CASE REPORT

Bilateral primary fallopian tube papillary serous carcinoma in postmenopausal woman: Report of two cases

Dipanwita Nag, Parna Bhaumik, Ayandip Nandi, Aparajita Samaddar

Department of Pathology, Medical College, Kolkata, West Bengal, India

ABSTRACT

Primary carcinoma of the fallopian tube is rare and accounts for about 0.14-1.8% of all gynecological malignancies. Correct diagnosis is rarely made preoperatively as clinically tubal carcinoma closely resembles ovarian carcinoma. Here, we report two cases of bilateral primary fallopian tube carcinomas. Case 1: A 54-year-old female presented with postmenopausal bleeding, abdominal pain, and pervaginal watery discharge for 10 days. Ultrasonography (USG) of pelvis showed endometrial thickening and multiple tiny echogenic foci in omentum suggestive of omental cake. With a provisional diagnosis of endometrial carcinoma, total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy was done. On gross examination, small and rudimentary right ovary was adherent to the fimbrial end of the tube. Left-sided tubo-ovarian mass was present, cut section of which showed yellowish solid area in tubal wall and encroaching on ovarian surface. On histological examination, sections from the fimbrial end of both fallopian tubes showed features of papillary serous adenocarcinoma. Case 2: 70-year-old lady, 15 years postmenopausal presented with gradual onset pain and swelling of abdomen, urinary incontinence since 4 days. USG showed bulky uterus, 5 cm × 2 cm fibroid, bilateral tubes, and ovaries were not visualized. Serum cancer antigen-125 was raised (159.7 U/ml). Total hysterectomy and bilateral salpingo-oophorectomy with infracolic omentectomy was done. On gross examination, ovaries were firmly attached to tubes and no apparent solid area was noted. On microscopy, papillary serous adenocarcinoma arising from tubal wall was seen infiltrating focally into ovarian stroma; tubal epithelium showed dysplastic change. Sections from omentum showed numerous psammoma bodies.

Key Words: Bilateral, fallopian tube, metastatic, papillary serous adenocarcinoma

INTRODUCTION

Primary carcinoma of the fallopian tube is rare[1] and accounts for about 0.14-1.8% of all gynecological malignancies.[2] Less than 1500 cases have been reported in the literature.[3] Etiology is unknown.[4] It occurs in postmenopausal women with a wide age range having a mean of 52 years. Correct diagnosis is rarely made preoperatively. Clinically, tubal carcinoma closely resembles ovarian carcinoma. Bilateral involvement occurs in about 20% of cases.[4]

For diagnosing primary tubal carcinoma, both ovaries and the uterus should appear normal on gross examination.

Address for Correspondence: Dr. Ayandip Nandi, 48/7, Patuapara Lane, P.O. Serampore, Hooghly - 712 201, Kolkata, West Bengal, India.
E-mail: ayandipnandi@gmail.com

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The tubes, at least in the distal portion, must be grossly abnormal.[4]

Here, we report two cases of bilateral primary fallopian tube carcinomas (PFTC).

CASE REPORTS

Case 1

A 54 years female presented with history of postmenopausal bleeding and abdominal pain since 2 months and pervaginal watery discharge for 10 days. She had four deliveries which were normal and uneventful. She attended menopause 7 years back. Her blood pressure was normal. On vaginal examination, cervix showed small cervical erosion, the uterus was normal in size. No fornical lump was palpated on polycythemia vera. The hemogram, hepatic, and renal functions were normal, hepatitis B surface antigen, HIV I, and II were negative. X-ray chest and ultrasonography (USG) of upper abdomen were normal. USG of pelvis showed localized thickening of endometrium in fundal region (endometrial polyp) and thickening of omentum with multiple tiny echogenic foci suggestive of omental cake. No obvious adnexal mass was detected on USG, but both ovaries could not be delineated separately. Endometrial thickness was 6 mm. Minimal amount of ascitic fluid was detected on USG, but that could not be sampled. Serum cancer antigen (CA)-125 was 30.5 U/ml. Pap smear showed inflammatory changes. Endometrial curettage showed atrophic endometrium.

With a preoperative differential diagnosis of endometrial carcinoma and ovarian malignancy, total abdominal hysterectomy (TAH) with bilateral salpingo-oophorectomy (BSO) and omentectomy was done. On exploratory laparotomy, uterus cervix was grossly not enlarged and both tube ovaries seemed unremarkable except left-sided tubo-ovarian mass which was adherent to omentum. Omentum showed multiple solid thickening. Ascitic fluid was minimal.

On gross examination of specimen, uterus and cervix measured 9 cm × 5 cm × 4 cm [Figure 1]. One fundal polyp (2 cm × 0.5 cm) was noticed on cross section. Small and rudimentary right ovary (2 cm × 1 cm × 1 cm) was adherent to the fimbrial end of the tube. Both the ovaries showed no surface lesions. Left-sided tubo-ovarian mass was present at the end of the tube, cut section of which showed tubal lumen and yellowish solid area (1.5 cm in diameter) involving tubal wall and encroaching on ovarian surface. On histological examination, endometrium along with polyp showed presence of cystically dilated endometrial glands. Cervix showed presence of chronic cervicitis. Though endometrial carcinoma was suspected clinically, no malignancy was seen in both uterus and cervix. Parametrium was free.

Sections from the fimbrial end of right fallopian tube with adherent right ovary showed features of papillary serous adenocarcinoma of fallopian tube with superficial extension into the adherent right ovary [Figure 2].

Sections from left ovary with adherent fimbrial end of the tube showed features of papillary serous adenocarcinoma of fallopian tube (fimbrial end) penetrating through serosa. The tumor was extending into the adjacent ovarian stroma in a solid pattern of growth. Sections from yellowish solid area of ovary showed features of adenocarcinoma.

Sections from attached omentum with fimbrial end of left fallopian tube showed presence of metastatic deposit of papillary serous adenocarcinoma with many psammoma bodies. Lymph node was not sampled on laparotomy. Pathologic staging of pT3bNxMx was given.

Patient was put on carboplatin and paclitaxel-based

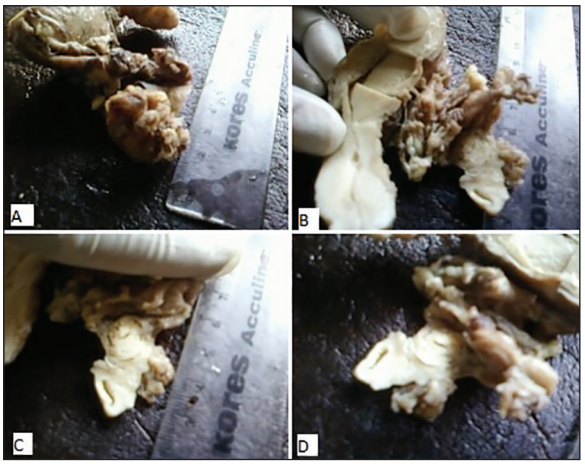

Figure 1: Gross pictures of Case 1

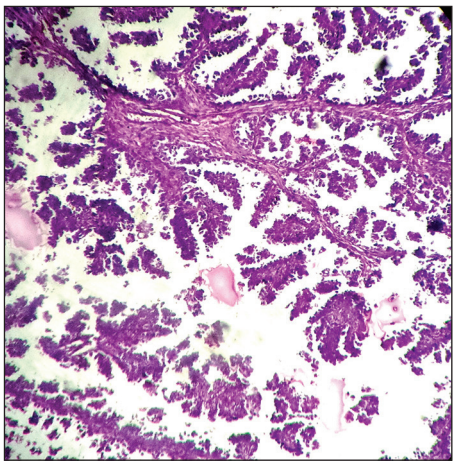

Figure 2: Papillary serous carcinoma (H and E, ×400)

chemotherapy in view of metastatic disease and doing well after 6 months of completing treatment.

Case 2

A 70-year-old woman, 15 years postmenopausal presented with gradual onset pain and swelling of abdomen, urinary incontinence since 4 days. She was admitted in a local hospital where her USG showed bulky uterus, 5 cm × 2 cm heterogeneous soluble supernatant in myometrium (fibroid). Her bilateral tubes and ovaries were not visualized. Endometrial thickness was not measured. Patient subsequently developed ascites and was referred to our institute. Her ascetic fluid tap came negative for malignancy. Hematological and biochemical parameters were within normal limit. Serum CA-125 was raised (159.7 U/ml), but carcinoembryonic antigen level was within normal limit (1.2 U/ml).

Total hysterectomy and bilateral salpingo-oophorectomy was done under spinal anesthesia. On opening the peritoneal cavity, about 1.5 L of hemorrhagic fluid was aspirated and multiple omental caking were noted. Bilateral ovaries were not delineated separately and uterus was adherent to bladder. Deposits were also noted in the Pouch of Douglas, but undersurface of liver was free. TAH-BSO with infracolic omentectomy was done and specimen was sent for histopathological examination.

On gross examination, huge fibroid distorting the endometrial cavity was noted. Uterus cervix measured 8 cm × 5 cm × 2 cm, fibroid 4 cm in diameter, bilateral tubes were 3 cm long, ovaries were firmly attached to tubes and measured 3 cm × 2 cm ×1 cm, and left ovary contained a thin walled cyst which contained serous fluid [Figure 3]. No apparent solid area was noted in gross examination. Sections from endomyometrium, fibroid, cervix, and both tubes and ovaries were submitted. Omentum measured 5 cm × 3 cm and multiple solid white thickened areas were noted.

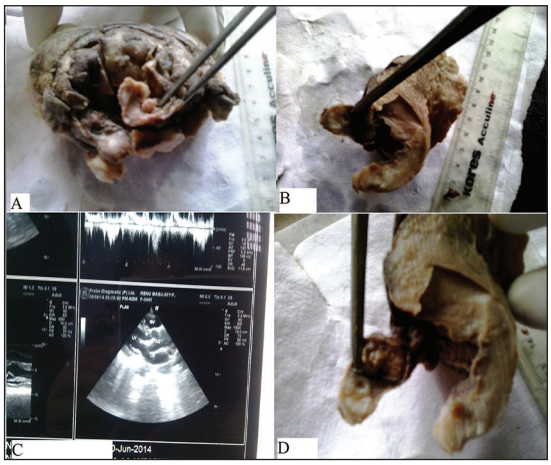

Figure 3: Gross and radiology of Case 2

On microscopy, sections from uterus showed atrophic endometrium, cervix showed features of chronic nonspecific cervicitis, and fibroid showed leiomyoma. Sections from tube and ovary showed very small foci of papillary serous adenocarcinoma arising from tubal wall and infiltrating focally into ovarian stroma [Figure 4]; depth of invasion was 2 mm. Rest of the ovary was normal and tubal epithelium showed dysplastic change. Sections from opposite tube also showed features of same malignancy and ovary showed a simple serous cyst. Sections from omentum showed metastatic deposit of papillary serous adenocarcinoma with numerous psammoma bodies. Pathologic staging of pT_3NxMx was given.

Patient was put on chemotherapy and is currently under treatment and tolerating well.

DISCUSSION

Carcinoma of the fallopian tube has been considered to account for only about 0.5% of all gynecologic cancers, but this figure may be low because carcinomas of uncertain origin involving both ovary and tube are generally classified as ovarian in view of their much higher overall frequency. Most patients with PFTC are postmenopausal, with a mean age of 57 years.[5]

Most common presenting symptom is postmenopausal bleeding. The distinctive presentation of intermittent, profuse, watery, clear to yellow (cholesterol-rich) vaginal discharge is accompanied by colicky abdominal pain and followed by a decrease in the size of an abdominal mass (hydrops tubae profluens).[6,7] As preoperative diagnosis is seldom made, most of the times, diagnosis is made on the operating table or in the pathology laboratory.[8] The

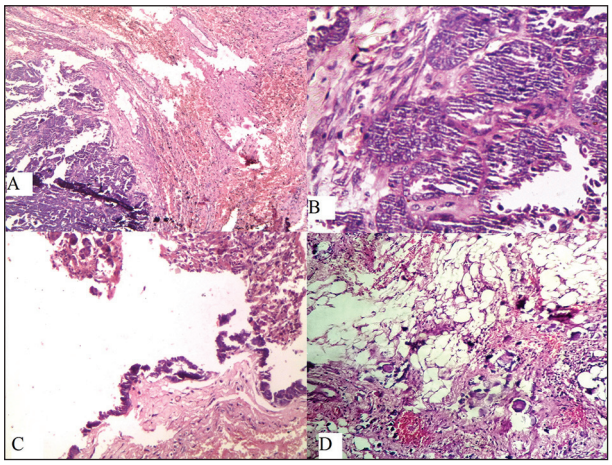

Figure 4: Histology of Case 2 (a) papillary carcinoma in tubal wall (H and E, ×400) (b) solid pattern of growth (H and E, ×400) (c) dysplasia in tubal lining (H and E, ×400) (d) psammoma body in omentum (H and E, ×400)

tubal carcinomas show characteristically fusiform swelling indistinguishable from hydrosalpinx or hematosalpinx. In other cases, the tube is not appreciably enlarged. Occasionally, tumors are originating from the fimbrial end. PFTC mostly occurs in ampulla.[9] Bilaterality is reported in 10-20% of cases, but in some experiences, only in 3%.[9,10] In both cases of this report, growth was localized to fimbrial end and was adherent to ovary on both sides.

About half of tubal carcinomas are serous, one-fourth are endometrioid, one-fifth are transitional or undifferentiated, and the remainder are of other rare epithelial cell tumors.[11]

In our first case, the external shape of the tube was not disturbed, but the lumen was full of tumor tissue and the fimbriated end was open and enlarged, which is an adverse prognostic factor. In the second case, growth was microscopic and no apparent abnormality was noted in gross specimen. The histologic features were compatible with serous papillary adenocarcinoma in both.

CA-125 level was normal in first case and raised in second. CA-125 is a useful tumor marker for the diagnosis, assessment of response to treatment, and detection of tumor recurrence during follow-up.[2]

The immunophenotype of adenocarcinoma of the fallopian tube is similar to that of ovarian carcinoma of the same histologic type. Primary tubal carcinomas are generally CK7 positive and CK20 negative. They typically display strong and diffuse nuclear staining for PAX-8. Serous carcinoma of the fallopian tube shows diffuse strong positive nuclear staining for WT-1 and are CK7 positive and CK20 negative.[12]

Pectasides *et al*.[2] reviewed 111 articles of PFTC and commented PFTC is a rare tumor accounting for <1% of all female genital tract cancers. Histologically and clinically, it resembles epithelial ovarian carcinomas. The diagnosis of PFTC is rarely considered preoperatively and is usually first appreciated at the time of operation or by a pathologist. Both carcinomas have a similar age distribution, are more common among nulliparous women, and are often of serous papillary histology. They considered transvaginal ultrasound examination with color Doppler to be better than transabdominal USG to detect PFTC as it can detect areas of neovascularization within the fallopian tube and thus may aid in the preoperative diagnosis of PFTC. Stage and residual tumor are the most important prognostic factors for outcome.

CONCLUSION

Papillary serous adenocarcinoma of fallopian tube is often silent and a challenging entity for both clinician and pathologist as similar morphology can be seen in both uterine and ovarian primaries with secondary extension to the fallopian tube. Immunohistochemistry and radiology are not of much help; careful gross examination is of utmost importance, especially dissecting and submitting sections from fimbrial end is vital. Prognosis is still far worse; as most patients present with metastatic disease.

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Conflicts of interest

There are no conflicts of interest.

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