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CASE REPORT

Primary Fallopian Tube Carcinoma

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ABSTRACT

Primary fallopian tube carcinoma (PFTC) is a rare tumor. It is seen in the age group between 40 and 60 years. It has resemblance to epithelial ovarian cancer, both clinically and histologically. Only 5% of patients show symptoms of profuse watery vaginal discharge (hydrops tubae profluens). Ultrasound, computerized tomography, and magnetic resonance imaging (MRI) can help in arriving at a diagnosis. Tumor marker cancer antigen (CA)-125 levels can be used as a diagnostic and prognostic marker to detect recurrence.

The most common histopathology is serous papillary. Transcoelomic exfoliation of cells is the most common mode of spread of the tumor. Other modes of spread include contiguous invasion, hematogenous and transluminal dissemination.

The PFTC is managed surgically like epithelial ovarian cancer. Adjuvant chemotherapy is also similar to epithelial ovarian cancer.

Keywords: Hydrops tubae profluens, Primary fallopian tube carcinoma, Transcoelomic exfoliation.

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INTRODUCTION

Primary fallopian tube carcinoma has an incidence of 0.14 to 1.8% of malignancy of female genital tract.[1] The exact etiology of this tumor is not known, but hormonal, reproductive, and genetic factors increase the risk. High parity and oral contraceptive use decrease the risk. The disease has no relation to age, parity, race, infertility, endometriosis, and smoking.[2] It is most commonly seen between 4th and 6th decade of life. However, there are case reports of the disease in young girls aged 17 to 19 years.[3]

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Profuse and intermittent serosanguinous vaginal discharge, colicky pain relieved on discharge, and abdominal or pelvic mass (Latzko's triad) are seen in 15% of patients. Profuse serosanguinous discharge (hydrops tubae profluens) may be seen in 3.5% of patients. Transabdominal and transvaginal ultrasound can help in making a diagnosis. Color Doppler may help in detection of neovascularization in the adnexal region. Irregularity of tubal walls, such as papillary projections, pseudo septae, and vascular abnormalities like microaneurysms, arteriovenous shunts, tumor lakes, and dichotomous branching are seen in malignant tumor on three-dimensional scan.[4] The MRI helps in detection of tumor infiltration into bladder, vagina, pelvic side walls, pelvic fat, and rectum. More than 80% of patients have an elevated CA-125 levels. The CA-125 levels in the preoperative period is an independent risk factor for disease-free survival and overall survival of patients with PFTC. Response to chemotherapy can also be assessed by CA-125 levels.[5]

CASE REPORT

Forty-eight-year-old Mrs X was admitted in our institution, Government Medical College, Kozhikode, Kerala, India, with abdominal pain and distention. Patient had no history of anorexia, weight loss, menstrual abnormalities, or discharge per vaginum. She was Para 3 with 2 living children with history of postpartum sterilization. She was known hypertensive on medication. On examination, she was obese with BMI of 35 with stable vitals. Her abdominal examination revealed an abdominopelvic mass about 16 weeks of gravid uterus.

On examination, the cervix was hypertrophied, uterus was enlarged, and there was a mass felt through right fornix higher up.

Ultrasound of abdomen and pelvis revealed uterus enlarged, measuring 14 × 07 × 12 cm, myometrium heterogeneous with multiple fibroids, largest on right lateral wall 83 × 81 mm. Left ovary was normal and right ovary not visualized separately. There was a mixed echogenic mass with solid and cystic component 12 × 5 × 5 cm with septations, suggestive of complex adnexal mass. Magnetic resonance imaging confirmed multiple fibroids and a large tubular mass lesion superior to uterus suggestive of right tubular mass. The CA-125 was elevated to 175.1 U/mL. Staging laparotomy was done on Feb 3, 2016 under regional anesthesia.

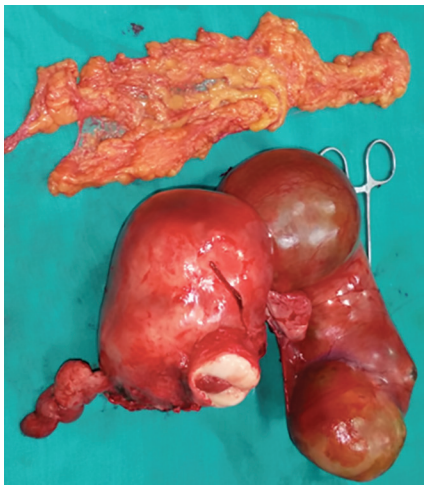

Fig. 1: Hysterectomy specimen with PFTC

Findings: No ascites, uterus enlarged to 12 weeks size with multiple fibroids, right tube enlarged appearing retort-shaped measuring 20 × 6 cm, smooth surface with intact serosa and no extension to adjacent structures, Right ovary, left tube, and ovary were normal (Fig. 1). Normal saline was instilled and fluid taken for cytology.

Surgery performed was total abdominal hysterectomy with bilateral salpingo-oophorectomy with infracolic omentectomy and pelvic lymphadenectomy. Postoperative, patient recovered well.

Histopathology report: No malignant cells in the cytology. Right fallopian tube enlarged measuring 20 × 8.5 cm with tumor occupying area of 6 × 5 cm, extending to wall of fallopian tube, serosa free. Findings of serous adenocarcinoma high grade.

Bilateral ovaries and left tube were histologically normal. Uterus showed leiomyoma with proliferative endometrium. Omentum was histologically unremarkable. Lymph nodes showed reactive hyperplasia. Hence, the tumor was staged as stage IA (tumor nodes metastases Classification T1a). Since it was high grade, she was advised adjuvant chemotherapy (Carboplatin AUC6 plus Paclitaxel 175 mg/m^2) every 3 weeks for 3 to 6 cycles.

DISCUSSION

When the disease is either restricted to the fallopian tube or when the fallopian tube is most affected, it is classified as fallopian tube carcinoma and colocations, such as ovary and uterus show lesser involvement or a different histology. Histologically, majority of the PFTC show serous tumors (49.3–83.3%), followed by endometrioid (8.2–50%), mixed (3.9–16.7%), undifferentiated (7.8–11.7%), clear cell (1.9%), transitional (11.7%), and mucinous (3–7.6%).

The tumor can be staged as shown in Table 1.

Surgery is the treatment of choice in stages I to IV fallopian tube cancers. A very small percentage of women with epithelial fallopian tube cancers can be treated with surgery alone. Most patients with stage I disease need adjuvant chemotherapy. Surgical staging and tumor debulking are the goals in management.

Table 1: Staging of fallopian tube carcinoma

0	Primary tumor cannot be assessed	TX
	No evidence of primary tumor	T0
	Carcinoma *in situ* (preinvasive carcinoma)	TIS
I	Carcinoma confined to fallopian tube	T1
IA	Tumor confined to one tube, without infiltrating the serosal surface; no ascites	T1a
IB	Tumor confined to both tubes, without infiltrating the serosal surface; no ascites	T1b
IC	Tumor confined to one or both tubes, with extension onto/through the tubal serosa or positive malignant cells in the ascites or positive peritoneal washings	T1c
II	Tumor involving both tubes with pelvic extension	T2
IIA	Extension and/or metastasis to uterus and/or ovaries	T2a
IIB	Extension to other pelvic organs	T2b
IIC	Stage IIA or IIB with positive malignant cells in the ascites or positive peritoneal washings	T2c
III	Tumor involving one or both tubes, with peritoneal implants outside pelvis and/or positive lymph nodes	T3/ N1
IIIA	Microscopic peritonea l metastases outside pelvis	T3a
IIIB	Microscopic peritonea l metastases outside pelvis <2 cm in greatest dimension	T3b/ N1
IIIC	Peritoneal metastases >2 cm in the greatest dimension and/or positive regional lymph nodes	T3c/ N1
IV	Distant metastases beyond the peritoneal cavity. Positive pleural cytology and/or parenchymal liver metastases	M1

Staging involves peritoneal washings, peritoneal biopsies, removal of both fallopian tubes and ovaries, uterus, cervix, infracolic omentum, and retroperitoneal lymph nodes.

The National Comprehensive Cancer Network guidelines suggest administering 3 to 6 cycles of chemotherapy for stages IA to IC disease, and 6 to 8 cycles for stages II to IV disease.[6] A response rate of 70% is seen in patients with adjuvant platinum-based chemotherapy with 12.5 months of median response duration. Postoperative radiation is to be avoided, as it has low efficacy and more complications. Paclitaxel is also emerging as an important adjuvant in advanced fallopian tube carcinomas.

Adjuvant chemotherapy is not needed in patients who are in early-stage disease (stages IA and IB). Two randomized controlled trials, i.e., ICON 1 and ACTION, compared mere observation *vs* platinum-based chemotherapy. They reported a 5-year survival rate of 74% without chemotherapy *vs* 82% with platinum-based chemotherapy.[7]

PROGNOSIS

The depth of invasion of disease into the tubal wall and the spill of tumor during surgery are two important prognostic factors. The disease metastasizes to peritoneum in early stage. Lymphogenous metastases correlate with further grading. Favorable outcome is seen if there is lymphocytic infiltration of the tumor. Fallopian tube carcinoma patients show an overall survival of 30 to 50%.[8]

CONCLUSION

Primary fallopian tube carcinoma is a rare tumor and accounts for <1% of all female genital cancers. It is a disease of nulliparous women and serous papillary histology is more often seen. Surgery is the main modality of management and it should comprise of total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and pelvic and para-aortic lymphadenectomy.

Advanced disease needs extensive debulking. The tumor responds to platinum-based chemotherapy. Prognostic factors include stage and residual tumor. Patients with stage I (low-risk patients) undergoing optimal surgical cytoreduction may not need adjuvant chemotherapy.

However, those patients with low-risk stage I disease with inadequate surgical staging and those with high-risk stage I or II disease should receive 3 to 6 cycles of adjuvant chemotherapy with carboplatin plus paclitaxel. Treatment of persistent/recurrent disease needs second-line treatment based on platinum-free interval. Localized, late relapse may need secondary cytoreduction in a selected few patients.

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