Bilateral Breast and Axillary Lymph Nodes Metastases of an Ovarian Serous Cystadenocarcinoma

MohammadReza Mir¹ • Marzieh Lashkari² • AmirHossein Latif³ • Ali Mir³

Received: 22 July 2017 / Accepted: 19 September 2017 / Published online: 24 September 2017
© Indian Association of Surgical Oncology 2017

Dear Editor,

Despite primary breast cancer, metastatic breast tumors from non-mammary malignancies are rare with a reported rate of 0.5 to 1.3% [1]. Herein, we report a patient with rare presentation of bilateral breast metastases of a serous cystadenocarcinoma of the ovary with bilateral axillary lymph node involvement.

The patient was a 62-year-old woman with a known case of grade II moderately differentiated papillary cystadenocarcinoma of the ovary. She had undergone total abdominal hysterectomy and bilateral oophorectomy plus omentectomy 3 years earlier. The surgery was followed by six courses of chemotherapy.

The follow-up period was uneventful until a raise in serum CA-125 level was seen. Abdominopelvic ultrasonography and computed tomography scan revealed nothing but normal findings. However, in the physical examination, nodularities were found in both breasts. While mammography was not helpful, breast ultrasonography showed bilateral hypoechoic lesions. A core needle biopsy was done and revealed infiltrative carcinoma in the right breast lesion. Therefore, the patient underwent surgery, and frozen section pathology report indicated metastatic carcinoma in both breasts. As a result, bilateral modified radical mastectomy plus axillary dissection was performed. The permanent pathology report showed

metastatic serous cystadenocarcinoma in both breasts with involvement of the dissected lymph nodes. Furthermore, immunohistochemistry study was done on the specimens and was positive for CK AE1/AE3, ER (30%), CA-125, CK-7, and WT-1, while it was negative for CK-20, PR, Her-2, and GCDP-15.

Following the operation, the patient underwent chemotherapy and was symptom-free for 6 months when she presented again with nodular lesions at the mastectomy site in the right side. The pathologic study showed previous results, as well.

As mentioned above, breast is not a usual site for metastatic lesions out of the mammarys. Previous studies revealed a metastasis rate of 0.5 to 1.3% [2–4]. The most common malignancy with metastasis to the breast is melanoma [3]. While metastasis to the breast with gynecologic origin is very rare, it is more likely from ovaries if it happens [5]. Among the ovarian cancers, serous cystadenocarcinoma is the most common one with metastasis to breast [1]. However, axillary lymph node involvement is a very rare event in the case of breast metastasis from ovarian serous cystadenocarcinoma [6, 7].

While metastatic breast lesions are rare, the differentiation from primary lesions is very important and could be achieved by precise history taking, physical examination, and immunohistochemistry study [7, 8]. As in our study, positive CA-125 and WT-1 are suggestive for metastasis from ovary.

Regarding the treatment options for breast metastases, the optimum treatment partially depends on the cancer origin but mainly is chemotherapy. Different studies have introduced different strategies including chemotherapy [3], and combined chemotherapy and mastectomy [1, 3, 5, 9] with different outcomes. We performed bilateral modified radical mastectomy and axillary dissection in combination with adjuvant chemotherapy. Unfortunately, our patient was tumor-free only for 6 months.

✉ Ali Mir
a-mir@sina.tums.ac.ir

¹ Department of Surgical Oncology, Iran Cancer Institute, Tehran University of Medical Sciences, Tehran, Iran

² Radiation Oncology Research Center, Iran Cancer Institute, Tehran University of Medical Sciences, Tehran, Iran

³ Department of General Surgery, Shariati Hospital, Tehran University of Medical Sciences, Tehran 1411713135, Iran

As a conclusion, the probability of metastatic breast lesions, particularly among patients with a previous history of cancer, should be kept in mind. Although chemotherapy with or without surgery may improve the survival in this group of patients, still the role of modified radical mastectomy and axillary dissection is not vividly clear that necessitates further studies.

References

1. Loreda DS, Powell JL, Reed WP, Rosenbaum JM (1990) Ovarian carcinoma metastatic to breast: a case report and review of the literature. *Gynecol Oncol* 37(3):432–436
2. McIntosh IH, Hooper AA, Millis RR, Greening WP (1976) Metastatic carcinoma within the breast. *Clin Oncol* 2(4):393–401
3. Wadhwa J, Dawar R, Kumar L (1999) Ovarian carcinoma metastatic to the breast. *Clin Oncol (R Coll Radiol)* 11(6):419–421
4. Sandison AT (1959) Metastatic tumours in the breast. *Br J Surg* 47: 54–58
5. Kayıkçioğlu F, Boran N, Ayhan A, Güler N (2001) Inflammatory breast metastases of ovarian cancer: a case report. *Gynecol Oncol* 83(3):613–616
6. Saxena AK, Goyal N, Singhal J, Kumar P (2014) Primary ovarian serous adenocarcinoma with ipsilateral axillary lymph node metastasis: a case report. *Indian J Surg Oncol* 5(3):224–226
7. Recine MA, Deavers MT, Middleton LP, Silva EG, Malpica A (2004) Serous carcinoma of the ovary and peritoneum with metastases to the breast and axillary lymph nodes: a potential pitfall. *Am J Surg Pathol* 28(12):1646–1651
8. Manini C, Pietribiasi F, Sapino A, Donadio S (1998) Serous cystadenocarcinoma of the ovary with simultaneous breast metastases. Description of a case *Pathologica* 90(2):152–155
9. Sharma D, Singh T, Singh Laishram R, Singh R (2011) Breast metastasis of ovarian carcinoma. *Iran J Pathol* 6(3):143–146