

Synchronous Ovarian and Endometrial Carcinoma or Metastasis

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Abstract

Synchronous tumors of female genital tract are not that much common in our country. About 1-2% of gynecological tumors are synchronous primaries. Synchronous primary tumors must be distinguished from metastasis from one site to another, as management & prognosis depends much on it. If endometrial carcinoma is limited only with in upper half of myometrium it is stage -IA, involvement of serosa or adnexa is stage- IIIA. Ovarian malignancy without capsular involvement is stage -IA, with metastasis to oviduct or uterus is stage - IIA. Stage & prognosis of synchronous ovarian & endometrial tumors are much better than that of primary one with metastasis to one another. A female, 55 years hailing from outside Dhaka was admitted in Gynae-oncology unit of BSMMU because of p/v bleeding, & feeling of mass in lower abdomen. USG detected large mass in adnexa as well as in uterus. Patient underwent TAH with ULSO with infracolic omentectomy & nodal clearance. Etiology of synchronous tumors are different from that of independent primary tumor of ovary & uterus. Women with synchronous tumors are young, obese, premenopausal & nullipara.

Key Words: Synchronous tumors, Independent tumors, metastatic tumors

Introduction

Synchronous tumor denotes presence of primary tumor in two different organs at a time, alternatively it can be named as dual tumor or double pathology in a single patient occurring simultaneously. Synchronous tumor may be of similar pathology or of dissimilar entity involving two different organs which happens in a single occurrence.

Ovarian as well as endometrial tumor are among the common tumors of female genital tract. But synchronous ovarian & endometrial cancers occur in 20 to 30% of ovarian malignancies¹. Approximately 8% of endometrial cancers are accompanied by similar tumors in ovary³. As the prognosis of synchronous tumors are better than that of primary ovarian & endometrial cancers with metastasis' and vice & versa², it should be clearly state that they are independent primary tumor occurring in more than one organ of a patient occurring in single occasion³.

Patients who have tumors both in endometrium & ovary can be classified into three categories (1) primary endometrial cancers with metastasis to ovary,(2) primary ovarian tumor with endometrial metastasis(3) both primary tumors in ovary & endometrium. Synchronous ovarian & endometrial tumor may have similar histological feature or they may be of different histology⁴. Tumors with dissimilar

histology comprises 27.2% of synchronous ovarian & endometrial tumor⁵. Features which distinguishes dual primary tumor from metastatic tumor in ovary & endometrium or vice- versa is still controversial. Though it is important, as staging, further management of patient & prognosis are completely different⁵.

Case Report

A female, 55 years, multipara & perimenopausal women presented with the history of p/v bleeding & lower abdominal mas for 6 months. Her previous medical history explore that she had an operation for a mass in lower abdomen 1 year back & received chemotherapy for that. There after she again felt lower abdominal mass, & p/v bleeding for last 6 months. Actually at her 1st operation she was not evaluated properly, was mis-handled by local doctors, who could not do the proper radical surgery instead they did only laparotomic exploration. The biopsy they took was diagnosed as ovarian cyst-adenocarcinoma. With these complaints she got admitted in Gynae-Oncology unit of BSMMU. There she had D&C, Histopathological diagnosis was endometrioid type endometrial carcinoma. Her UCG(fig-1), CT scan showed large mass in adnexal region & also within endometrium. Thereafter she underwent radical surgery i.e- TAH with ULSO with infracolic omentectomy with nodal clearance.

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Gross examination reveal

- a) Totally resected uterus with one attached adnexa. The uterus measures 13×10×4.5 cm & outer surface of uterus is smooth. Cut surface shows (fig-2) a 8×9 cm large mass occupying the almost whole uterine cavity (fig no). The mass have variegated cut surface with grayish brown hemorrhagic areas within it . The attached adnexa is unremarkable.
- b) A separate 7×3×2cm adnexal mass (fig-3&4) is identified in the same container. Cut- surface is solid & cystic, cystic areas contains gelatinous material.
- c) Resected omental tissue measures 20×9 cm & largest lymph node measures 0.8 cm in diameter. Grossly 4 lymph nodes are identified.

Microscopic examination

Microscopic examination Of both uterine & ovarian mass revealed endometrioid carcinoma .Uterine carcinoma showed superficial myometrial invasion (fig-5&6) & ovarian one (fig--7&8) do not show any capsular ,tubal or vascular invasion. Omentum & supplied lymph nodes were free of tumor invasion .We diagnosed the case as endometrial carcinoma with ovarian metastasis, tumor stage-III A, D/D was Synchronous endometrial & ovarian endometrioid carcinoma.

Molecular basis of synchronous ovarian & endometrial cancers

Etiology of these tumors are still a hidden topic. Some suggest that hormonal "Field Effect" may give some clue behind these simultaneous tumors, as patients with synchronous tumors are mostly young, obese, menopausal, & most of them are nullipara¹. Mullerian origin of uterine wall, fallopian tube, & ovary also explains these simultaneous occurrence as a morphological unit⁶. Other people suggest that these neoplasm originate in metaplasia occurring in histological similar epithelium of genital tract & peritoneum². Oestrogens are also another important factor for development of this type of tumor⁶. Synchronous tumor should be distinguished from metastatic carcinoma of uterus to ovary or vice-versa. Immunohistochemistry, DNA flow cytometry, may give some clue in this regard⁷. Further confirmation may achieved by comparative analysis of heterozygosity, clonal X-inactivation, microsatellite instability & PTEN, CTNBI, P53 mutation^{8,9}.

Discussion

Among genital tract malignancies simultaneous primary ovarian & endometrial carcinoma is relatively rare (0.3%)¹⁰. Alternatively we can say that we are not accustomed with this type of tumor diagnosis. It is a great challenge for a pathologist to designate synchronous tumor, also to differentiate this from metastasis from one another. In this respect clinical history & sonographic evaluation are two important determining factors. In our case these pictures were not very much clear, as the patient was not properly evaluated before her 1st operation & suffered for mal-handling.

We diagnosed the case as uterine tumor with ovarian metastasis stage of the tumor was stage- IIIA, more advanced one. But if it was a synchronous uterine & ovarian tumor stage for endometrial carcinoma is 1B & for that of ovarian one is IA, both are much better than the given one. Prognosis of synchronous tumor is much better than that of a metastatic one⁵.

As because ovary is the commonest site for metastasis of endometrial cancers. This is also a great challenge for a pathologist when both ovarian & endometrial cancers have same histomorphology, as in endometrioid carcinoma of ovary & endometrium, as happened in our case. It is more easy to diagnose tumor with dissimilar histomorphology. Conventional clinicopathological criteria as well as molecular diagnosis are helpful for diagnosis of synchronous tumors which have similar histology. Endometrial carcinoma with ovarian metastasis usually have bilateral metastasis, in our case patient's attached adnexae was free of tumor invasion.

Metastatic tumors usually are multiple & smaller in size than the primary one¹. In our case both endometrial & adnexal tumors were large & single ones. Median age for patients with synchronous ovarian & endometrial tumors is 41 years⁵. Sheu & coworkers¹¹-found median age of 49.5 in their study who have tumors with similar histology. Age at presentation of synchronous tumor is less than that of patient with endometrial & ovarian cancers alone, who are usually post menopausal & presents at sixth or seventh decade of life¹². In our case age of the patient was 55 years & perimenopausal, too early for endometrial carcinoma with ovarian metastasis.

Synchronous ovarian & endometrial tumors are usually diagnosed at an earlier primary stage than that of independent ovarian or endometrial

malignancies⁵. Patients present with abnormal bleeding & majority have palpable adnexal mass⁶. In our case though we staged the case as stage IIIa, we think that actual stage was stage Ia, because patient was mistreated & misdiagnosed, we received her specimen about 16 months latter from the initial diagnosis of papillary serous cystadenocarcinoma in March,08. In our case the uterine tumor was only upper third of muscle invasive & ovarian one did not show any capsular, surface or tubal invasion. Moreover peritoneal fluid, omental tissue & pelvic lymph nodes were also negative for malignant cells. General conditions of the patient were also good after more than one year of initial malignancy - all these also favours dual pathology in ovary & endometrium.

Hormonal field effect may play role in the development of simultaneous endometrioid cancers in ovary & endometrium. It also explains the development of synchronous endometrioid tumors in different components of the mullerian system⁶. These patients have distinct clinical features including young age, obesity, pre-menopausal status & nulliparity.

Herrinton et al¹³ found that women with primary independent tumor of ovary & endometrium have higher mean parity than women with synchronous tumors of both these organs. Nulliparity is one of the few known factors for ovarian malignancies. Our patient had 3 children.

The most common histology of synchronous ovarian & endometrial tumor is endometrioid type of tumor⁵. Most tumors that have different histology are usually serous or mucinous adenocarcinoma, rarely Brenner or granulosa cell tumor in ovary. On the other hand in endometrium they are papillary serous, clear cell tumor or sarcomas⁸. Eifel & coworkers⁶ found such histological types in 37.9% of cases, other workers found these even higher rate.

Conclusion

Though we can not made a diagnosis of synchronous endometrial & ovarian cancer due to lack of clinical & sonographic information, we look forward for molecular diagnostic markers which would help us much in this regard, like, DNA flowcytometry, PTEN, microsatellite instability etc.

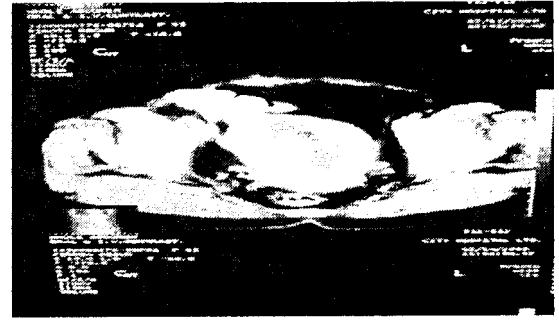


Figure 1: USG of pelvic region showing mass in uterus & adnexal



Figure 2 : Cut-surface of the uterus showing large 8x9 cm tumor occupying the



Figure 3 : Separate 7x3x2 cm adnexal mass

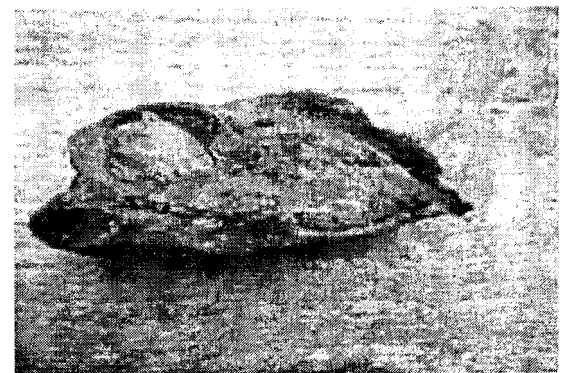


Figure 4: cut-surface of separate adnexal mass with solid & cystic areas containing gelatinous material.

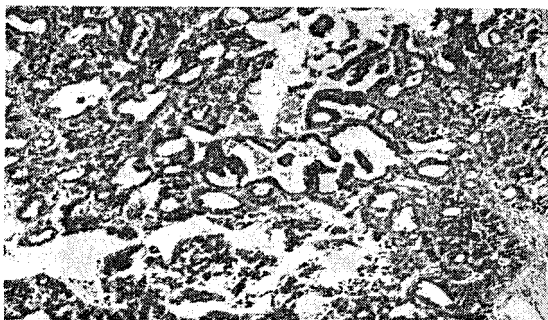


Figure 5: Endometrial carcinoma

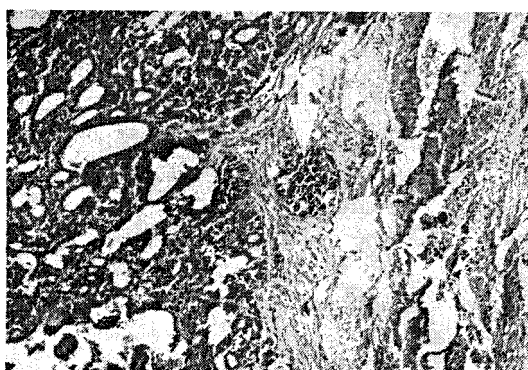


Figure 6 : Endometrial carcinoma showing superficial myometrial invasion.

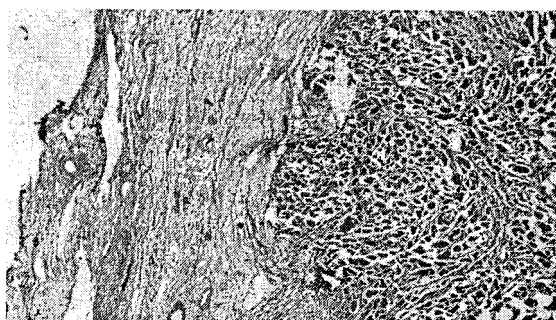


Figure 7: Ovarian endometrioid carcinoma.

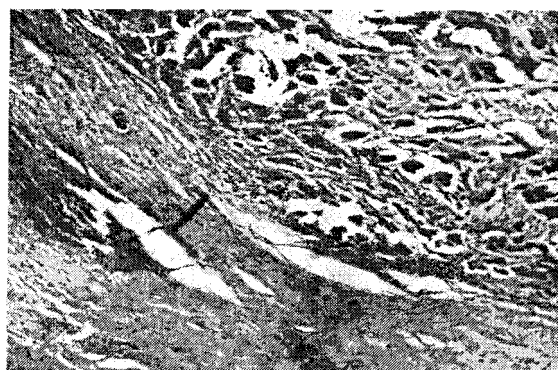


Figure 8: Ovarian endometrioid carcinoma without capsular involvement.

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