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Primary Fallopian Tube Cancer: An Unusual Case of Inguinal Lymphadenopathy

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ABSTRACT

Background: Primary fallopian tube cancers (PFTCs) are rare gynecological malignancies by the prevalence of 0.3-1%. The PFTCs occur in individuals within the age range of 18-88 years, more specifically at the age range of 40-65 years with the mean age of 55 years. The PFTC usually is observed with the chronic inflammation of the fallopian tube, infertility, tuberculous salpingitis, and tubal endometriosis. This study aimed to discuss the diagnosis of PFTC and the follow-up procedures of such patients. Moreover, it investigated inguinal lymph node metastasis as an uncommon occurrence and also reported a review of the literature about PFTC.

Case report: The case in this study was a 57-year-old woman (G5P5) referring to the clinic of Imam Hospital of Sari, Iran, in May 2016 after right inguinal lymphadenopathy. Total bilateral salpingo-oophorectomy with omentectomy, abdominal-hysterectomy, exploratory-laparotomy, as well as pelvic and para-aortic lymphadenectomy were performed for the patient. The pathogenic report indicated metastatic adenocarcinoma of a small tumor at the end of the right fallopian tube.

Conclusion: Since it is difficult to conduct initial diagnosis after primary surgery and definitive diagnosis of the disease, the surgeons complete the previous surgical procedure by performing an additional surgery. However, this issue seems to increase mortality among patients. As a result, it is essential to conduct more comprehensive studies to find the effective methods of diagnosis and apply the best medical management protocols for a better treatment of the disease, and therefore reduce mortality.

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Introduction

Primary fallopian tube cancers (PFTCs) are rare gynecological malignancies with the prevalence of 0.3-1%. The PFTCs occur in individuals within the age range of 18-88 years, specifically 40-65 years, with the mean age of 55 years (1-3). The PFTC usually is observed with the chronic inflammation of the fallopian tube, infertility, tuberculous salpingitis, and tubal endometriosis (4, 5). Most of PFTC metastasis occur via hematogenous, lymphatic, and peritoneal routes, which is usually asymptomatic (6). About 0-10% of patients are diagnosed with this disease before the surgery and most of the diagnoses occur during the surgery and postoperative pathology (2, 7, 8). This disease appears with symptoms, such as vaginal discharge and bleeding, the colicky abdominal pain of tubal peristaltic, and abdominal/pelvic mass. Patients are diagnosed with no specific clinical signs and symptoms, leading to extensive pelvic metastases in advanced stages (1, 2, 9). Regarding the treatment, abdominal hysterectomy, bilateral salpingo-oophorectomy with omentectomy, appendectomy, peritoneal washings are the early therapeutic procedures for this disease (10, 11). In previous studies, a

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few number of patients were reported with inguinal lymph node metastasis caused by fallopian tube cancer. This case study aimed to discuss the diagnosis and the follow-up procedure of patients diagnosed with PFTC and inguinal lymph node metastasis.

Case report

A 57-year-old G_5P_5 postmenopausal woman with a history of right inguinal lymphadenectomy referred to Gynecology and Obstetrics Clinic of Imam Hospital of Sari, Iran, in May 2016. Written informed consent was obtained from the patient for the publication of this case report as well as accompanying images. Metastatic adenocarcinoma was indicated in the pathologic report (Figure 1). Her endoscopy and colonoscopy, as well as pelvic and abdominal CT scans were normal. Mammography showed fibrocystic changes. No abnormalities were found in the gynecological evaluation and Pap smear test showed atrophy. The endometrial line was 10 mm in transvaginal sonography. Endometrial biopsy showed a few endometrial glands with tubal metaplasia. Moreover, endocervical curettage showed squamous cell metaplasia. All laboratory data were normal and tumor markers, including carcinoembryonic antigen, cancer antigen 25, 19-9, 15-3, were negative. Histological evaluation was performed and the result showed the serous papillary carcinoma of the ovary as the origin of the tumor; therefore, an exploratory laparotomy was also performed for her.

In the performed surgery, abdominal and pelvic organs were normal, except the small tumor at the end of the right fallopian tube (Figure 2). The surgical procedures included total abdominal hysterectomy, bilateral salpingo-oophorectomy with omentectomy, followed by pelvic and para-aortic lymphadenectomy. The final pathologic report indicated senile atrophy in endometrium adenomyosis in the myometrium, a benign simple cyst was observed in the left ovary; however, nothing remarkable was detected in the left fallopian tube. There was 2 cm tumor in the right fallopian tube without perineural or intralymphatic invasion. On the other hand, right ovary was free of tumor. All lymph nodes, omentum, and peritoneal washing cytology were negative for malignancies.

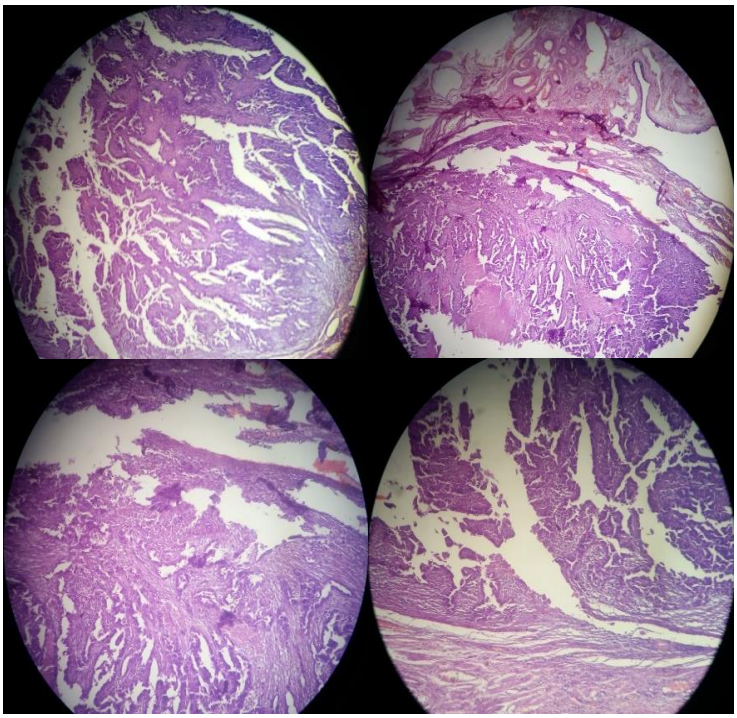

Figure 1. Metastatic adenocarcinoma of the right fallopian tube in the inguinal lymph node (hematoxylin and eosin, 100×)

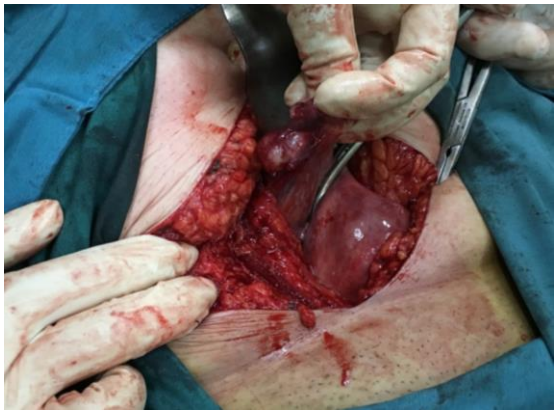

Figure 2. Small tumor at the end of the right fallopian tube

Discussion

The primary carcinoma of the fallopian tube, known as rare aggressive gynecological malignancy, was first identified by Reynaud in 1847, which involves less than 1% of genital tract cancers. This disease mostly occurs among menopausal women (11-13). According to the previous studies, the incidence of this carcinoma can be much higher due to a large number of the misdiagnosis of PFTCs as ovarian cancers (12, 14-16). However, the etiology of this malignancy remains unclear. Although there are no specific symptoms for its diagnosis, some studies reported that this malignancy is mostly associated with some symptoms, such as abdominal pain due to tubal distention, pelvic inflammation, abnormal vaginal bleeding and discharge, followed by nulliparity, infertility, and Latzko's triad (1, 14, 17). Moreover, it is important to distinguish PFTC from epithelial ovarian cancer that are similar both clinically and histologically (18). Nevertheless, PFTC is not usually diagnosed before the surgical specimen due to its nonspecific symptoms (19).

The importance of lymphatic expansion was first introduced by Tamimi and Figge as the main cause of the spread of fallopian tube cancer (20). The lymphatic drainage of the fallopian tube may indicate its metastatic pattern and it follows the fundus of the uterus and ovaries. For example, the proximal part of the tube that is near the uterus drains into the para-aortic nodes, fimbriae drains to the pelvic nodes from the distal portion, and the round ligament may drains to the inguinal lymph nodes through the lymphatic ducts (19, 21-23).

According to previous studies, it is clear that lymphadenopathy is a rare sign of primary fallopian tube cancer and only a few number of patients have been reported so far. Several studies reported that lymphatic node metastases frequently occurs in women who are the victim of emergency obstetric care and have indicated the involvement of abdominal and pelvic, supradiaphragmatic lymph nodes and inguinal lymph nodes (24-27). Furthermore, it is documented that the frequency of inguinal lymph nodes involvement is less than lymphadenopathy of other sites (e.g., pelvic and supradiaphragmatic) and it has been observed in only a few cases (28-30).

The most expressed antigen associated with PFTC is CA-125 that is not enough to detect the tumor progression; however, it can be a useful marker during the patient's follow-up (31). According to the obtained results of the current study, several possible tumor markers, such as CEA, CA125, CA19-9, and CA15-3, were negative.

According to previous studies, Winter-Roach et al. reported the case of inguinal lymph node metastasis as an unusual presentation of fallopian tube carcinoma in 2000. Total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, pelvic, and para-aortic lymphadenectomy were performed for this patient and it became clear that in addition to the right fallopian tube cancer, implants were present on the ovarian serosa. Evidently, it has been the first case of PFTC that reported in this way (22).

Moreover, Euscher et al. presented a case of right inguinal lymph node caused by fallopian tube cancer similar to our case in a study named "Serous Carcinoma of the Ovary, Fallopian Tube, or Peritoneum Presenting as Lymphadenopathy" during a 20-year period (1982–2002) (6). Moreover, Jennifer Cho et al. reported a 72-year-old G3P3 postmenopausal woman diagnosed with PFTC with left inguinal lymph node metastasis in 2006 (19). Furthermore, Hviid et al. described a case with metastases to both ovaries and one inguinal lymph node in a study named "atypical debut of symptoms of fallopian tube cancer" in 2013. (32)

Conclusion

As mentioned, PFTC is an extremely rare problem that makes a challenge for surgeons and its causes are still unknown. Since it is difficult to conduct initial diagnosis after primary surgery and definitive diagnosis of the disease, the surgeons complete the previous surgical procedure by performing an additional surgery. However, this issue seems to increase mortality among patients. As aresult, it is essential to conduct more comprehensive studies to find the effective methods of diagnosis and apply the best medical management protocols for a better treatment of the disease, and therefore reduce mortality.

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Conflicts of Interest

Authors declare no conflicts of interest.

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