case report

Primary fallopian tube carcinoma diagnosed preoperatively by cervical smear

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Primary fallopian tube carcinoma is a rare clinical entity that constitutes a diagnostic challenge in gynecological practice. Patients generally suffer from the three symptoms: vaginal bleeding, pelvic pain, and vaginal discharge; however, this is usually not sufficient for confirming the diagnosis preoperatively in most circumstances. In this case report, we present a 49-year-old woman whose cervical smear raised a suspicion for fallopian tube carcinoma. All preoperative examination measures such as ultrasonography, hysteroscopy, and endometrial aspiration were normal. Repeated cervical smears were consistent with adenocarcinoma presumably ensourcing from the fallopian tube. The patient underwent laparatomy,total abdominal hysterectomy, bilateral salpingo-oophorectomy, and pelvic para-aortic lymph node dissection. The primary serous papillary adenocarcinoma of the right fallopian tube was detected at the histopathological analysis, and the patient was referred for adjuvant chemotherapy. Cervical smear findings can be the only clue for the diagnosis of fallopian tube carcinoma.

Primary fallopian tube carcinoma (PFTC) is the rarest form of gynecological malignancies with an incidence ranging from 0.3% to 1.1%.[1] Because advanced cases may be misdiagnosed as ovarian carcinoma, the true incidence may be higher. It mostly has an insidious onset with the majority of patients admitting with the advanced disease. In more than half of the cases, patients suffer from the classical triad of symptoms: vaginal bleeding, pelvic pain, and vaginal discharge.[2] However, this typical presentation is usually not sufficient for confirming the diagnosis preoperatively in most circumstances. Positive cervical smear findings may indicate symptomatic patients with the advanced disease. The incidental diagnosis of PFTC in patients undergoing laparatomy for other presumable indications is possible. Abnormal glandular cells in the cervical smear usully remind cervical neoplasms, and it seldom can be the presenting sign of extrauterine cancer. In this report, we present a PFTC detected in a patient undergoing laparatomy due to raised clinical suspicion attributed to abnormal findings in repeated cervical smears.

CASE

Adenocarcinoma cells were detected in the cervical smear of a 49-year-old woman with no positive family history for ovarian or breast carcinoma. Cervical and endometrial biopsies performed in another center revealed no findings consistent with malignancy. Other than the abnormality in the smear, the patient had neither any gynecological complaints nor there were any pathological clues in ultrasonography or tumor markers. As adenocarcinoma cells were detected in the repeated cervical smears, laparatomy was performed. Total abdominal hysterectomy, bilateral salpingo-oophorectomy, and pelvic para-aortic lymph node dissection were performed, and no gross pathological findings were observed intraoperatively. A 7-mm primary serous papillary adenocarcinoma in the right fallopian tube was determined histopathologically (**Figures 1-3**). Even though there was no lymph node metastases, there were malignant cells in the peritoneal washout. The postoperative course was uneventful, and the patient was referred for adjuvant chemotherapy.

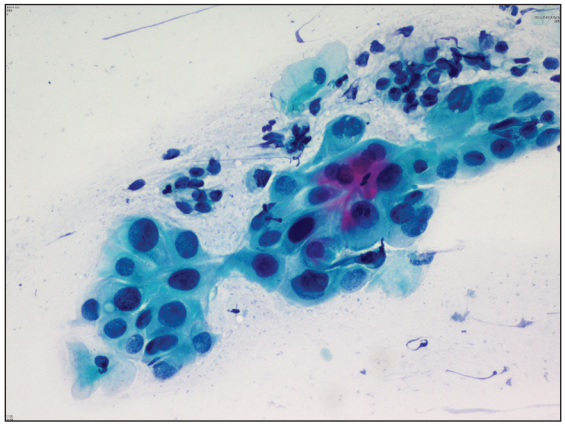

Figure 1. Serous adenocarcinoma cytology --- pleomorphic, papillary groups of tumor cells.

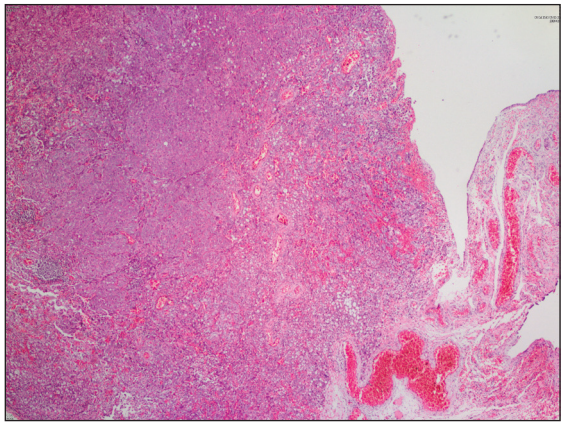

Figure 2. Serous adenocarcinoma of fallopian tube with clear cell features.

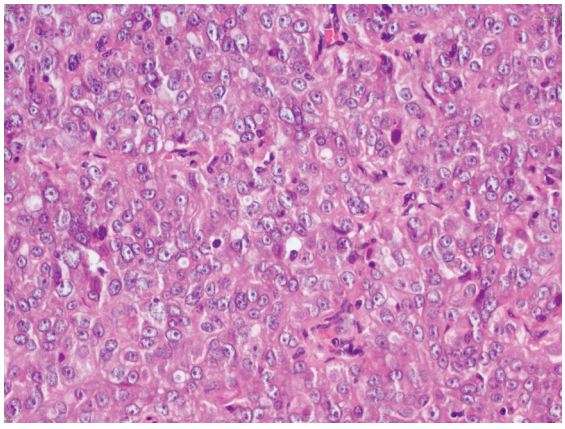

Figure 3. Histopathology of serous papillary adenocarcinoma of the fallopian tube.

DISCUSSION

Primary malignancies of the fallopian tube are quite uncommon constituting about 0.5% of all gynecological cancers. Secondary carcinoma of the fallopian tube due to metastatic disease from the ovaries, endometrium, gastrointestinal tract, or breast has been reported more commonly. It is quite difficult to diagnose PFTC preoperatively.[3] They may initially present with postmenapausal bleeding, pelvic mass, vaginal discharge, and lower abdominal pain.

The prognosis is usually poor due to the advanced stage at admission. Lymphatic spread, early metastases, and direct peritoneal implantation are common. The involvement of pelvic and para-aortic lymph nodes occurs in 34% of PFTC at all stages. According to FIFO criteria, pelvic para-aortic lymph node dissection, total abdominal hysterectomy, bilateral salpingo-oophorectomy, and omentectomy must be performed together for surgical staging.[4]

Fallopian tube carcinoma spreads predominantly through the tubal ostia and into the peritoneal cavity. Frequent sites for metastasis include the ovaries and uterus. Since malignant cells may readily exfoliate from the primary tumor and migrate across the fallopian tube and reach the cervix, smear may be useful for the early diagnosis.[5] Hence, the detection of tumor via cytological screening before the involvement of cervical, endometrial, or adjuvant organs may be possible.

Owing to the importance of cervical smear and cytological diagnosis, careful sampling and sufficient experience in cytology are essential to improve the effectiveness of the cervical smear in these tumors.

Atypical glandular cells in the cervical smear despite negative endometrial and endocervical sampling has yielded an accurate preoperative diagnosis of PFTC. Actually, the cervical smear is a screening measure for cervical neoplasms. The presence of glandular malignant cells in the smear is not a specific finding. In such a circumstance, ruling out endometrial or cervical pathologies must arise suspicion for extrauterine pathologies. The anatomical location of tubal cancer may aid in the early diagnosis via cervial smear.[6]

Postmenapausal bleeding is the most frequent symptom occuring in more than 50% of cases.[2] Therefore, PFTC must be kept in mind especially in cases with persistent symptoms after dilatational curettage where endometrial cancer is ruled out. Our patient had no complaints other than the presence of malignant cells in the cervical smear.

Adenocarcinoma cells in the smear may originate from cervix, endometrium, or ovaries as well as the fallopian tube. In addition, malignancies originating from

extragenital organs such as stomach, kidneys, or pancreas may metastasize to the cervix via lymphatic route basically.

Histologically, about 90% of fallopian tube tumors are adenocarcinomas, and approximately half of these are papillary serous adenocarcinomas. Genital tract cancers have distinct cytomorphological appearances such as endometrioid, serous, mucinous, and clear cell types. Cytomorphological examination may provide information on the uterine, extrauterine, or extragenital origin of the tumor.[6] In this aspect, history, clinical findings, imaging modalities, and cytopathological examination must be taken into account together.

Our case exhibits unique and distinct features: not only PFTC is the rarest form of gynecological malignancies, but also its preoperative diagnosis is usually not feasible. Cervical smear, a routine screening measure for carcinoma of cervix, can be a practical and valuable tool for identifying PFTC. In our case, endometrial and endocervical biopsies were performed after detecting malignant cells in the cervical smear. Ultrasonography result and tumor marker levels were normal, but the repeated cervical smears were persistently consistent with adenocarcinoma supporting the suspicion for PFTC.

All in all, we suggest that cervical smear can be a valuable diagnostic measure for PFTC even in the absence of other clinical, radiological, and biochemical findings.

REFERENCES

1. Maeda D, Takazawa Y, Ota S, Takeuchi Y, Seta A, Nakagawa S, Yano T, Taketani Y, Fukayama M. Bilateral microscopic adenocarcinoma of the fallopian tubes detected by an endometrial cytologic smear. Int J Gynecol Pathol. 2010;29:273-7.
2. Raffi F, Fenton DW. Fallopian tube carcinoma presenting with an abnormal glandular smear. J Obstet Gynaecol. 2010;30:321-2.
3. Rauthe G, Vahrson HW, Burkhard E. Primary cancer of the fallopian tube. Treatment and results of 37 cases. Eur J Gynecol Oncol. 1998;19:356-62.
4. Lojindarat S, Luengmettakul J, Puangsa-Art S. Clinical significance of atypical glandular cells in cervical Papanicolaou smears. J Med Assoc Thai. 2012;95:975-82.
5. Mulvany NJ, Mitchell G, Allen DG. Adenocarcinoma cells in Pap smears Pathology. 2009;41:411-8.
6. Stewart SL, Wike JM, Foster SL, Michaud F. The incidence of primary fallopian tube cancer in the United States. Gynecol Oncol. 2007;107:392-7.