Case Report

Primary Fallopian Tube Carcinoma Presenting as a Pelvic Mass: A Rare Case Report

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ABSTRACT

Fallopian tumours are rare gynaecologic malignancies and are often clubbed together with ovarian cancers due to their frequent ovarian involvement at presentation. Most are serous in nature. Modes of spread consists of direct extension, lymphatics, hematogenous and also transcoelomic . We hereby present a rare case of primary fallopian tube carcinoma presenting as cystic pelvic mass in the pouch of Douglas representing a transcoelomic drop metastasis.

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Introduction

Bonafide fallopian tube tumours are rare gynaecologic malignancies accounting for about 0.14-1.8% of all female reproductive system cancers. It was first reported by Renaud in 1847 and thereafter only around 2000 cases have been reported till date, most being subsumed within the Tubo-ovarian mass category. Tumours limited to the fallopian tube are rarely diagnosed pre-operatively, the rate of diagnosed being 3-4%.[1] They are also missed intra-operatively in about 50% of cases. These tumours are predominantly serous tumours. They secondarily spread onto the ovary and peritoneal surfaces. Apart from direct extension, lymphatic or hematogenous modes of spread are known. Transcoelomic migration is also known. We hereby present a case of a large cystic pelvic mass which had its origin in a small intraluminal fallopian tube carcinoma (FTC) & represents a transcoelomic drop metastasis.

Case Report

A 77 yrs old married women was incidentally detected to have a unilocular cystic mass, posterior to the uterus measuring 8.9x8.6x8.5 cms with multiple enhancing solid mural nodules favouring a left ovarian carcinoma.

Investigations revealed CA-125=11.41 U/mL (Normal values: 0 to 35 (U/mL), CEA=3.71 ng/mL (Normal values: less than or equal to 3 ng/mL), bHCG=2.56 IU/L (Normal values in postmenopausal females: <9.5 IU/L), AFP=1.56 ng/mL (Normal values: 0-40 ng/mL).

However, intra-operatively both ovaries were far and free. The mass was in the pouch of Douglas and adherent to anterior wall of the rectum.

The cyst was received for frozen section analysis in two flat pieces measuring 7.5 x 7.5 cms and the wall thickness was 2-6 mms. The outer surface showed fatty tags while inner showed multiple small soft papillaroid excrescences measuring 3-4 mms in thickness. These excrescences represented areas of proliferating high grade malignant epithelium arranged as sheets, clusters and fused papillae. No invasion into the fibrous wall was seen. With no intra-operative detected primary in the uterus and adnexae, the frozen section was reported as a mullerian cyst with in situ carcinoma and unlikely to be from rectum. Total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy was carried out. Grossly, uterus and cervix appeared unremarkable. On opening the specimen, two small grey white bits measuring 2-3 mm were seen lying loose in the endometrial cavity. The right fallopian tube measured 1cm in diameter throughout its length and felt boggy in its midportion. Its cut section showed, lumen occupied by whitish friable tumour. The ostium was open and unremarkable. The left fallopian tube and both the ovaries were grossly unremarkable. Both the fallopian tubes and ovaries were serially sectioned and submitted entirely. The microscopic examination of the right fallopian tube revealed a small primary intraluminal serous papillary carcinoma formed by complex and fused papillae lined by stratified cubo-columnar cells exhibiting moderately pleomorphic hyperchromatic nuclei and was similar in morphology to the cystic pelvic lesion. Intraluminal detached tumour buds were seen. There was no invasion of the muscular wall and the serosa was unremarkable. The bits lying loose in the endometrial cavity also showed similar histomorphology of the tumour as described above and thus, could represent dissociated tumour bits due to retrograde propulsion into the uterine cavity from the fallopian tube, either due to intraoperative handling of specimen or retrograde spread of tumour which in some cases leads to positive Pap smear for malignant cells. The endometrium, cervix, both ovaries and left fallopian tube did not show tumour, hyperplasia, atypia or dysplasia. The omentum was also free of tumour. Immunohistochemistry(IHC) studies performed on fallopian tube tumour and cystic pelvic mass revealed identical staining patterns with strong positivity for CA-125, WT-1& ER, weak positivity for CK-7 and negativity for CK-20 & CEA. Thus, a diagnosis of primary serous papillary carcinoma of fallopian tube with pelvic drop metastasis was made. She was pathologically staged as pT2b as per TNM stage and II B according to FIGO stage, and was offered chemotherapy.

Discussion

FTCs per se are rare gynaecologic malignancies of elderly women with peak incidence in early sixties. Our patient was in her late seventies. Their true incidence may be underestimated as they are often diagnosed as ovarian carcinoma when the ovaries are extensively involved. They are similar in histomorphology and IHC profile to the epithelial ovarian cancers and hence the line of management of epithelial cancers of both these organs is essentially same. Serous carcinomas are the most common occurring in >50% cases followed by endometrioid in one fourth, transitional cell carcinomas in one eighth (0.2-0.5%) and undifferentiated in a remaining few.[2,3] The most common presenting symptom is post menopausal bleeding,[2] & Pap smears positivity is seen in 10-36% cases.[4] Abdominal distension, colicky abdominal pain

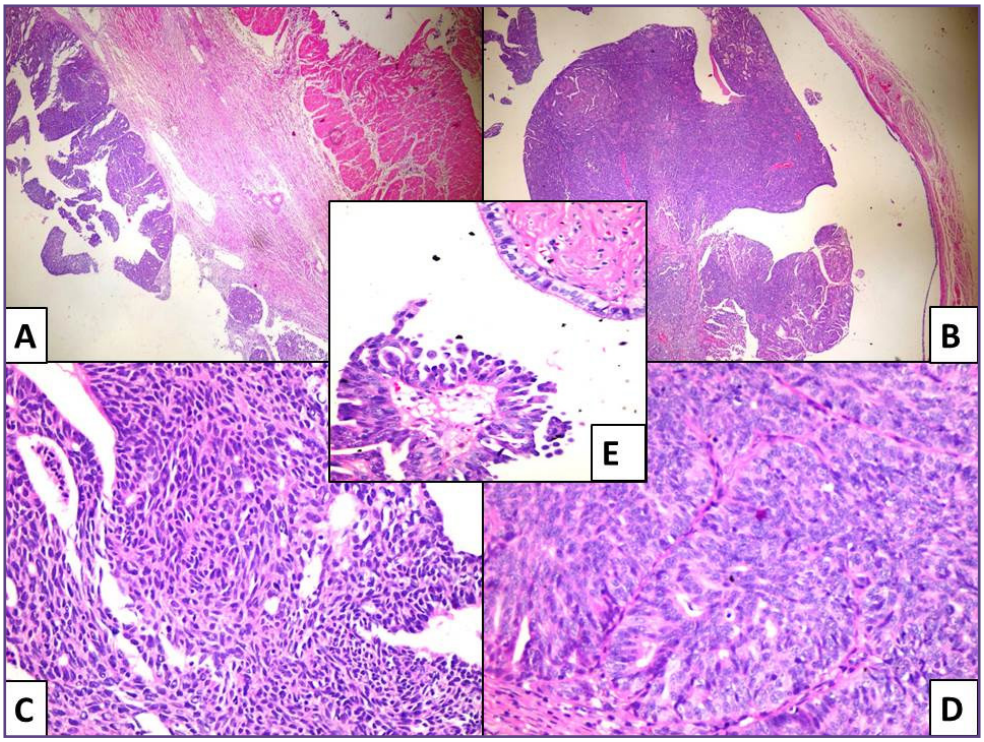

Fig. 1: (A) Pelvic mass showing papillaroid excrescences (H and E, x100) and (B) Fallopian tube with small intraluminal serous papillary carcinoma (H and E, x100), (C & D)Both lesions are formed of complex and fused papillae lined by proliferating high grade malignant epithelium (H and E, x400). (E) Intraluminal dissociated tumour buds (H and E, x400).

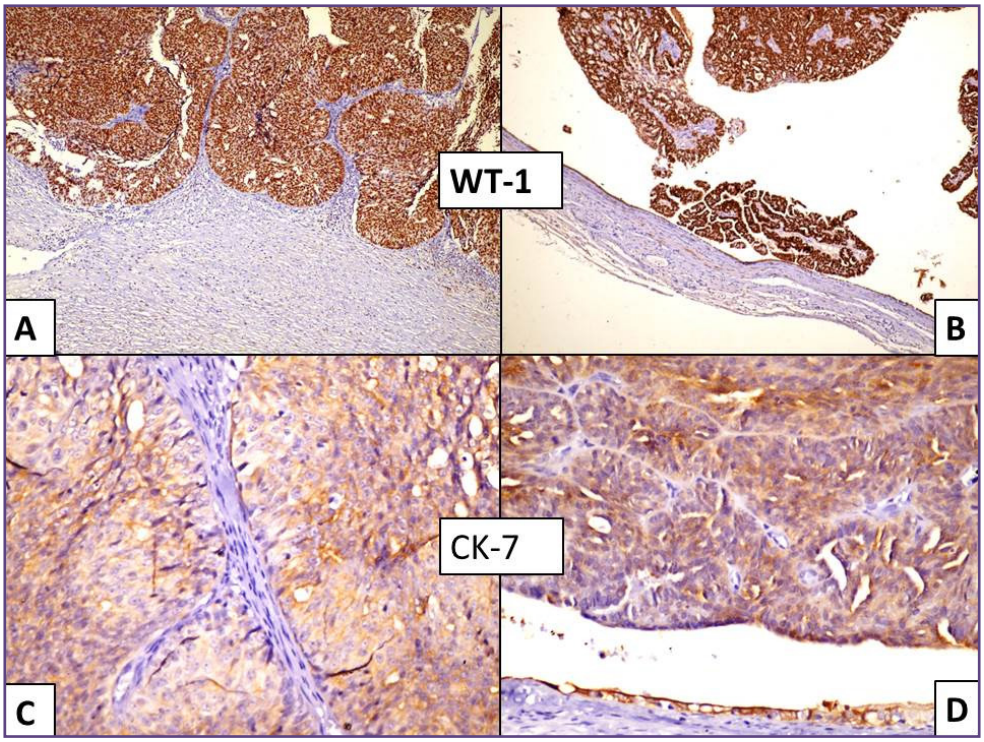

Fig. 2: Both pelvic mass and fallopian tube tumour showing identical IHC: strong WT-1 positivity (A & B) and weak CK-7 positivity (C & D).

followed by watery serosanguinous discharge called the hydrops tubae profluens is seen in <10% cases.[2] Our case showed a rare presentation of a solitary cystic pelvic mass between rectum and vagina. A thorough research of literature revealed no report of any such case of noninvasive FTC presenting with solitary encysted pelvic drop metastasis. Although one case of a solitary metastasis in a Spigelian hernia was reported in an elderly lady, it was due to spread from ruptured tube.[5] The FTC spreads by direct invasion of surrounding structures via ruptured tubal wall and by lymphatic and hematogenous routes. FTCs are also known to spread via transtubal migration of neoplastic cells through the tubal ostia into the peritoneal cavity. Here, they follow natural flow of the peritoneal fluid.[1,6] Even endometrial carcinoma is known to have transtubal spread to peritoneal cavity.[7] FTC with extensive upper abdominal metastasis was reported by Carolina et al.[1] Thus even a small noninvasive FTC bears a metastatic potential due to exfoliation and trascoelomic spread of malignant cells.

The cells of coelomic epithelium are known to undergo metaplastic change into tubal like lining causing a condition known as endosalpingiosis.[8] The pelvic peritoneum is known to undergo neoplastic transformation ranging from low grade to high grade serous carcinomas.[9] These tumours have identical IHC profiles to the tubal or ovarian epithelial serous carcinoma. Hence, simultaneous carcinomatous transformation in a mullerian rest in the pelvis was our another differential diagnosis. She had no evidence of endometriosis in her pelvic cavity or ovaries. However, presence of prominent intraluminal budding in the fallopian tube tumour favoured a diagnosis of FTC with a pelvic drop metastasis. We refuted the differential diagnosis of two synchronous primary tumours as these phenomenon described above are extremely rare as compared to the presence of FTC with drop metastasis.

A second remote possibility of a primary peritoneal serous carcinoma (PPSC) with a synchronous primary tubal carcinoma was considered.

However, PPSC rarely present as solitary lesions and we came across only one case of solitary PPSC mimicking as liver tumour.[10] Also, PPSC usually show peritoneal dissemination and ascites which was absent in our case. Most fallopian tube carcinomas drop cells into the pouch of Douglas, thus a PFTC with drop metastasis into the retrovaginal peritoneum (POD) seems more favourable diagnosis as compared to PPSC with origin in FT.

Conclusion

Fallopian tube carcinomas per se are rare malignancies & their true incidence may be underestimated as they are often diagnosed as ovarian carcinoma. They are similar in histomorphology and IHC profile to the epithelial ovarian cancers and hence the line of management is essentially same. Apart from the other modes of spread, the fallopian tube carcinomas are also known to spread through transtubal migration to implant into the pelvic cavity and this can occur even when the fallopian tube carcinoma is intraepithelial in nature. We present a case of a large cystic pelvic mass which had its origin in a small intraluminal fallopian tube carcinoma (FTC) & represents a transcoelomic drop metastasis.

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Competing Interests

None

Reference

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