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UNCOVERING THE UNSEEN : A RARE CASE OF HIGH GRADE SEROUS CARCINOMA OF FALLOPIAN TUBE

Obstetrics & Gynaecology

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ABSTRACT

Background: Fallopian Tube Carcinoma is an uncommon and extremely rare malignancy, accounting for only 0.3-1.1% of all gynecological cancers(1,2). Due to its non-specific clinical presentation, it is frequently misdiagnosed or detected at an advanced stage(1). Increasing awareness and early recognition are crucial for improving patient outcomes. **Objective:** To present a rare case of high-grade serous carcinoma of the fallopian tube and highlight the diagnostic challenges, clinical presentation, and management approach. **Case History:** A 56-year-old postmenopausal female (P5L3D2) presented with persistent non-odorous white vaginal discharge and intermittent lower abdominal pain for six months. Clinical examination and imaging studies including pelvic ultrasound, MRI, and CT scan revealed a suspicious left adnexal mass. Tumor markers of carcinoma ovary were within normal limits. The patient underwent Staging laparotomy with Total abdominal hysterectomy with bilateral salpingo-oophorectomy, along with omental and peritoneal sampling. Histopathological examination confirmed the diagnosis. **Results:** Intraoperative findings showed a mass in the ampullary region of the left fallopian tube. Histopathology revealed features of high-grade serous carcinoma with marked nuclear pleomorphism, high mitotic activity, and associated serous tubal intraepithelial carcinoma.(3,4) Peritoneal cytology was negative for malignancy. The patient had an uneventful postoperative recovery and was started on adjuvant chemotherapy with carboplatin and paclitaxel.(5) **Conclusion:** This case underscores the importance of considering fallopian tube carcinoma in the differential diagnosis of postmenopausal women presenting with vague gynecological symptoms. Early diagnosis remains challenging but is essential for better prognosis. A high index of suspicion, combined with appropriate imaging and histopathological confirmation, is key to timely management.

KEYWORDS

Fallopian Tube Carcinoma, High-grade Serous Carcinoma, Stic, Postmenopausal, Adnexal Mass, Histopathology

INTRODUCTION

Fallopian Tube Carcinoma is a rare gynecological malignancy, accounting for approximately 0.3–1% of all such cancers.(1,2) It predominantly affects postmenopausal women and is often diagnosed at an advanced stage due to its non-specific clinical presentation.(1) Recent evidence suggests that many high-grade serous carcinomas, previously considered ovarian in origin, may actually arise from the fimbrial end of the fallopian tube.(3,4) Due to its rarity and diagnostic challenges, early recognition remains difficult but crucial for improving outcomes.

Case Report

Fallopian tube carcinoma is an uncommon malignancy, often presenting with vague and non-specific symptoms, leading to delayed diagnosis. We report a case of a 56-year-old postmenopausal multiparous woman (P5L3D2) who presented with persistent white vaginal discharge for six months along with intermittent dull lower abdominal pain. The discharge was non-foul smelling and not associated with itching or irritation. There was no history of postmenopausal bleeding, urinary complaints, or gastrointestinal symptoms.

On examination, the patient was vitally stable. Per abdominal examination revealed mild lower abdominal tenderness without any palpable mass. On per speculum examination, the cervix appeared hypertrophied with healthy vaginal mucosa and presence of white discharge. On per vaginal examination, the uterus was bulky with left adnexal cystic mass around 5x6 cm felt with right fornix free.

Routine laboratory investigations were within normal limits except for moderate anemia (Hb: 9 g/dL). Pap smear was suggestive of the presence of intermediate, parabasal, and metaplastic squamous cells. Tumor markers of ovarian carcinoma including CA-125 (24.3 U/mL), AFP (6 ng/mL), FSH (67.29 IU/L), and LDH (158 U/L) were within normal limits.

Pelvic ultrasonography revealed a well-defined cystic, anechoic elongated lesion measuring 29 × 6.1 × 22.1 mm within the endometrial cavity. The left adnexa showed a 64 × 34 × 38 mm well-defined homogeneous hypoechoic oval-shaped lesion, with the ovary not visualized separately, raising suspicion of a neoplastic etiology.

MRI pelvis demonstrated moderate left-sided hydrosalpinx with fimbrial end showing bulbous dilatation and multiple polypoidal, moderately heterogeneous enhancing lesions with areas of restricted diffusion. The lesion, along with hydrosalpinx, measured approximately 7.1 × 3.7 × 3.6 cm. The left ovary appeared atrophic and was closely abutting the lesion with loss of fat planes, suggesting a malignant adnexal mass likely arising from the fallopian tube.

Contrast-enhanced CT scan further confirmed a heterogeneously enhancing lesion measuring 7.2 × 4 × 4.3 cm in the left adnexa. The left ovary was not visualized separately, and the lesion was seen abutting a peripherally enhancing tubular structure suggestive of hydrosalpinx, further supporting the possibility of a malignant lesion of fallopian tube origin.

In view of suspected malignancy, the patient underwent staging laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy along with omental and peritoneal sampling.

Intraoperatively, the uterus and right adnexa were atrophic. The left fallopian tube had 6 × 7 cm mass in the ampullary region. No ascites were noted. Frozen section analysis revealed a tumor composed of tightly packed papillae lined by cells with high nuclear-to-cytoplasmic ratio and marked nuclear pleomorphism, along with areas of hemorrhage. Para-aortic lymph nodes were palpated intraoperatively and showed no evidence of enlargement. Specimens including uterus, cervix, bilateral fallopian tubes, ovaries, omentum, and peritoneal samples were sent for histopathological examination. Peritoneal fluid

was sent for cytological analysis Histopathological examination confirmed high-grade serous carcinoma of the left fallopian tube, characterized by a high nuclear-to-cytoplasmic ratio, marked nuclear pleomorphism, and increased mitotic activity. Serous tubal intraepithelial carcinoma (STIC) was also identified. Histopathological examination of the uterus revealed endometrium showing cystic glandular atrophy, while the myometrium and serosa were unremarkable. The parametrium was not involved, and the right fallopian tube was unremarkable. Histopathological examination of the omentum and peritoneum was negative for malignant cells and peritoneal cytology was also negative for malignant cells.

The postoperative period was uneventful. The patient was discharged on postoperative day five with satisfactory wound healing. She was initiated on adjuvant chemotherapy with carboplatin and paclitaxel, with a planned total of six cycles.

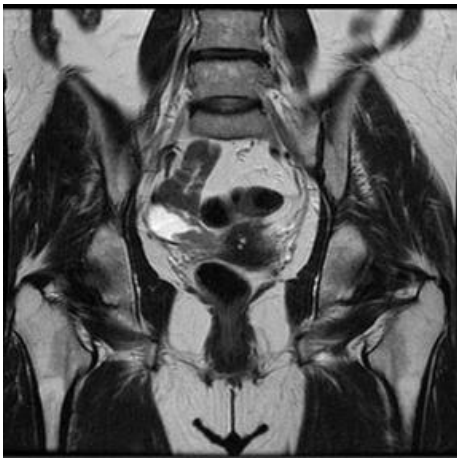

Figure 1: MRI pelvis (coronal view) showing a left adnexal lesion (7.1 × 3.7 × 3.6 cm) with adjacent hydrosalpinx

Figure 2: CECT pelvis showing a heterogeneously enhancing left adnexal mass (7.2 × 4 × 4.3 cm) with non-visualization of the left ovary.

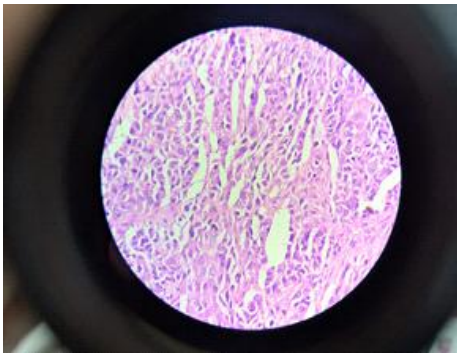

Figure 3: H&E-stained section (high power) showing marked nuclear pleomorphism and increased mitotic activity.

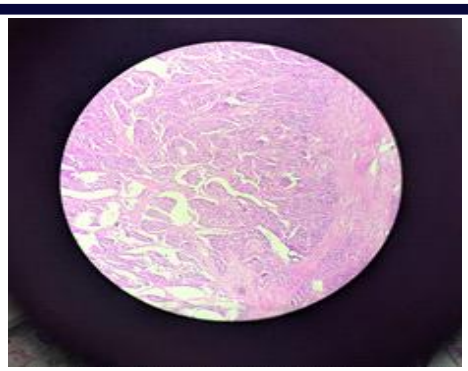

Figure 4: H&E-stained section (low power) showing papillary architecture with fibrovascular cores.

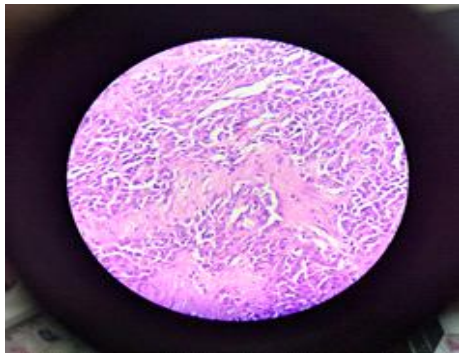

Figure 5: H&E-stained section (high power) showing tumor cells with high nuclear-to-cytoplasmic ratio and nuclear pleomorphism.

The postoperative period was uneventful. The patient was discharged on postoperative day five with satisfactory wound healing. She was initiated on adjuvant chemotherapy with carboplatin and paclitaxel, with a planned total of six cycles.

DISCUSSION

Fallopian tube carcinoma is one of the rarest gynecological malignancies, accounting for less than 1% of all gynecological cancers.(1) Historically, only about 1000–1500 cases have been reported in the literature.(6) However, recent population-based studies suggest a higher incidence due to improved diagnostic accuracy, with several thousand cases identified in cancer registries. It predominantly affects postmenopausal women and is frequently underdiagnosed due to its non-specific clinical presentation.(2) The classical Latzko's triad—pelvic pain, vaginal discharge, and vaginal bleeding—is observed in only a minority of patients.(1)

In the present case, the patient presented with persistent white vaginal discharge and abdominal pain without associated bleeding, which could easily be misinterpreted as benign pathology. Additionally, normal tumor marker levels further contributed to the diagnostic challenge.

Radiological imaging played a crucial role in identifying the adnexal mass; however, determining the exact site of origin preoperatively remained difficult. Definitive diagnosis was established only after histopathological evaluation, which remains the gold standard.(3)

Recent evidence supports the theory that many high-grade serous carcinomas originate from the fimbrial end of the fallopian tube rather than the ovary. The presence of serous tubal intraepithelial carcinoma in this case further strengthens this hypothesis.(3,4)

Management of fallopian tube carcinoma parallels that of epithelial ovarian carcinoma and includes surgical staging followed by platinum-based chemotherapy.(4) Prognosis depends largely on the stage at diagnosis, with early detection offering improved survival outcomes.(5)

CONCLUSION

Fallopian tube carcinoma, though rare, should be considered in the differential diagnosis of postmenopausal women presenting with

unexplained vaginal discharge and lower abdominal pain.(1) A high index of clinical suspicion, supported by appropriate imaging and timely surgical intervention, is essential for early diagnosis. Histopathological confirmation remains definitive, and prompt initiation of chemotherapy significantly improves patient outcomes.(5)

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