships with the gynecologists in their community, or have limited (or no) influence or input into which specialists their patients see. In addition, some gynecologists may hesitate to perform hysterectomy without oophorectomy in some cases for technical reasons.¹⁰

Concern about prevention of ovarian cancer must be balanced with increased risk of mortality and CHD events. It may be helpful to tell patients who are about to undergo hysterectomy for a benign condition that women are nearly 30 times more likely to die of cardiovascular disease (CHD or stroke) than ovarian cancer (413,800/year vs 14,700/year).¹¹ ■

Acknowledgement

The PURLs Surveillance System is supported in part by Grant Number UL1RR024999 from the National Center for Research Resources, a Clinical Translational Science Award to the University of Chicago. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center for Research Resources or the National Institutes of Health.

The authors wish to acknowledge Sofia Medvedev, PhD, of the University HealthSystem Consortium in Oak Brook, Ill, for analysis of the National Ambulatory Medical Care Survey data and the UHC Clinical Database.

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