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Case Report

Definitive or palliative treatment: case report of cancer breast survivor with ovarian mass

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ABSTRACT

Cancers survivors with second tumour mass. The difficult thing in these situations is definitive diagnosis. One sentence which shapes the future of a patient-a steep see saw of definitive and palliative treatment. What saves the clinician in this scenario is the immunohistochemistry (IHC). It single handedly brightens the path and leads to conclusion. This case report demonstrated the same in breast cancer survivor.

Keywords: Metachronous ovarian cancer, Breast metastasis, Secondary tumour, Carcinoma breast, Case report

INTRODUCTION

One in 70 women will be diagnosed with ovarian cancer in her lifetime. After receiving treatment for breast cancer, patient with ovarian mass may have metastasis from breast primary or metachronous ovarian carcinoma. BRCA1 and BRCA 2 have 12.7% and 6.8% 10 year actuarial risk respectively for metachronous ovarian cancer.[1] But when the breast cancer is not hereditary or familial, it is difficult to differentiate between the cause for ovarian mass. Twenty five percent of deaths in women with stage I breast cancer were due to a subsequent ovarian cancer.[1] The main tool used in these circumstances is immunohistochemistry. Here we demonstrated a case where immunohistochemistry helped to reach a definitive diagnosis.

CASE REPORT

A 53 year lady presented with lower abdominal distension, nausea and loss of weight. On ultrasound, bilateral tubo-ovarian mass with ascites was revealed. Patient had history of lump in lower inner quadrant of left breast 6 years ago. On mammography it was BIRADS V. She was then operated with modified radical mastectomy. 1/12 lymph nodes tested positive for malignancy. The histopathological examination revealed hormone receptor positive and HER2NEU negative (luminal A) infiltrating ductal carcinoma pT2N1 grade II tumour. In adjuvant treatment, patient was given 6 cycles adriamycin, docetaxel and cyclophosphamide and radiotherapy. There was no significant family history.

After she had completed the treatment for breast carcinoma, patient was on tamoxifen 20 mg BD since 6 years. Patient now presented with ovarian mass. Evaluation of the mass was done. Contrast enhanced computed tomography of abdomen and pelvis revealed massive ascites with heterogenously enhancing bilateral tubo-ovarian mass and omental caking. CA 125 was 428 U/ml. Core biopy from omentum revealed metastatic adenocarcinoma. There was concern whether the lesion was a metachronous ovarian cancer or a metastasis of ductal carcinoma. To differentiate between the two, immunohistochemical profile of biopsy sample was sent. It revealed CK7 +, PAX8+, WT1 +, CK20- and GATA-3. This confirmed the diagnosis of metachronous serous

adenocarcinoma ovary ruling out breast carcinoma metastasis. Metastatic work up was clear.

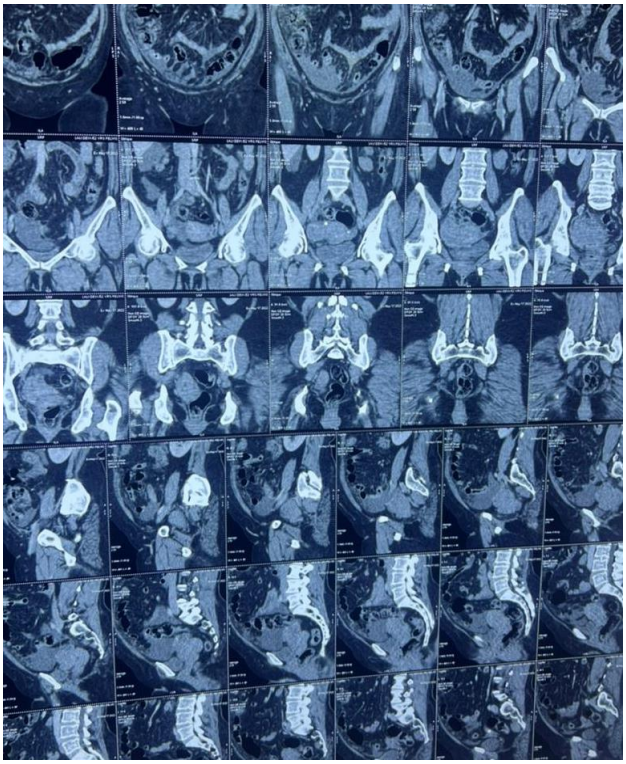

Figure 1: Computed tomography showing the ovarian tumour mass with conflicted diagnosis.

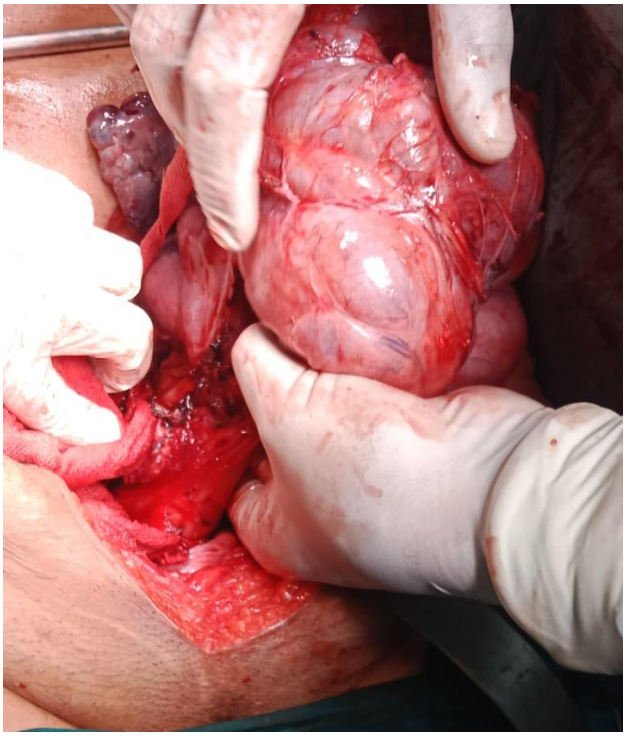

Figure 2: Intra operative picture of cytoreduction.

Patient underwent 6 cycles of chemotherapy (paclitaxel and carboplatin) after which imaging 52×43 mm soft tissue density mass in right ovary (Figure 1). Patient was taken for interval cytoreduction where bilateral saplingo oopherectomy, hysterectomy and infracolic omentectomy were performed (Figure 2). Optimal cytoreduction confirmed. Intraoperative findings did not reveal any other metastatic lesions or ascites. Post operative stay was uneventful. biopsy revealed nearly complete response with a small residual serous adenocarcinoma ovarian tumour. Patient underwent 2 cycles of adjuvant chemotherapy. Twelve months later, the patient remains without disease recurrence and regular follow up.

DISCUSSION

More than 50 % of second primary tumours occur within first 60 months of primary cancer diagnosis.[2] According to a study by Qin et al in 2022, individuals who had ovarian cancer prior to breast cancer have best prognosis (median OS: 45 months) followed by the vice versa whereas patients who had synchronous breast cancer and ovarian cancer had the worst prognosis (median OS: 35 months). Here the patient presented with ovarian cancer 72 months after breast cancer and follow up was disease free for 12 months.

According to a study by Giulia et al in 2020 median time between diagnosis of both cancers was 95 months.[3] They also concluded no differences in terms of overall survival according to first cancer diagnosis. Age more than 50 years and advanced ovarian cancer stage were negative independent prognostic factors for OS from the first diagnosis. In our case, patient age was 50 years and had metachronous stage IV ovarian cancer at diagnosis. Patient was symptom free 12 months after treatment and was under regular follow up.

Immunohistochemical stains helped in reaching a conclusive diagnosis in a variety of confusing second lesions.[4] According to study by Kriplani et al in 2013, CK 7 was the most helpful marker to differentiate between primary ovarian carcinoma from metastatic ovarian deposits.[5] To differentiate between serous and mucinous ovarian carcinoma, CK7, CK20 and CEA were used. WT1 helped in typing primary surface epithelial tumours of ovary and was also significant in determining whether a serous carcinoma within the ovary was primary or metastatic. In accordance with this, this case had metachronous ovarian primary with CK7+, PAX8+, WT1+, CK20- and GATA-3.

CONCLUSION

Definitive diagnosis with IHC and regular follow up of patients after treatment are crucial for long term wellbeing of patient.

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