

Case Report

A Case report of Endocrine Therapy On refractory ER-Positive Metastatic Ovarian Cancer to Axillary lymph-node - Is there a role?

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Ovarian carcinoma is the leading cause of death in gynaecological malignancy. It is important to differentiate between metastatic ovarian cancer to the axillary lymph-nodes with metastatic breast cancer to the axillary lymph-nodes as each treatment differs. We started endocrine therapy on a 58-year-old lady with ER-positive metastatic ovarian cancer to the axillary lymph-node as the wound was refractory to chemoradiation therapies. Endocrine therapy is easy to administer and has a low toxicity profile with reasonably good outcome. It should be considered in patients who are refractory to chemotherapy, non-tolerable and in palliative cases.

Keywords: Aromatase inhibitor, Anastrozole, Endocrine therapy, ER, Metastatic ovarian cancer, PR, Ovarian Ca.

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INTRODUCTION

Mortality from ovarian cancer only decreased slightly in the past thirty years because most patients presented at a later stage (FIGO stages III or IV) [1]. Metastatic ovarian carcinoma to axillary is very rare [2]. Accurate diagnosis is important as the treatment and prognosis differ significantly. Current management of advanced ovarian cancer includes cytoreductive surgery followed by combination of chemotherapy consisting of a platinum salt (carboplatin or cisplatin) with Taxane group (paclitaxel or docetaxel); complete remission rate is 20% to 60%, depending on the extent of residual disease [3]. Responses to second line chemotherapy is

brief and associated with toxicity with poor long-term survival [4]. Hormonal therapies are attractive option due to their limited toxicity profile and ease of administration [5]. We are here to discuss a unique case of ER-positive ovarian carcinoma metastasize to axillary lymph node, which was resistance to chemoradiation, and roles of endocrine treatment based on current evidence.

Case History

A 58-year-old lady presented with two years history of lower abdominal mass with occasional dull pain. Pelvic examination reviewed 36 weeks size mass with a 2x2 cm mobile axillary node lymph-node. Breast examination was unremarkable. Ultrasound abdomen confirmed a pelvic mass. CT scan showed a left complex ovarian mass with inguinal and right axillary lymphadenopathy. Serum CA 125 was raised at 309U/mls. Pap smear had no evidence of intraepithelial lesion or malignancy. Mammogram with ultrasound breasts showed no suspicious breast lesion. Core biopsy of right axillary lymph-node showed metastasis adenocarcinoma with immune-histochemical staining

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positive for CK7, ER, Negative for CK20. She underwent staging laparotomy and debulking of ovarian tumour. Intra-operatively noted left ovarian mass 25x25cm with a thick capsule. Histopathology was Endometrioid adenocarcinoma, grade 2. FIGO staging: pT1a N0 M1 (Stage IVB). She was offered adjuvant chemotherapy but defaulted. Two years later she came back with worsening, ulcerative right axillary swelling measuring 8cm x 9cm x 13cm. Repeated Ultrasound breast showed a large heterogenous fungating solid lesion extending from axillary to upper quadrant of right breast. Re-staging CT thorax-abdomen-pelvis showed recurrent left ovarian endometrioid adenocarcinoma, with right axillary and right inguinal masses likely metastatic nodes. Repeated wedge biopsy of the lesion showed consistent with metastatic adenocarcinoma with its immunohistochemical staining positive for ER, CK7 and negative for CK 20. She was started on palliative chemotherapy carboplatin, unfortunately, she could not tolerate it. She had 13 fractions of radiotherapy to the right axillary ulcerative lesion which responded poorly. Axillary lesion was debrided for toileting and local control with minimal effectiveness. In view of her poor treatment response, we started her on endocrine therapy, aromatase inhibitor, Anastrozole 2.5mg daily for three months. The lesion showed disease stabilization for the period of treatment. Unfortunately, she passed away after that due to complications from pneumonia.

DISCUSSION

Ovarian cancer usually presents with intraperitoneal metastases by direct seeding into the peritoneal cavity. Distant metastasis most commonly involves the lung or pleura [6]. Cormio *et al.* reviewed 162 patients with epithelial ovarian carcinoma and reported five cases of extra-abdominal lymphatic spread [7]. Majority causes of axillary metastatic adenocarcinoma in woman is breast carcinoma [8]. There are several ways of determining the origin of tumours. In our case, we had to ascertain that primary cause for the metastatic adenocarcinoma of axillary lymph-nodes were either due to ovarian carcinoma or occult breast cancer. We concluded that it was due to the former based on the followings; Her CA 125 was raised at 309U/mls which was strongly suggestive of ovarian cancer; the presence of primary ovarian tumour; and there was no evidence of breast lump clinically and radiologically. Histopathology of the axillary mass showed metastatic adenocarcinoma which maybe primarily pointed either due to occult breast or ovarian adenocarcinoma, but immunohistochemical staining suggested the latter. The axillary

mass was even refractory to second line chemoradiation. Her prognosis was dismal. Epithelial ovarian cancer can be considered as endocrine related neoplasm [9]. Main advantage of endocrine therapy to second-line chemotherapy is their limited toxicity and ease of administration [10]. It is now confirmed that level of ER and PR status correlate with responses to endocrine manipulation in breast cancer. However, in ovarian cancer, its role is still controversy [11]. Three Consecutive Phase II Trials of Mid-Atlantic Oncology Program explored the efficacy of hormonal treatment in refractory ovarian cancer with tamoxifen, megestrol acetate, aminoglutethimide and noted tamoxifen has the highest response rate with longer survival durations and minimal toxicity [12]. A phase II trial carried out by Bowman *et al.*, investigated aromatase inhibitors for ER positive recurrent ovarian cancer concluded that letrozole can produce disease stabilization [13]. Symth *et al.* studied 42 ER-positive recurrent ovarian cancer patients receiving letrozole 2.5 mg/d orally, out of the 33 patients with measurable lesions, 9% achieved partial-response and 42% maintained stable disease state for 12 weeks [14]. We started her on Tab Anastrozole 2.5mg OD. She had disease stabilization for 4 months while she was on Anastrozole (see figure 1 and 2) but unfortunately, she passed away after that due to complication of pneumonia.

CONCLUSION

High index of suspicion is needed for the diagnosis of metastasis primary ovarian cancer to the axillary lymph-node. Endocrine therapy is a reasonable choice of treatment for those patients on palliative, refractory or non-tolerable to chemotherapy. Further studies are needed to better characterize the role of endocrine therapy in ovarian cancer.

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REFERENCES

1. Young RC, Chabner BA, Hubbard SP, et al.: Advanced ovarian adenocarcinoma: A prospective clinical trial

- of melphalan (L-PAM) versus combination chemotherapy. *N Engl J Med* 1978; 299:1261–1266.
2. Cormio G, Rossi C, Cazzolla A, Resta L, Loverro G, Greco P (2003) Distant metastases in ovarian carcinoma. *Int J Gynecol Cancer* 13:125–129
 3. Conte PF, Bruzzone M, Carnino F, et al: Carboplatin, doxorubicin, and cyclophosphamide versus cisplatin, doxorubicin, and cyclophosphamide: A randomized trial in stage III-IV epithelial ovarian carcinoma. *J Clin Oncol* 9:658-663, 1991
 4. Kauff ND, Mitra N, Robson ME, et al. Risk of ovarian cancer in BRCA1 and BRCA2 mutation-negative hereditary breast cancer families. *J Natl Cancer Inst* 2005; 97:1382.
 5. Markman M, Bookman MA. Second-line treatment of ovarian cancer. *Oncologist*. 2000;5(1):26-35.
 6. Sabbatini P, Sprongs D: Salvage therapy for ovarian cancer. *Oncology* 1998;12:383–344.
 7. de Andrade JM, Marana HR, Sarmiento Filho JM, Murta EF, Velludo MA, Bighetti S. Differential diagnosis of axillary masses. *Tumori* 1996;82:596-9.
 8. Zang RY, Zhang ZY, Cai SM, Tang MQ, Chen J, Li ZT (2000) Epithelial ovarian cancer presenting initially with extraabdominal or intrahepatic metastases: a preliminary report of 25 cases and literature review. *Am J Clin Oncol* 23:416–419
 9. Markman M, Bookman MA. Second-line treatment of ovarian cancer. *Oncologist*. 2000;5(1):26-35.
 10. Bhatnagar AS, Hausler A, Schieweck K: Inhibition of aromatase in vitro and in vivo by aromatase inhibitor. *J Enzyme Inhib* 1990;4:179–186.
 11. Gautam G, Rao, David S. Miller, MD. Clinical Applications of Hormonal Therapy in Ovarian Cancer. 2005, 6:97–102 Current Science Inc. ISSN 1527–2729
 12. del Carmen MG, Fuller AF, Matulonis U, Horick NK, Goodman A, Duska LR, Penson R, Campos S, Roche M, Seiden MV. Phase II trial of anastrozole in women with asymptomatic müllerian cancer. *Gynecol Oncol* 2003; 91: 596-602.
 13. Bowman A, Gabra H, Langdon SP, et al. CA125 response is associated with estrogen receptor expression in a phase II trial of letrozole in ovarian cancer: identification of an endocrine sensitive subgroup. *Clin Cancer Res*. 2002;8:2233–9.
 14. Ramirez PT, Schmeler KM, Milam MR, et al. Efficacy of letrozole in the treatment of recurrent platinum and taxane resistant high grade cancer of the ovary or peritoneum. *Gynecol Oncol*. 2008;110:56–9.
 15. Smyth JF, Gourley C, Walker G, MacKean MJ, Stevenson A, Williams AR, Nafussi AA, Rye T, Rye R, Stewart M, Mc-Curdy J, Mano M, Reed N, McMahon T, Vasey P, Gabra H, Langdon SP. Anti-estrogen therapy is active in selected ovarian cancer cases: the use of letrozole in estrogen receptor-positive patients. *Clin Cancer Res* 2007; 13: 3617-3622.



Figure 1. Picture taken prior endocrine therapy



Figure 2. Picture taken 4 months after endocrine treatment