Necessity of Salpengectomy for Prevention of Serous Ovarian Tumors

Seröz Over Tümörlerinin Önlenmesinde Salpenjektomi Gerekliliği

Over Tümörünün Önlenmesinde Salpenjektomi / Salpengectomy for Prevention of Ovarian Tumors

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Özet

In recent years, different theories regarding the origin of serous epithelial tumors of ovary have been introduced. Fallopian tube especially the fimbriated distal portion is blamed for advancing epithelial carcinomas with transfer of malignant cells over the surface of ovary. The finding of 15% incidence of intraepithelial neoplasias in fallopian tubes removed prophylactically in patients with BRCA mu-tations, as well as the 70% involvement of tubes in high grade serous tumors support the possible tubal origin of serous ovarian cancers. Here the report of two tubal intraepithelial neoplasia cases detected in hysterectomy specimens performed for benign indications support the preventive effect of salpengectomy in the development of future serous epithelial ovarian cancers and alerts the pathologists for detailed examination of distal portion of tubes.

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Seröz Epitelyal; Over Tümörü; Salpenjektomi; Tubal İntraepitelyal Neoplazi

Abstract

Different theories regarding the origin of serous epithelial tumors of ovary in recent years have been introduced. Fallopian tube especially the fimbriated distal portion is blamed for advancing epithelial carcinomas with transfer of malignant cells over the surface of ovary. The finding of 15% incidence of intraepithelial neoplasias in fallopian tubes removed prophylactically in patients with BRCA mutations, as well as the 70% involvement of tubes in high grade serous tumors support the possible tubal origin of serous ovarian cancers. Here the report of two tubal intraepithelial neoplasia cases detected in which hsyterectomy was performed for benign indications support the preventive function of salpengectomy in future serous epithelial ovarian cancers and alerts the pathologists for detailed examination of distal portion of tubes.

Keywords

Serous Epithelial; Ovarian Cancer; Salpengectomy; Tubal Intraepithelial Neoplasia

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Introduction

Ovarian cancer cases are generally diagnosed at advanced stages and occult process of the disease obviously contribute to relatively high mortality rates. Although, several mechanisms have been proposed in ovarian carcinogenesis up to date, relation between tubal epithelium and serous ovarian carcinomas has been a matter of debate in the last decade. Among the theories, incessent ovulation was suggested as the cause of neoplastic transformation in the ovarian surface epithelium. However, the non-mesothelial origin, from the other pelvic organs like uterus or fallopian tubes, has also been discussed in ovarian carcinogenesis [1]. P-53 signatures detected in the distal portion of the tubes especially the fimbria were claimed as precursors of serous cancers in patients with BRCA mutations [2]. This mesothelial and non-mesothelial origin proposals generate dual pathway model for generation of cortical epithelial inclusion cysts in the cortex which are probably premalignant lesions [2]. The actual mechanism in this malignant transformation is still not known.

Decreased incidence of serous epithelial ovarian tumors following hysterectomy with salpengectomy or tubal ligation also indicate the tubal origin [1]. In the present report, two cases of tubal intraepithelial neoplasias that were incidentally detected following hysterectomy with distal salpengectomy are discussed within current literature findings.

Case Report 1

Fifty-two years old (G5, P3) patient admitted to the gynecology outpatient clinic with menometrorhagia. Her family records were free of cancer history. Her physical and sonographic examination revealed a 8 cm myoma uteri distorting the cavity. After confirming simple endometrial hyperplasia without atypia following pipelle biopsy, hysterectomy with bilateral salpingoophorectomy was performed. Histopathology revealed tubal intraepithelial neoplasia of the right salpenx. No other neoplastic findings were detected in the remaining specimen.

Case Report 2

Forty-two years old patient (G1, P1) admitted to outpatient clinic with difficulty in urination and persistant pelvic pain. Her family records were free of cancer history. Her physical and sonographic examination revealed irregular endometrium and multiple myomas with the biggest diameter of 7 cm. Simple endometrial hyperplasia without atypia was diagnosed in the endometrial biopsy. As the patient has completed her fertility, she preferred hysterectomy. Bilateral salpingectomy was also performed due to intraoperative diagnosis of accompanying hydrosalpenx. Histopathological diagnosis confirmed left tubal intraepithelial carcinoma. No other neoplastic findings were detected in the remaining specimen.

Discussion

Several theories have been suggested for the ovarian carcinoma etiology in the literature. Hormonal, environmental, genetical and behavioural factors have been discussed so far. Interestingly, tubal origin in the field of serous ovarian carcinogenesis have been questioned by increasing number of authors. Data suggested the tubes might be responsible for pre-cancerous lesions of the ovary following the report of 10-15% incidence of serous tubal intraepithelial carcinoma in patients having BRCA1 mutation [1]. The pathologists developed a new technique for sectioning and extensively examining the fimbriated portion of fallopian tubes which is called SEE-FIM protocol as the fimbria is the most common location of early serous ovarian tumors in BRCA mutation carriers [3]. Along with this context, salpingectomy has been a recommended strategy to reduce the risk of developing carcinoma in cases with BRCA mutations when childbearing is completed (risk reducing salpingectomy) [4].

Tubal involvement, especially fimbrial portion, in serous ovarian carcinomas were reported even in patients without BRCA mutations [5]. Recently, incidental finding of 4 serous tubal intraepithelial carcinomas (STIC) in 522 salpingectomy cases performed for benign gynecological surgeries indicated the necessity of removal of the Fallopian tubes even in cases without BRCA mutations [6]. On the other hand, some authors suggested that tubal intraepithelial neoplasia is not observed in surgical specimens from benign conditions (n=90) [7]. According to the known incidence of the ovarian cancer, about 100 bilateral salpingectomies have to be performed to prevent 1 case of ovarian carcinoma to achieve the 40% reduction in the incidence of the disease [8]. A more extended follow-up is required to assess whether prophylactic salpingectomy really has the desired effect on the prevention of serous ovarian cancer. Given the high mortality associated with this disease, numerous gynecologists nevertheless consider this potentially preventive and well-tolerated intervention to be already justified, especially because there are no effective alternatives.

Although salpingectomy is a simple procedure, a negative impact on ovarian function can be observed due to disturbed blood flow in young patients. However, advanced aged patients who had completed their fertility would not suffer from this affect. In gynecological surgery, salpingectomy when applied in accordance with hysterectomy, will not increase the morbidity or the mortality of the patient and reduces the incidence of adnexal pathologies requiring surgical re-intervention.

Today, the majority of physicians (60%) do counsel women on the benefits of removal of the Fallopian tubes at the time of hysterectomy [1]. The BRCA1/2 status of the women is not generally available, and so the question of how many “non Mendelian” high-grade ovarian carcinomas actually arise in the fallopian tube remains a critical unanswered question. Regarding the incidental findings of tubal in situ carcinoma in benign gynecological conditions as in the cases here, prophylactic removal of tubes would reduce the risk of developing ovarian carcinoma if the patient has completed her fertility. We infer perfoming salpingectomy in cases either with family history or not, during gynecologic surgery after completion of childbearing .

Competing interests

The authors declare that they have no competing interests.

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