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Short Communication

# Salpingectomy: A Promising Strategy for Ovarian Cancer Prevention

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## DESCRIPTION

Ovarian cancer is one of the most lethal gynecological cancers, often diagnosed at advanced stages due to the absence of effective early detection methods. Traditionally, much of the focus in ovarian cancer prevention has been on screening and prophylactic oophorectomy for high-risk individuals. However, in recent years, attention has shifted toward salpingectomy—the surgical removal of the fallopian tubes—as a potential strategy for reducing ovarian cancer risk. Emerging research suggests that many cases of high-grade serous ovarian cancer, the most common and aggressive form, may actually originate in the fallopian tubes. This discovery has spurred interest in salpingectomy as both a preventive and therapeutic measure, offering a less invasive option than oophorectomy for some women. This article explores the role of salpingectomy in reducing ovarian cancer risk, examining the evidence, benefits, and implications for future cancer prevention strategies. The majority of cases are diagnosed in advanced stages due to vague symptoms and the absence of reliable screening tools. Ovarian cancer encompasses several histological subtypes, with High-Grade Serous Carcinoma (HGSC) being the most common and aggressive form [1].

A salpingectomy involves the removal of one or both fallopian tubes and can be performed for a variety of reasons, including ectopic pregnancy, pelvic inflammatory disease, and sterilization. It can be carried out as a standalone procedure or in conjunction with other surgeries such as hysterectomy (removal of the uterus) or oophorectomy (removal of the ovaries) [2].

### The tubal hypothesis of ovarian cancer

The tubal hypothesis has reshaped our understanding of ovarian cancer development. For many years, the ovaries were considered the primary site of origin for ovarian cancer. However, studies examining the fallopian tubes of women with *BRCA1* and *BRCA2* mutations genetic mutations that significantly increase the risk of ovarian and breast cancer have found early cancerous lesions in the fallopian tubes, particularly in the fimbrial ends. These lesions, known as Serous Tubal Intraepithelial Carcinomas (STICs), are thought to be precursors to HGSC, which later spreads to the ovaries and other pelvic organs [3,4].

### Salpingectomy as a preventive measure

**Reduction in ovarian cancer risk:** By removing the fallopian tubes, where many high-grade serous carcinomas are thought to originate, salpingectomy can significantly reduce the risk of ovarian cancer. Studies have suggested that salpingectomy may reduce the risk of ovarian cancer by up to 60%, depending on the population studied.

**Preservation of ovarian function:** Unlike oophorectomy, which removes the ovaries and induces early menopause, salpingectomy preserves ovarian function. This is particularly important for premenopausal women who are concerned about the hormonal effects of oophorectomy, such as hot flashes, osteoporosis, and cardiovascular disease. Preserving the ovaries allows women to maintain normal hormone levels, which can be important for long-term health and quality of life [5,6].

**Fewer long-term health risks:** Since salpingectomy does not induce menopause, it avoids the long-term health risks associated with early menopause, such as increased risks of heart disease, osteoporosis, and cognitive decline.

**Alternative to tubal ligation:** Bilateral salpingectomy is increasingly being offered as an alternative to tubal ligation for women seeking permanent sterilization. Tubal ligation involves blocking or cutting the fallopian tubes to prevent pregnancy but leaves the tubes in place. By removing the tubes entirely, salpingectomy provides the added benefit of reducing ovarian cancer risk [7].

### Salpingectomy for high-risk women

For women with *BRCA1* or *BRCA2* mutations, the risk of ovarian cancer is significantly higher than that of the general population. In these women, the lifetime risk of developing ovarian cancer can be as high as 40%-60%. Historically, prophylactic bilateral oophorectomy (removal of the ovaries) has been recommended for these women after they have completed childbearing, usually between the ages of 35 and 45. However,

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oophorectomy induces early menopause, which carries its own set of health risks and side effects [8].

### The evidence for salpingectomy in ovarian cancer prevention

Several studies have examined the impact of salpingectomy on ovarian cancer risk. One of the largest population-based studies, conducted in Denmark, found that women who underwent bilateral salpingectomy had a significantly lower risk of developing ovarian cancer compared to women who did not have the surgery. Another study from British Columbia found that women who underwent salpingectomy had a 65%reduction in ovarian cancer risk [9].

### Salpingectomy and other cancer prevention strategies

**Prophylactic oophorectomy:** This remains the gold standard for ovarian cancer prevention in high-risk women, particularly those with BRCA mutations. Removing the ovaries and fallopian tubes provides the most significant reduction in cancer risk, but it also induces menopause.

**Risk-Reducing Salpingo-Oophorectomy (RRSO):** This involves the removal of both the ovaries and fallopian tubes and is commonly recommended for women with BRCA mutations. It provides the most comprehensive risk reduction but is associated with the side effects of early menopause [10].

## CONCLUSION

Salpingectomy represents a promising approach to reducing ovarian cancer risk, particularly for women at high genetic risk or those seeking an alternative to oophorectomy. By removing the fallopian tubes, where many high-grade serous carcinomas are thought to originate, salpingectomy offers significant risk reduction while preserving ovarian function. For women at average risk, bilateral salpingectomy may be a preventive measure that balances cancer prevention with quality of life considerations. As research continues to evolve, salpingectomy is likely to become an increasingly important tool in the fight against ovarian cancer.

## REFERENCES

1. Falconer H, Yin L, Grönberg H, Altman D. Ovarian cancer risk after salpingectomy: a nationwide population-based study. J Natl Cancer Inst. 2015; 107(2):dju410.
2. Madsen C, Baandrup L, Dehlendorff C, Kjær SK. Tubal ligation and salpingectomy and the risk of epithelial ovarian cancer and borderline ovarian tumors: a nationwide case–control study. Acta Obstet Gynecol Scand. 2015; 94(1):86-94.
3. McAlpine JN, Hanley GE, Woo MM, Tone AA, Rozenberg N, Swenerton KD, et al. Opportunistic salpingectomy: uptake, risks, and complications of a regional initiative for ovarian cancer prevention. Am J Obstet Gynecol. 2014; 210(5):471-e1.
4. Powell CB, Alabaster A, Simmons S, Garcia C, Martin M, McBride-Allen S, et al. Salpingectomy for sterilization: change in practice in a large integrated health care system, 2011–2016. Obstet Gynecol. 2017; 130(5):961-967.
5. Manchanda R, Menon U. Opportunistic bilateral salpingectomy (OBS) for the prevention of ovarian cancer should be offered in the context of a clinical trial: FOR: there is lack of clarity on a number of key issues. BJOG. 2016; 123(3):463.
6. Herman HG, Gluck O, Keidar R, Kerner R, Kovo M, Levran D, et al. Ovarian reserve following cesarean section with salpingectomy vs tubal ligation: a randomized trial. Am J Obstet Gynecol. 2017; 217(4):472-e1.
7. Mandelbaum RS, Matsuzaki S, Sangara RN, Klar M, Matsushima K, Roman LD, et al. Paradigm shift from tubal ligation to opportunistic salpingectomy at cesarean delivery in the United States. Am J Obstet Gynecol. 2021; 225(4):399-e1.
8. Casey RK, Damle LF, Gomez-Lobo V. Isolated fallopian tube torsion in pediatric and adolescent females: a retrospective review of 15 cases at a single institution. J Pediatr Adolesc Gynecol. 2013; 26(3):189-192.
9. Bertozzi M, Magrini E, Riccioni S, Giovenali P, Appignani A. Isolated fallopian tube torsion with hydrosalpinx: review of a debated management in a pediatric population. J Pediatr Surg. 2017; 52(10): 1553-1560.
10. Duncan JR, Schenone MH, Mari G. Technique for bilateral salpingectomy at the time of cesarean delivery: a case series. Contraception. 2017; 95(5):509-511.