

# A 45-Year-Old Woman Undergoing Hysterectomy Requests Oophorectomy

Sarah Alhaddad Tout

## History of Present Illness

A multiparous, 45-year-old woman presents for preoperative evaluation. She has a long history of abnormal uterine bleeding that has been inadequately managed with her current levonorgestrel intrauterine device. She now desires definitive surgical management by hysterectomy. During her visit today, she requests that her ovaries be removed during the surgery. She shares that a good friend recently passed away after a long battle with ovarian cancer and she wants to lower her own risk of ovarian cancer as much as possible. Her past medical history includes depression managed on escitalopram 20 mg daily, and borderline hypertension currently managed with lifestyle modification. She has had no prior surgery.

Her gynecologic history is otherwise unremarkable. Her social history is remarkable for moderate alcohol use. There is no family history of ovarian cancer or premature atherosclerotic disease. She has a paternal aunt with postmenopausal breast cancer and her mother developed dementia at age 77.

## Physical Examination

**General appearance:** 45-year-old adult, well-developed and well-nourished, in no apparent distress

**Vital signs:**

Temperature: 37.1°C

Pulse: 78 beats/min

Blood pressure: 138/89 mmHg

Respiratory rate: 16 breaths/min

Height: 65 inches

Weight: 172 lb

BMI: 28.6 kg/m<sup>2</sup>

**Cardiopulmonary:** Unremarkable

**Abdomen:** Soft, non-tender, non-distended, normal active bowel sounds, no rebound or guarding, no masses or hernias, no hepatosplenomegaly

**Pelvic:** Normal external genitalia, vaginal and cervical mucosa normal, cul-de-sacs unobstructed, uterus slightly enlarged with several small fibroids palpable, mobile with grade 1 prolapse and good descensus, normal adnexa with no masses or tenderness appreciated

**Neuro/psych:** Alert, affect and mood appropriate to situation, good insight and judgment

**Laboratory studies:**

Hb: 11.4 g/dL (normal 12.1–14.4 g/dL)

Pathology: Endometrial biopsy demonstrates disordered proliferative endometrium with glandular and stromal breakdown

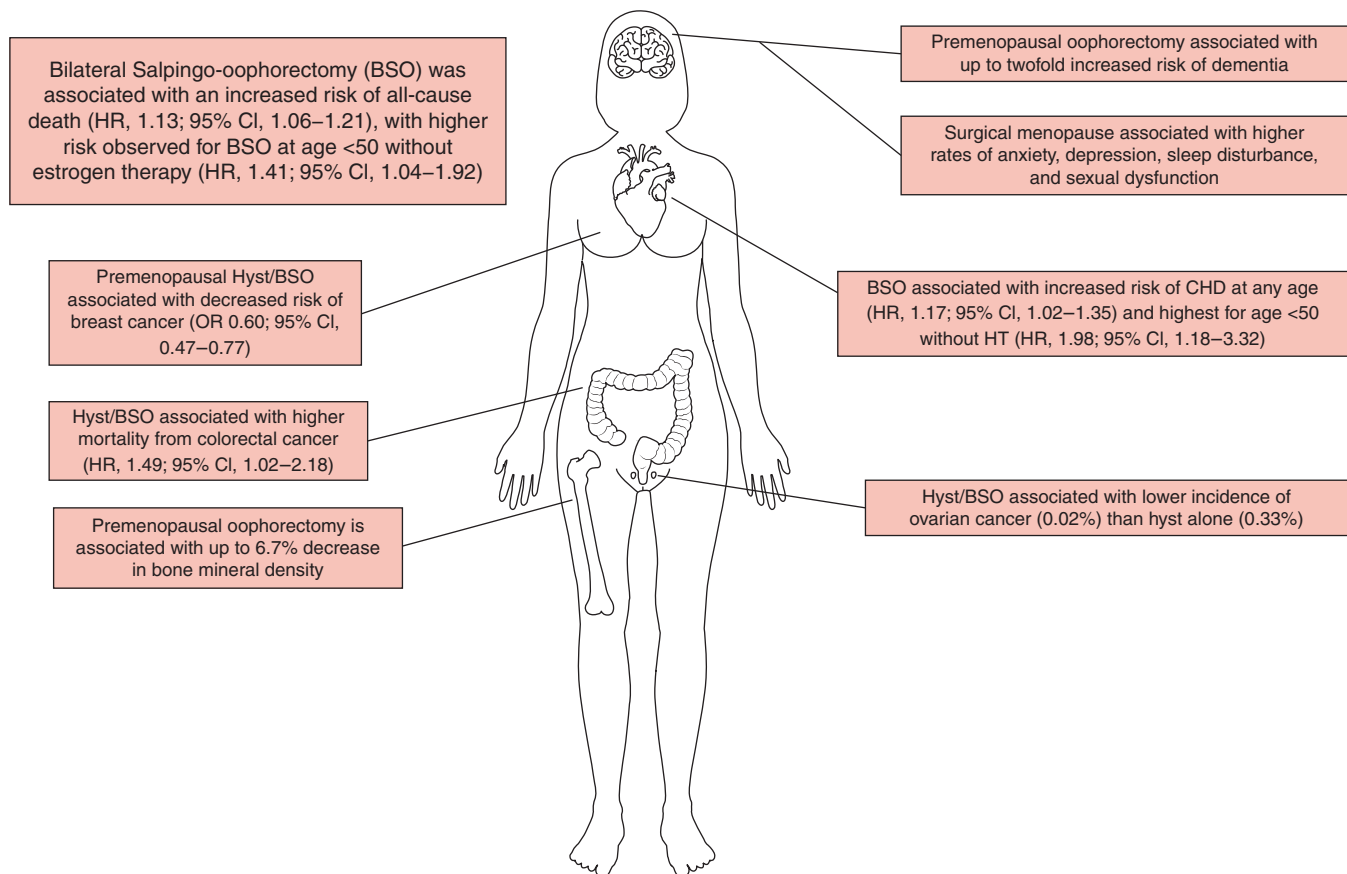
**Imaging:** Pelvic ultrasound demonstrates an anteverted, anteflexed uterus measuring 11.4 × 6.3 × 6.1 cm, endometrial thickness 8 mm with endometrial stripe slightly distorted by intramural and submucosal fibroids, the largest measuring 4.5 × 4.1 × 3.8 cm, and unremarkable adnexa

## How Would You Manage This Patient?

This patient presents requesting oophorectomy at the time of hysterectomy. A careful review of her own medical and family histories is not suggestive of endometriosis, an inherited cancer syndrome, or otherwise increased risk of malignancy. Conversely, her personal and family history raises concern for the risk of several conditions that might be worsened by the loss of endogenous estrogen production. This premenopausal patient was counseled that, weighing the risks and benefits of the procedure, elective oophorectomy is not recommended. Specifically, she was informed of the potential risks of surgical menopause including effects on cardiovascular, neurologic, bone, and psychological/emotional health. She was also advised of option of salpingectomy at the time of hysterectomy as a risk-reducing strategy. The patient underwent total vaginal hysterectomy with bilateral salpingectomy. Intraoperative inspection of the ovaries was normal. She was discharged to home on the same day and was doing well at her visit six weeks postoperatively. Physical examination demonstrated a well-healed vaginal cuff. She was advised that, given her lack of any history of cervical dysplasia, she would no longer require routine screening for cervical cancer.

## Elective Oophorectomy

This patient presents requesting additional surgical intervention, oophorectomy, which, on the surface, is not pertinent to her presenting complaint of abnormal uterine bleeding. As in all cases, however, in addition to providing the patient with evidence-based counseling and recommendations, careful attention must be paid to the patient's own history, as well as her background knowledge and values, which are driving her request. In this case, the patient has shared fears about ovarian cancer, a relatively rare condition, based on the experiences of a close friend, but non-relative. Historically, routine oophorectomy at the time of hysterectomy for benign indications was accepted practice to reduce ovarian cancer-related mortality. More recently, however, this practice has come to be generally discouraged, due to low rates of ovarian cancer, and findings from several large studies regarding potential long-term health impacts of oophorectomy. The lifetime risk of ovarian cancer in the general population is at 1.3%. The majority of ovarian cancers are diagnosed at a late stage, and, to date, no screening program has demonstrated effectiveness in decreasing mortality rates from this disease [1]. With no effective screening program available, primary prevention against ovarian malignancy, via



**Figure 1.1** Effects of bilateral salpingo-oophorectomy.

oophorectomy, for those women approaching the age of menopause therefore once seemed a reasonable strategy. Additionally, ovarian retention was thought, potentially, to expose the patient to the risk of additional surgery for subsequent benign ovarian pathology. Ovarian retention was also posited to leave the patient at increased risk of breast cancer due to ongoing estrogen exposure. The sequelae from loss of endogenous estrogen production for those women, who underwent oophorectomy, it was reasoned, could be avoided via exogenous replacement. Unfortunately, more recent research has demonstrated that hormone therapy is not a viable strategy for the primary prevention of serious and potentially fatal conditions such as coronary heart disease (CHD), breast cancer, dementia, or osteoporosis, and increases the risk of stroke and thromboembolic disease [2, 3]. Data now show that, while those with elective oophorectomy at the time of hysterectomy were at lower risk of death from ovarian cancer, rates of all-cause mortality were higher after elective oophorectomy than with ovarian preservation [4, 5]. Additional concerns related to the early loss of endogenous estrogen production include elevated rates of cognitive decline, depression, anxiety, sexual dysfunction, and osteoporosis (Figure 1.1) [5, 6].

The routine practice of oophorectomy at the time of hysterectomy also confers additional surgical risk beyond that of the hysterectomy itself. For instance, that ligation of the infundibulopelvic ligament is a common point of ureteral injury during

gynecologic surgery. Thus, oophorectomy for this patient would increase surgical risk without added benefit in the treatment of her presenting complaint. Evidence against the practice of elective oophorectomy has become so abundant that the majority of societies related to the field of obstetrics and gynecology recommend against it. The preponderance of evidence led the American Association of Gynecologic Laparoscopists to recommend, as the second item in its top-five list of practices to be avoided, “Do not perform routine oophorectomy in premenopausal women undergoing hysterectomy for non-malignant indications who are at low risk for ovarian cancer.” [7]

However, while oophorectomy in premenopausal women should not be done routinely, there are, of course, situations in which oophorectomy should be considered, or even recommended, for women prior to the age of menopause. The performance of risk-reducing salpingo-oophorectomy (RRSO) in premenopausal women with hereditary breast and ovarian cancer syndrome is accepted practice [8]. In women for whom the risk of ovarian cancer is high, RRSO is preferred and hormone therapy is considered safe and effective for the treatment or prevention of a multitude of sequelae from the loss of endogenous estrogen production [6].

Finally, for low-risk patients, such as the one in this case, the discussion of whether to perform any therapy should include, in addition to risks and benefits, a review of the alternatives to that

therapy. In this case, the patient was offered salpingectomy, sometimes known as “opportunistic salpingectomy,” in order to reduce her already low risk of ovarian cancer. This recommendation is based on a growing body of evidence that the precursor lesions to the majority of ovarian malignancies arise in the fimbriae of the fallopian tube [9]. Such lesions were originally identified in RRSO specimens from women with *BRCA1/2* mutations and have subsequently been identified in women who were negative for any known deleterious mutations. Long-term data regarding the safety and efficacy of this practice are not yet available. However, short-term outcome and cost-effectiveness data suggest that, for women already undergoing other pelvic surgery such as hysterectomy or sterilization, there may be benefit

from the performance of bilateral salpingectomy as a primary preventive strategy for ovarian cancer.

## Key Teaching Points

- In premenopausal women at low risk of ovarian cancer, the practice of elective oophorectomy should be avoided
- Counseling regarding prophylactic oophorectomy at the time of hysterectomy for benign disease should be patient-centered
- All-cause mortality is increased in elective oophorectomy
- Opportunistic salpingectomy may be an effective strategy to decrease ovarian cancer risk in low-risk women

## References

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