POGS
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Opportunistic Bilateral Salpingectomy to Reduce Epithelial Ovarian, Fallopian Tube, and Peritoneal Cancer Risk

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The POGS Clinical Consensus Committee is tasked with developing Clinical Consensus documents, which provide up to date clinical guidance on emerging issues in Obstetrics and Gynecology. A careful examination of the best available scientific data on the topic is done. When evidence is limited, the consensus will be sought from the experts.

This Practice Bulletin is a consensus among the Board Members of the Philippine Obstetrical and Gynecological Society (POGS), the Society of Gynecologic Oncologists of the Philippines, the Philippine Society for Reproductive Medicine and the POGS Committee on Clinical Consensus. This Practice Bulletin is intended to provide clarification and guidance with regard to opportunistic salpingectomy as an ovarian cancer risk-reducing strategy.

This Bulletin will be updated as additional information becomes available from larger cohort studies.

DEFINITION OF TERMS

Opportunistic bilateral salpingectomy (OBS) is the removal of the fallopian tubes for the primary prevention of epithelial ovarian, fallopian tube, peritoneal carcinoma in a patient undergoing pelvic surgery for another indication (sterilization or during hysterectomy for benign gynecologic condition).[1]

Complete salpingectomy should remove the tube completely from its fimbriated end and up to the uterotubal junction. The interstitial portions of the tubes do not need to be removed.[1]

Average risk women refer to women not known to be at substantially elevated risk including those without known inherited predisposition, co-morbidities to increase cancer risk, or previous diagnosis of cancer or precancer.[2]

BACKGROUND

1.BURDEN OF DISEASE WORLDWIDE AND IN THE PHILIPPINES

Worldwide, ovarian cancer is ranked the 8th most common cancer among women. GLOBOCAN data of 2020 showed that there were 313,959 new cases representing 1.6% of all sites.[3] The cumulative risk of developing ovarian cancer before 75 years old is 0.73.

In terms of mortality, the number of new deaths from ovarian cancer is 207,252 representing 2.1% of all sites. The cumulative risk of dying from ovarian cancer before 75 years old is 0.49.

In the Philippines, statistics from GLOBOCAN 2020 showed 86,484 total new cases of cancer in all sites in the female.[4] Among these, ovarian cancer numbered 5,395 (3.5% of all sites for women for all ages). This makes it the 5th most common cancer among Filipino women. The cumulative risk of developing ovarian cancer is 1.13. In terms of mortality, ovarian cancer accounts for 3,379 new deaths representing 3.6% of all sites for women. The cumulative risk of dying is 0.77. It is ranked 7th as cause of cancer mortality among Filipino women.

A population-based study conducted by the CONCORD-2 Working Group on the worldwide distribution of the histology of ovarian cancer showed that there is variation in the distribution of ovarian tumor subtypes between continents and countries.[5] For the period 2005-2009, the type II epithelial tumors composed of high grade serous carcinoma (HGSC) predominantly, plus the mixed epithelial-stromal carcinomas, and the undifferentiated types were the most common accounting for around 75% of epithelial ovarian cancers (EOC). In Asia, that comprised 56.1% of the cases. These typically present at advanced stages which confer poorer prognosis. The Type I epithelial tumors composed of clear cell, endometrioid, mucinous, squamous, and transitional cell carcinomas are generally associated with early-stage disease and better prognosis. In Asia, they account for 32.5% of cases. The proportion of germ cell and sex-cord stromal tumors have remained stable over time.

Data from the Philippine Obstetrical and Gynecological Society's (POGS) Nationwide Statistics covering a 4-year period from 2015 to 2018 showed that of the 1,854 cases of reported ovarian cancer, the epithelial tumors comprised 68.7%.[6] Among the epithelial cell tumors, the three most common tumor subtypes were high grade serous carcinoma 42.2%, mucinous carcinoma 27.4%, and endometrioid carcinoma 15.2%.

2. DIFFICULTIES WITH SCREENING, DIAGNOSTICS, AND TREATMENT

Large studies on ovarian cancer screening including modalities like ultrasound and tumor markers have not shown to improve the cancer-specific mortality. Likewise, biomarkers and imaging studies as diagnostics have generally low specificity. Surgical innovations, novel chemotherapies and targeted agents are available but overall survival has remained unchanged. Costs of these treatments have been prohibitive too. Are there other possible approaches to ovarian cancer disease control? Will these approaches help in solving the problem of ovarian cancer?

3. BILATERAL SALPINGECTOMY AS AN APPROACH FOR OVARIAN CANCER PREVENTION

For the past two decades, removing the fallopian tubes as a means of preventing ovarian cancer has been the subject of several studies. Findings on the origins of ovarian cancer have led to this approach.

Germ cell and sex-cord stromal tumors take their origins from their respective structures in the ovary. Metastatic tumors to the ovary are from their original sites. Epithelial tumors are more heterogeneous. They are generally grouped into Type I and Type II tumors based on their origins too. The paradigm of epithelial ovarian cancer genesis is seen in these three theories all implicating the role of the fallopian tube.

High grade serous carcinomas (HGSC) of the Type II EOC develop from serous tubal intraepithelial carcinoma (STIC), the immediate precursor of HGSC.[7-10] STIC can become invasive in the tube and detaches from the fallopian tube surface and spread directly onto the peritoneal surface and affects the ovary, bowel, peritoneal wall and omentum. Because HGSC is the most common among the EOCs, this is the most important among the theories.

Other theories involving the fallopian tube are:

1. Retrograde menstruation in cases of endometriosis-associated ovarian carcinoma (EAOC) exemplified by clear cell and endometrioid carcinoma which are considered Type I EOC.[11]

2. Endosalpingiosis, the ectopic presence of epithelial inclusions with lining cells resembling the tubal epithelium, is implicated in the development of low-grade serous tumors. [12]

With such background on the role of the fallopian tube in the origin of some epithelial ovarian cancers (excluding mucinous carcinoma which is said to originate from teratomas and still some other unknown factors), bilateral salpingectomy can be considered as a preventive strategy.

EVIDENCES

1.Does bilateral salpingectomy reduce the risk of developing EOC/FT/peritoneal CA in reproductive age women?

A meta-analysis of observational studies involving 3 studies (2 case-control, 1 cohort) with 3,509 patients undergoing bilateral salpingectomy during hysterectomy and 5,655,702 who did not undergo salpingectomy showed a reduction by 49% in the odds of developing EOC, fallopian tube and peritoneal cancer.[13] The combined study period encompassing 43 years showed 29 of the 3,509 patients with bilateral salpingectomy developed ovarian cancer compared 44,006 of the 5,655,702 without bilateral salpingectomy.

Tubal ligation has been shown to decrease the risk of ovarian cancer by 24% based on the Nurses' Health Studies (HR 0.76, 95% CI 0.64-0.90).[14] These are 2 prospective cohort studies among US female nurses numbering 121,700.

At present, there is no direct evidence to show that doing bilateral salpingectomy for sterilization compared to tubal ligation resulted in a decrease in ovarian cancer. We will await the results of the biggest cohort study comparing the two options initiated by the OVCARE Study Group of British Columbia which started in 2010.

2.Is bilateral salpingectomy safe?

A population-based retrospective cohort study involving close to 50,000 women in British Columbia from 2008 to 2011 who underwent usual hysterectomy and hysterectomy with bilateral salpingectomy showed no difference in hospital readmission and blood transfusion.[15] Doing salpingectomy, however, took 16 minutes longer. In the short-term period of 3 months, there was no significant difference in ovarian function measured by AMH post-surgery between total hysterectomy with bilateral salpingectomy and usual total hysterectomy as seen in the pooling of results of 2 randomized controlled trials. [16,17]

A systematic review and meta-analysis of 5 randomized controlled trials comparing salpingectomy and tubal ligation for sterilization have shown that salpingectomy is as safe as tubal ligation for sterilization (intraoperative blood loss, percentage decrease in hematocrit and change in hemoglobin, risk of post-operative complications, and risk of rehospitalization). [18] Salpingectomy, however, resulted in longer surgical time close to 15 minutes. The ovarian function measured using anti-mullerian hormone (AMH) showed no difference between the two procedures.

A cohort study from the OVCARE British Columbia Study Group including 41,413 women compared 5 groups in terms of qualitative indicators for menopause.[19] The 5 groups included those who underwent hysterectomy alone, hysterectomy with bilateral salpingectomy, hysterectomy with bilateral salpingo-oophorectomy, tubal ligation, and bilateral salpingectomy for sterilization. The indicators included physician visit for menopause symptoms and initiation of hormonal replacement therapy. There was no indication of an earlier age of onset of menopause among those women who had hysterectomy with salpingectomy and salpingectomy for sterilization.

SUMMATIVE STATEMENT

The benefits and risks of Opportunistic Bilateral Salpingectomy should be discussed with average risk women who are for interval and postpartum sterilization following vaginal or cesarean delivery, or for hysterectomy for benign gynecologic conditions. The benefit is the reduction in the risk of certain types of epithelial ovarian, fallopian tube, and peritoneal cancer. The risk is a slightly longer operation time. Additional costs may also be incurred.

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