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Case Report

Synchronous endometrioid carcinoma of endometrium and ovary: A case report

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ABSTRACT

Objective: The synchronous endometrial and ovarian cancer is a rare phenomenon with incidence of 1.4 to 3.8%. Mostly in SEOC, the ovarian endometroid carcinoma arises in background of endometriosis with endometrial carcinoma with lower stage and lower grade in premenopausal age group.
Case Report: Herein we present a case of 33year old female, presented with abdominal pain, underwent TAH with BSO and histopathologically uterus and ovary showing features of Synchronous endometrial and ovarian carcinoma of low grade with no nodal involvemnet in premenopausal lady.
Conclusion: The SEOC being a rare phenomenon with different therapeutic and favorable prognostic considerations, when compared with metastatic carcinomas and hence SEOC can be managed with multidisciplinary approach and regular follow up.

1. Introduction

Primary synchronous cancers of the female genital tract are relatively uncommon comprising 1-6% of all genital neoplasms.[1] Amongst these, simultaneously detected endometrial and ovarian malignancies constitute the commonest occurrence (50–70% of all synchronous female genital tract tumors). Due to the different management and the favorable prognosis of SEOCs, it is important to separate SEOCs from a metastatic disease.[2]

2. Case Presentation

A 33-year-old, nullipara, presented with complaints of on and off spotting per vaginum, and intermittent dull aching pain in lower abdomen for 1 year. She had no history of weight loss, bladder or bowel complaints or any hormonal pill intake. On examination, abdomen was soft. Vaginal examination revealed a mass in the left adnexa. Abdominal USG and computed tomography abdomen and pelvis showed multiloculated cystic lesion of size 8x5cm, with solid components in left ovary, along with few polypoidal lesions, heterogenous echoes in the uterine fundus. Considering both ovarian and uterine mass, staging laparotomy with bilateral pelvic lymphadenectomy and peritoneal lavage was done.

Intraoperatively, uterus was of 6-8 weeks in size, there was a lobulated solid cystic mass of 8x5cm arising from left ovary. Right ovary and fallopian tube could not be visualized. Peritoneal fluid cytology was negative for malignant cells.

For histopathological examination we received uterus with cervix with attached one side tube and ovary, uterus with cervix measuring 12x9x6cm. Also, received mesentry measuring 30cm in length. C/S of uterus - Endometrial cavity dilated and showed a grey white polypoidal growth measuring 3x2.7x2cm, extending into less than half of myometrium and upto lower uterine segment. Also, received ovary with attached fallopian tube, ovary measuring 8x5x3cm with attached tube measuring 4cm. E/S of ovary-

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lobulated. C/S shows a tumor with both solid and cystic areas measuring 4x3.3x2cm. Remnant ovary measured 3x2x1cm. Grossly, tube showed no pathology.

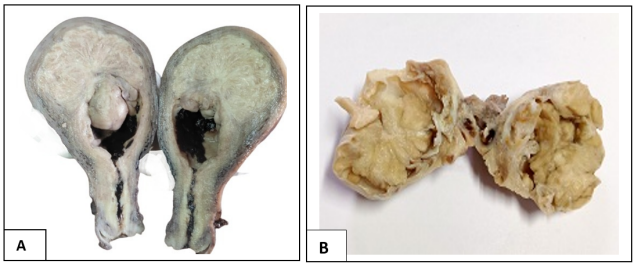

Fig. 1: A): Uterus with endometrial polypoidal mass; **B)**: Left ovary showing grey white solid cystic areas

Sections studied from the polypoidal mass in endometrium showed an infiltrating neoplasm arranged predominantly as glands lined by columnar epithelial cells exhibiting mild nuclear atypia, fine chromatin and inconspicous nucleoli. Intervening stroma shows inflammatory infiltrate and congested vessels. Tumor infiltration is seen in less than half of myometrium. Section studied from lower uterine segment showed invasion by tumor. Sections studied from Ovarian mass showed ovarian parenchyma with a neoplasm arranged predominantly as glands lined by columnar epithelial cells, with reversal of polarity and stratification. Nuclei exhibit mild atypia with fine chromatin. Squamous morules made out in focal areas. Intervening stroma showed inflammatory infiltrates and congested vessels. Capsule appears intact. Left tube entirely processed and showed no evidence of tumor.

There was a diagnostic dilemma, whether this is a synchronous primary of both endometrium and ovary or a metastatic disease. So we further proceeded with immunohistochemistry. Vimentin was strongly positive in endometrium and negative in ovary, whereas ER, PR was positive in both tumors of endometriumand ovary. With that we arrived at a conclusive diagnosis of Synchronous Endometrioid carcinoma of endometrium and ovary. Both of the tumors were low grade and of early stage with invasion less than half of myometrium and tube free of tumor added to the diagnosis of synchronous primary tumor of endometrium and ovary. The patient received adjuvant chemoradiation and is on followup.

3. Discussion

About, 10% of women with ovarian cancer have SEOC and about 5% of women with endometrial cancer are diagnosed with SEOC. The incidence of synchronous endometrioid cancer of both ovaries and endometrium is 1.4 to 3.8%.[2] This being a rare phenomenon with different therapeutic and prognostic considerations, makes it important to distinguish from the metastatic carcinoma.

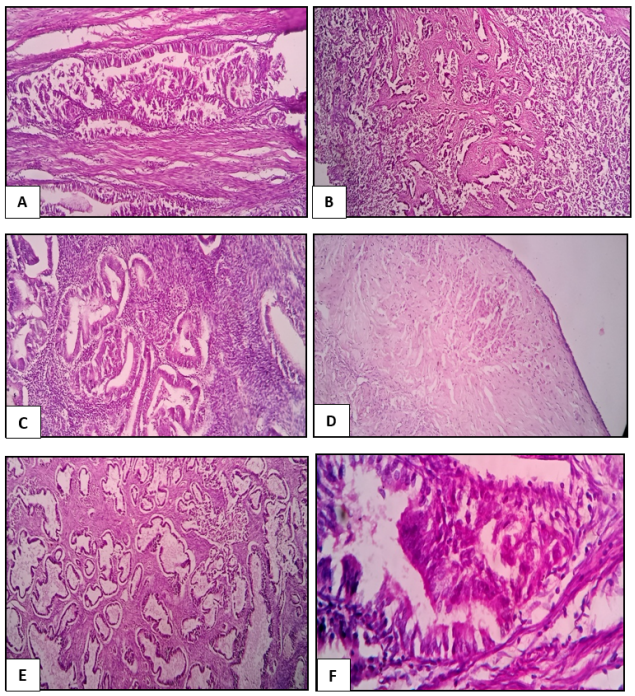

Fig. 2: A.B): Shows an infiltrating tumor, mainly arranged in glands lined by columnar cells with mild atypia; **C):** Back to back arrangement of glands, suggestive of endometrial hyperplasia foci; **D):** Ovarian Cyst wall with hemosedrin laden macrophages suggestive of endometriosis; **E):** Ovarian parenchyma with tumor arranged in glands; **F):** Mild nuclear atypia with reversal of polarity

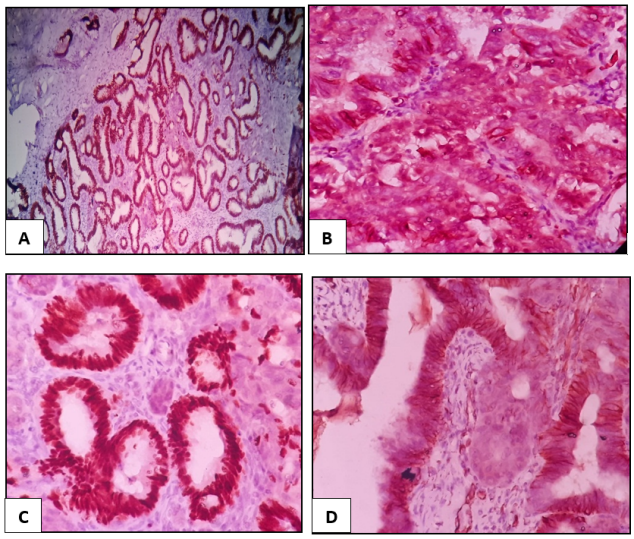

Fig. 3: A): ER positive in endometrial tumor; **B):** Vimentin positive in endometrial tumor; **C):** ER positive in ovarian tumor; **D):** Vimentin negative in ovarian tumor

The most common presentation of age group are 41-54 years, 40% of women are nulliparous, about 75% are premenopausal.[3] The most common presentation of SEOC is abnormal uterine bleeding with pelvic pain or a palpable pelvic mass. Our patient is a nulliparous women, presented with lower abdominal pain. Endometrial cancer with synchronous ovarian cancer is usually superficial and well differentiated, stage I-II disease. In most cases the ovarian endometroid carcinoma arises in background of endometriosis with endometrial carcinoma with lower stage and lower grade.[4] The pathogenesis of SEOC is considered that embryologically similar tissues are affected from hormonal stimulation and other carcinogenic factors in female genital tract. The hypothesis of "microenvironment restriction" reflects the low potential of metastasis of SEOC.[4] Pretreatment concentration of CA-125 and the tumor stage of the ovary are independent factors in SEOCs. Immunohistochemistry and DNA flow cytometry helps in differentiation between primary and metastatic tumors.[5] By analyzing mitochondrial DNA and sequencing different genes, a clonality of SEOCs was confirmed. Nuclear localization of β-catenin, presence of CTNNB1 mutations and DNA mismatch repair protein (MMR) are associated with SEOC.[6]

Ulbright T and Roth L devised the pathological criteria for synchronous gynecological tumors which includes,

1. Both the tumors must have a different histopathological origin, or
2. Must fulfil all the minor criteria as follows: tumors must be restricted, no distant metastasis, no connection between the tumors, no lymphovascular tumor emboli, and no myometrial invasion).[4]

Synchronous tumors can be classified into three groups: (by Scully et al.)

1. Endometrial cancer with metastasis to the adnexa.
2. Ovarian cancer with metastasis to the endometrium.
3. Synchronous primary tumors.

Pathological criteria described by Scully et al.

1. Histological dissimilarity of tumors;
2. No or only superficial myometrial invasion of endometrial tumor;
3. No vascular space invasion of endometrial tumor;
4. Atypical endometrial hyperplasia additionally present;
5. Absence of other evidence of spread of endometrial tumor;
6. Ovarian tumor (80-90% of cases),
7. Ovarian tumors located mainly in parenchyma;
8. No vascular space invasion, surface implants, or predominant hilar location in the ovary;
9. Absence of other evidence of spread of ovarian tumor;
10. Ovary endometriosis present.[6]

4. Conclusion

The differentiation of synchronous and metastatic tumors is important as it affects tumor staging and prognosis.[6] A multidisciplinary and patient-oriented approach helps in the management and increase in life expectancy of the patient in synchronous primary malignant tumors.[3]

5. Source of Funding

None.

6. Conflict of Interest

None.

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