

Synchronous Bilateral Clear Cell Carcinoma and Papillary Serous Cystadenocarcinoma of the Ovaries

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Abstract

Synchronous bilateral ovarian malignancy with similar pathology is a known entity. Simultaneous presence of two different tumors in both the ovaries is a rare occurrence with only one case reported in a postmenopausal lady. We present a second case of synchronous presence of high grade serous and clear cell carcinoma in a premenopausal woman.

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INTRODUCTION

Bilateral involvement of ovaries by malignancy is commonly seen as a result of metastasis in advanced primary ovarian disease or secondary from a distant primary. However, the histology of the tumor in both the ovaries is usually similar. Synchronous occurrence of tumors in bilateral ovaries, with different histology, is extremely rare. To the best of our knowledge, only one such case has been reported in literature [1]. We report a case of right ovarian clear cell carcinoma and left ovarian papillary serous cystadenocarcinoma in a 38 year old lady.

CASE REPORT

A thirty eight- year- old, multiparous women presented with intermittent lower abdominal pain of fifteen days duration. There were no other systemic symptoms. Her past history and family history was insignificant. General physical examination was normal. Per speculum examination revealed a healthy cervix. Per

vaginal examination demonstrated a bulky uterus. A transvaginal ultrasound (TVS) was performed which demonstrated an anterior wall intramural uterine fibroid measuring 1.2cm. The right ovary showed a multiloculated cyst measuring 10x4x7cm and the left ovary showed a solid lesion measuring 7.3x5.3cm. Ultrasound abdomen demonstrated bilateral adnexal heterogeneous solid cystic lesion with septations, internal echoes and mural component. Her routine hematological and biochemical investigations were normal. The serum CA 125 levels were elevated (299.5 U/ML). An exploratory laparotomy was performed. Intraoperatively, brown colored peritoneal fluid was seen. Bilateral adnexal mass with solid and cystic components was present (Figure 1). The right sided mass was measured 10x9x8 cm and adherent to the bowel. The left sided adnexal mass was measured 5x7x6cm. Small nodules were seen over the rectal serosal surface. The uterine surface showed multiple serosal nodules posteriorly. Total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy was performed and the specimen was

sent for histopathological examination. The final pathological diagnosis was right ovarian intermediate grade clear cell carcinoma and left ovarian high grade papillary serous cystadenocarcinoma with infiltration into the posterior uterine serosal surface (Figures 2 and 3). The omentum was free of tumor. Peritoneal fluid cytology revealed metastatic papillary serous carcinoma. The clinical and pathological features were suggestive of International Federation of Gynecology and Obstetrics (FIGO) stage II disease.

Postoperatively, the patient received six cycles of chemotherapy with carboplatin and paclitaxel with a 21 day interval. Her serum CA 125 levels were serially monitored which progressively dropped during the course of chemotherapy. She also developed febrile neutropenia which subsided following appropriate antibiotic treatment. Serial evaluation of CA 125 and TVS showed no evidence of recurrence or metastases, two years following treatment.



Figure 1. Uterus with bilateral adnexal tumours.

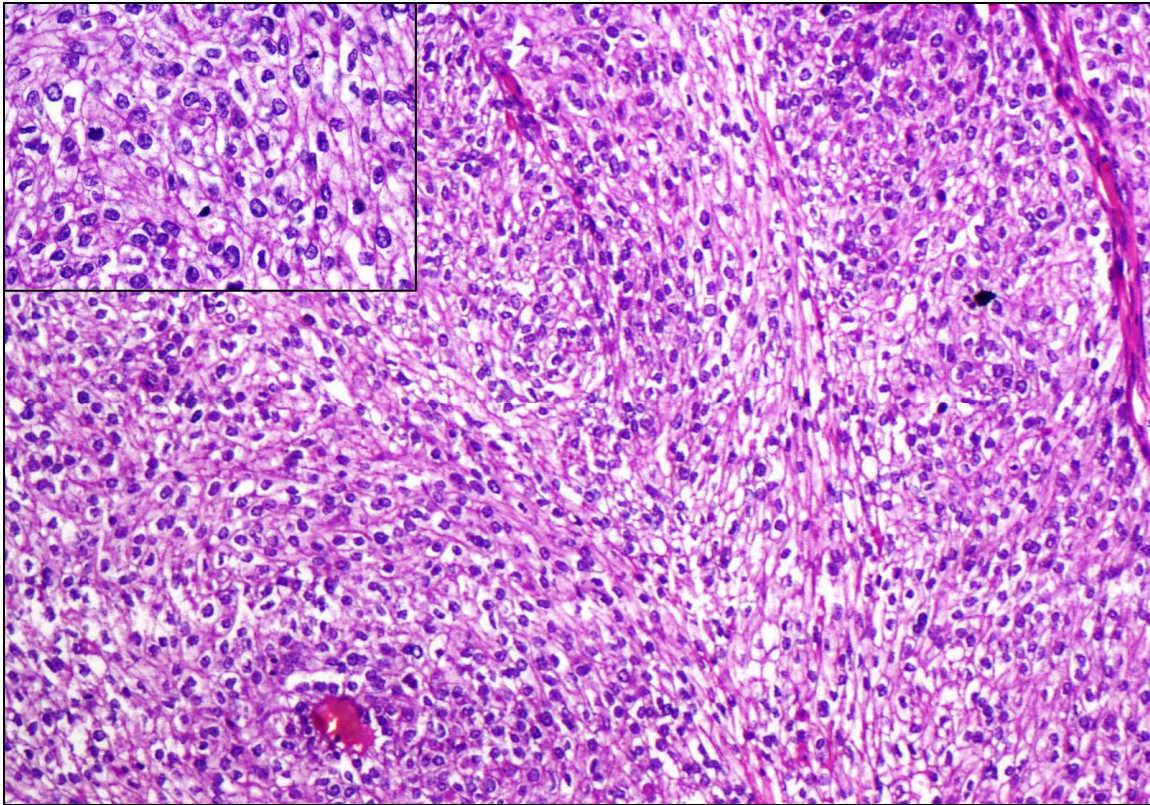


Figure 2. Clear cell carcinoma showing sheets of malignant clear cells with abundant clear cytoplasm, vesicular nucleus and prominent nucleoli (H&E, x200; inset: x400).

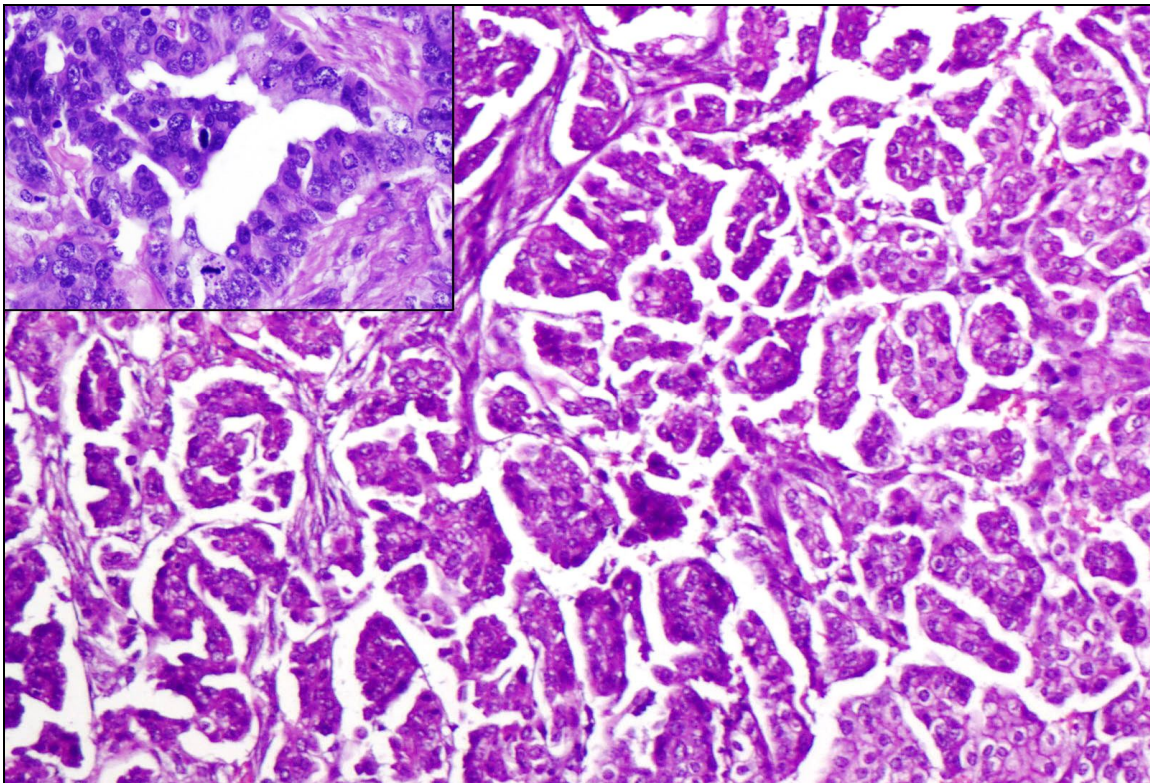


Figure 3. Papillary serous cystadenocarcinoma showing papillae lined by malignant cells with high nuclear grade and mitosis (H&E, x200; inset: x400).

DISCUSSION

The presence of two or more primary malignancies in the female genital tract is uncommon accounting for only 0.63% of all genital tumors. The most common occurrence is the synchronous presence of malignancy in the endometrium and the ovary. Synchronous ovarian and cervical carcinomas have also been reported. The histology of these tumors is usually similar, with very few cases having different histology [2, 3].

Bilateral ovarian tumors are well recognized and its incidence is approximately 25% of all ovarian malignancies. The involvement can be as a result of contralateral spread, presence of simultaneous independent primary tumors or distant metastasis [4].

Presence of synchronous ovarian tumors with different histology is rarely seen. Till date only a single case in a postmenopausal lady with left ovarian serous papillary carcinoma and right ovarian malignant mixed Müllerian tumor has been reported [1]. Our case presented in a relatively young lady who had right ovarian serous papillary carcinoma and left ovarian clear cell carcinoma.

Papillary serous cystadenocarcinoma of the ovary is the most common ovarian carcinoma and is known for its bilaterality. They affect woman more than 40 years of age and usually present in FIGO stage III-IV. These tumors are further divided into borderline, low grade and high grade. The low grade serous tumors are associated with their precursor borderline tumors and harbor BRAF/K-ras mutations while high grade tumors have a separate pathogenesis. The precursor for high grade serous carcinomas is tubal intraepithelial carcinoma and the genetic abnormalities include p53 mutation, p16 expression and loss of BRCA1 expression [5, 6].

Ovarian clear cell carcinoma on the other hand is relatively uncommon and present with FIGO stage I-II disease. These are unilateral tumors and are associated with clear cell adenofibroma and endometriosis. K-ras and PTEN mutations along with microsatellite instability have been implicated in the pathogenesis of these tumors [5, 7].

Serum CA 125 levels and ultrasonography are useful tools for screening, preoperative diagnosis and monitoring therapy [8, 9]. This case had markedly elevated CA 125 levels at the time of presentation which dropped progressively following treatment.

The treatment modality for both high grade papillary serous cystadenocarcinoma and clear cell carcinoma is cytoreductive surgery with adjuvant platinum based

chemotherapy. These tumors have a poor prognosis with a low survival and high recurrence rates [6, 10].

To conclude, bilateral synchronous ovarian tumors with different histology are extremely rare and pose a diagnostic and therapeutic challenge, making vigilant clinical and pathological examination imperative.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

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