Primary Ovarian Serous Adenocarcinoma with Ipsilateral Axillary Lymph Node Metastasis: A Case Report

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Abstract Axillary lymph node metastasis from primary ovarian cancer is rare. Here, we reporting a unique case of 45 years old who presented with axillary lymph node metastasis which was thought from breast carcinoma but it turned out to be due to ovarian serous adenocarcinoma confirmed by histopathology & immunohistochemistry. Staging laparotomy (IIIc) with hysterectomy with bilateral salpingo-oophorectomy was done. Post-operatively, the patient was given adjuvant chemotherapy. No local or systemic recurrence was noted during 1 year follow up period.

Keywords Axillary metastasis from ovarian malignancy · Axillary metastasis · Ovarian serous adenocarcinoma

Introduction

Ovarian cancer is the fifth most common of all women's cancers. The risk over lifetime is 1.4 % [1]. There is increased risk of ovarian cancer in women with family history of ovarian or breast cancer. Ovarian cancer mostly spread transperitoneally to neighbouring organs. Lymphatic &

haematogenous dissemination are also common. There are only few cases where axillary lymph node involvement is present from ovarian cancer. Here, we reporting one case diagnosed with axillary lymph node metastasis from primary ovarian cancer.

Case Report

A 45 years old female patient presented in surgery OPD with complaints of right axillary swelling since 2 months. On physical examination approx. 4 cm diameter, nontender, round, firm & mobile lymph nodes were found in right axillary region of the patient. Bilateral breast examination was unremarkable. Mammography of bilateral breasts showed no abnormal findings. Ultrasonography of bilateral breasts and axilla was performed which showed multiple well defined hypoechoic mass lesion, irregular in shape measuring about 21×17 , 11×9 , 11×9 mm in axillary tail of right breast (BIRADS Cat.-3/4). Fine needle aspiration cytology of the right axillary mass was taken which showed metastatic adenocarcinoma. Abdominal sonography revealed well defined large complex cystic lesion in pelvis, measuring 11.4×7.0 cm in size, not clearly separable from right ovary, abutting right lateral wall of uterus & urinary bladder. CECT abdomen showed large complex cystic well defined mass with thick minimal enhancing septa and patchy soft tissue in right ovary in right side of pelvis superiorly extending upto level of umbilicus abutting right lateral wall of uterus & urinary bladder with maintained fat planes with enlarged lymph nodes in retroperitoneum, root of mesentery, retrocaval, peripancreatic and external iliac region with minimal fluid in cul-de-sac. CA-125 level was 932.0 U/ml. Chest x-ray was normal.

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The patient was planned for staging laparotomy and large right ovarian cyst with no capsular breach, multiple peritoneal implants of size <2 cm and enlarged lymph nodes from root of mesentery with no free fluid in peritoneal cavity were found (stage IIIc). Hence, on suspecting primary cause to be ovarian malignancy, we managed the patient with total abdominal hysterectomy, bilateral salpingo-oophorectomy with right axillary clearance. Specimen of uterus, right ovarian cyst, left ovary with fallopian tubes, peritoneal seedings, 6 abdominal nodes from root of mesentery and 15 right axillary lymph nodes were sent for histopathological examination. Histopathological examination of right ovarian mass, uterus with right fallopian tube, abdominal nodes and peritoneal implants showed features of serous adenocarcinoma. Left ovary and fallopian tube was normal. Right axillary lymph nodes showed features of adenocarcinoma but their histology was dissimilar from ovarian serous adenocarcinoma. On further evaluation, immunohistochemistry of axillary lymph nodes was done which showed metastatic serous carcinoma. The tumor cells were immunopositive for WT1 & PAX8 (specific for ovary) (Figs. 1 and 2) and immunonegative for mammaglobin/GCDFP-15 (specific for breast). CA-125 level fell to 526.20 U/ml 6 weeks after the surgery. She received adjuvant chemotherapy with paclitaxel & carboplatin after surgery. CA-125 level fell to 9.40 U/ml after chemotherapy. Breast sonography after chemotherapy was normal. No local or systemic recurrence was noted during 1 year follow up, confirmed by serial abdominal sonography.

Discussion

Ovarian carcinoma usually spread by seeding of cells into the peritoneal cavity, by haematogenous and by lymphatic dissemination. The major organs involved

Fig. 1 Axillary lymph node PAX8 positive

Fig. 2 Axillary lymph node WT1 positive

reported were liver, lung and pleura [2, 3]. Minor sites include skin, CNS and spleen [2, 4, 5]. Though abdominal lymph node metastasis is common, axillary lymph nodes are very rarely involved. The most common metastatic sites of ovarian malignancies are abdominal (47 %), para-aortic (38 %), mediastinal (29 %) and pelvic (17 %) lymph nodes. However, supraclavicular (4 %) and inguinal (3 %) lymph nodes are rarely involved [6, 7]. Sitzenfrey in 1907, first reported a case of ovarian carcinoma metastasizing to breast [8].

The major cause of axillary metastatic lymphadenopathy which presents as adenocarcinoma is breast [9], but they occasionally detected without breast involvement [10, 11]. Cases with ovarian malignancy which initially presented as axillary lymphadenopathy are also reported [12, 13]. The histologic features of breast and ovarian carcinoma may be quite similar and therefore difficulty arises in making a differential diagnosis but exact diagnosis should be made because the treatment of these two entities are different. In our patient, we ruled out primary breast cancer by mammogram and breast sonogram. Histologic features of ovarian mass is suggestive of serous adenocarcinoma while that of axillary nodes are suggestive of metastatic serous carcinoma. CA-125 levels can be measured in patients with axillary lymphadenopathy if the origin of metastasis is not known. Its level usually falls after surgery and chemotherapy. In our patient CA-125 level was 932.0 U/ml preoperatively which was decreased to 526.20 U/ml after surgery and 9.40 U/ml after chemotherapy. The patient remain in remission from the past 1 year and is being observed in a routine manner.

Hence, in the patient with axillary mass, every effort should be made to have an accurate diagnosis since this had a great impact on treatment.

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