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Synchronous Primary Carcinomas of Cervix and Ovary: A Case Report

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Abstract: *Synchronous tumors occur rarely in female genital tract, though it is one among potential sites for synchronous malignancies. In our case report a 36 year old female is diagnosed with two primary malignancies simultaneously; squamous cell carcinoma cervix and bilateral papillary cystadenocarcinoma ovary. Their distinct histological features and sparing of uterine corpus and fallopian tube helped in establishing the diagnosis as two separate primaries rather as metastatic spread of one primary malignancy.*
The objective is to strengthen the suggestion of thorough evaluation of whole female genital tract in case of suspected tumor, as secondary Mullerian system theory explains the possibility of synchronous cancer in female genital tract.
Keywords: *Metastatic lesions, papillary cystadenocarcinoma ovary, secondary Mullerian system theory, squamous cell carcinoma cervix, synchronous tumor.*

I. Introduction

Rarely two or more primary gynecologic malignancies are detected simultaneously or diagnosed during the same hospital admission. The prevalence of coexisting primary malignancies of female genital tract is estimated about 0.63% [1,2].Commonest among these are carcinomas of the ovary and endometrium. Only few cases of ovarian and cervical synchronous malignancies are reported. It is easier to designate tumors as synchronous primaries when these have distinct histopathology while thorough examination is recommended to rule out metastatic lesions if these have similar histopathology [3]. The mechanism of synchronous cancers remains unclear. The most popular hypothesis is the similar embryologic origin or a common cell line [4].

II. Case History

A 36 year old female was admitted in surgery ward with complaints of abdominal pain and vomiting for one month. On palpation a mass is felt in lower abdomen. Routine investigation showed moderate anemia and slightly raised level of BUN and serum alkaline phosphatase. CECT abdomen revealed large multiseptate predominantly cystic lesion in the abdomen displacing the uterus anteriorly and extending till the pelvic side wall on both side measuring about TS 15.4 X AP 13.2 cm in size; ovaries were not seen separately from the lesion and large lobulated heterogenous enhancing soft tissue density mass in the region of cervix measuring about 56x83 mm involving the anterior and posterior lip, endocervical canal, proximal part of vagina and vaginal fornix; part of body of uterus also was infiltrated by mass lesion while fundus was normal. Subsequently cervical biopsy was carried out which revealed squamous cell carcinoma. Later patient underwent total hysterectomy with bilateral salpingo-ooherectomy.

III. Gross

Resected specimen of uterocervix with bilateral adnexa revealed an exophytic growth in the cervix. Each fallopian tube has attached cystic ovarian mass with it. Larger one measuring 9x8x6 cm and smaller one measuring 8x6x3.5 cm, have nodular, grey white outer surface. On cutting cysts were multilocular, filled with haemorhagic fluid, thin and thick wall and areas of haemorhage and necrosis at places. Inner surface revealed numerous papillary projections at places.

IV. Microscopy

Cervix showed sheets of tumor cells having high nucleus to cytoplasm ratio with minimal squamous differentiation. Reticulin staining performed that showed positive staining around nests of tumor cells denoting this poorly differentiated neoplasm as epithelial malignancy.
Sections from both ovaries showed branching papillary fronds lined by malignant tumor cells and having stromal invasion.

V. Final Diagnosis

Poorly differentiated squamous cell carcinoma cervix with synchronous bilateral papillary cystadenocarcinoma ovary.

VI. Figures

Figure1. Bisected specimen of uterocervix with adnexae. A grey white growth in cervix and bilateral cystic ovarian masses.

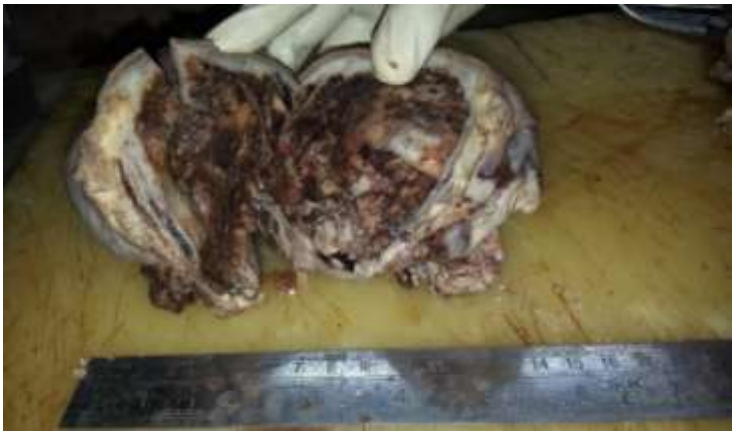


Figure2. Inner surface of ovarian cyst. Thick wall and papillary excrescences.

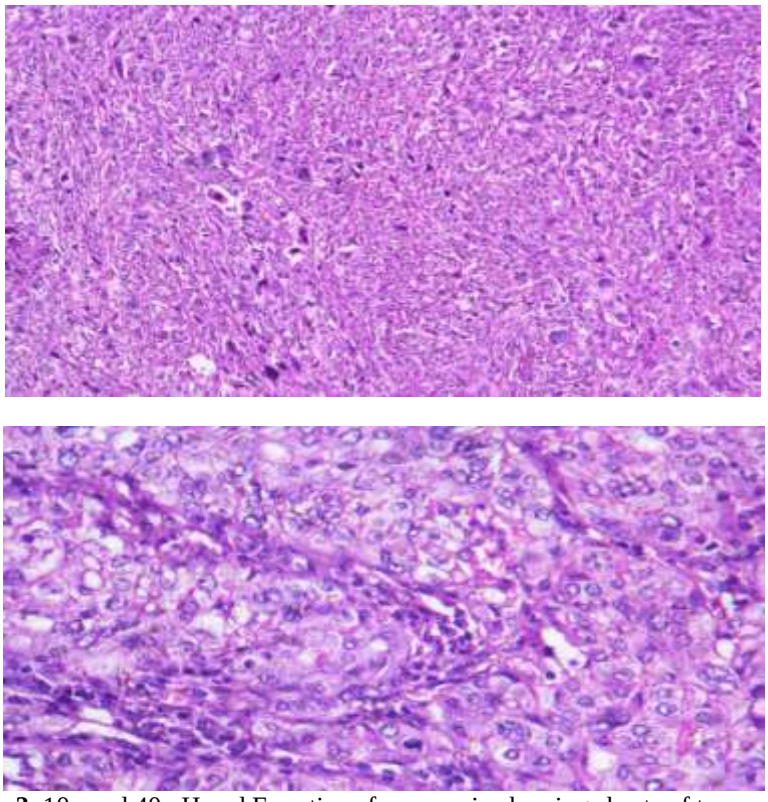


Figure3. 10x and 40x H and E sections from cervix showing sheets of tumor cells.

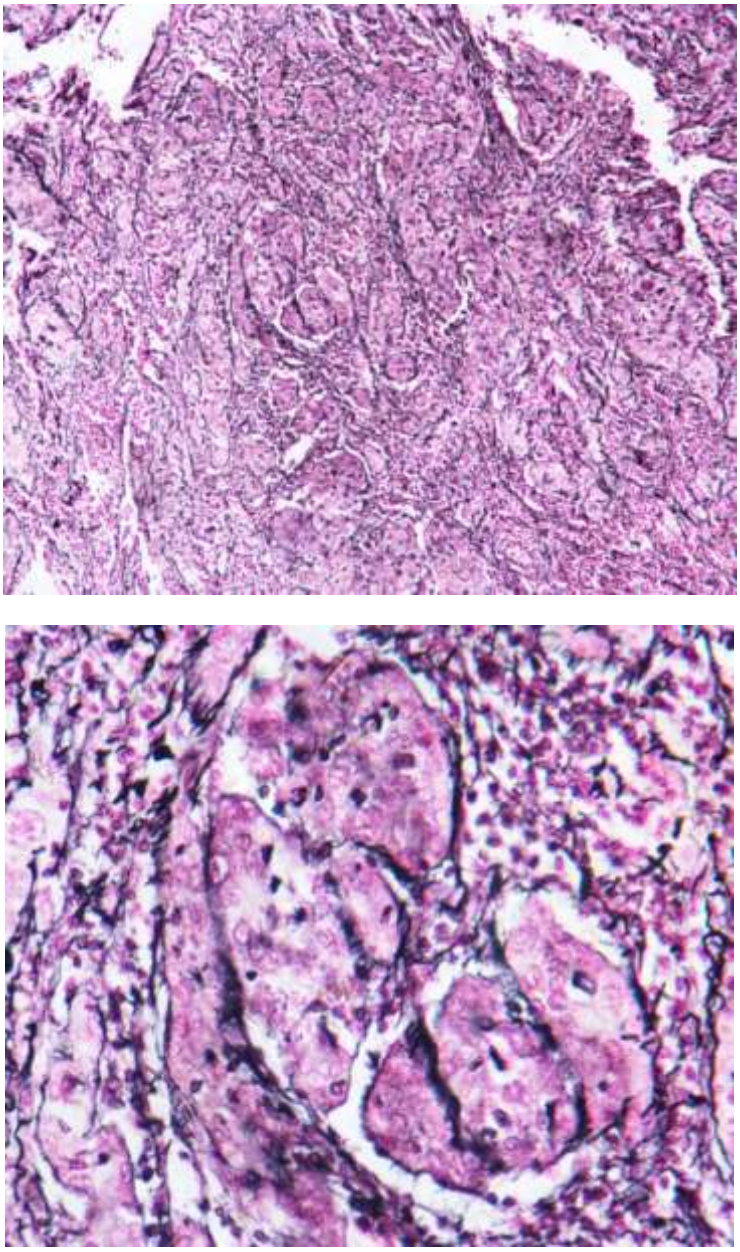
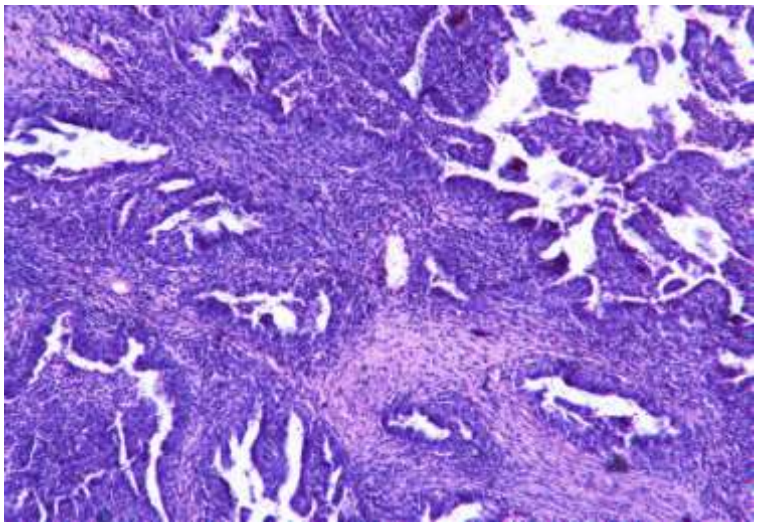


Figure4. 10x and 40x sections from cervix showing positivity for reticulin around nests of tumor cells.



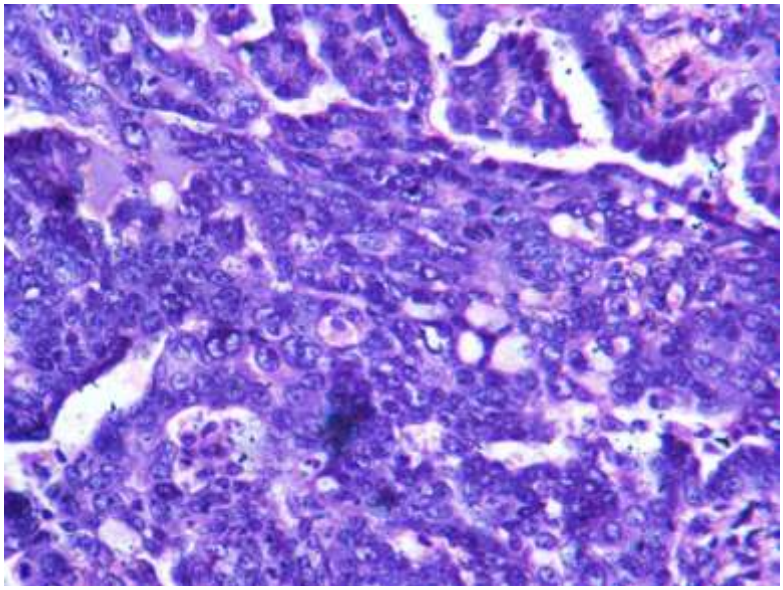


Figure5. 10x and 40x H and E sections from ovary showing branching papillae lined by malignant cells and stromal invasion.

VII. Discussion

Eisner et al reviewed the histopathology of 3,863 patients with female genital malignancies in the UCLA Tumor Registry over a 30-year period [5]. Twenty-six patients (0.7%) with invasive synchronous primary cancers were identified. The most frequent synchronous genital lesions were ovarian and endometrial cancer in 11 patients (0.3%), with only a single case of synchronous ovarian and cervical tumors (0.025%) [5]. Though cases of triple and quadruple synchronous gynecological primaries are extremely rare, are reported in literature [6,7,8]. Only three cases with synchronous ovarian and cervical carcinoma were reported among 2362 synchronous gynecologic malignancy patients [9]. Wung and his friends reported two cases of concurrent cervix carcinoma and ovary carcinoma out of 861 patients with genital system cancer studied. In one case it was squamous cell carcinoma in cervix while adenosquamous carcinoma in other. Ovary showed serous carcinoma in both cases [10].

The histopathological examination is very much important to rule out metastatic lesions which is necessary for accurate staging and treatment. Histopathological parameters like evaluation of direct extension, size, grade, lymphovascular invasion, presence or absence of coexistent lesions are important in distinction [11,12].

In this case cervical and ovarian carcinomas were of different histopathology, thus considered as primaries.

The concept of 'field cancerization' (Slaughter et al, 1953) that originally was for the mucosa of head and neck region has been extended to be applied for female genital tract, wherein repeated exposure of the mucosa of the female genital tract to multiple risk factors lead to the development of multicentric disease [3]. This theory is called 'secondary mullerian system theory'.

Prognosis in concurrent tumors is relatively good. Especially with endometrium or cervix carcinoma, concurrent ovary tumors can be diagnosed in early periods. This is because symptoms in cervix and endometrium tumors generally appear in early periods while symptoms in ovary cancers appear in late periods [13].

VIII. Conclusion

Careful evaluation of patients with cancer suspicion is very important especially keeping in mind the concurrent tumor possibility of female genital system. For both synchronous and single tumors, stage of the diseases is one of the most important prognostic factor and in synchronous tumors appropriate treatment approach for each tumor type should be planned individually [12].

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