METASTASIS TO MEDIASTINAL LYMPH NODES FROM OVARIAN CANCER: A CASE REPORT
Mayadagli A 1, Ekici K 1*, Akcicek M 2, Korkmaz T 3, Eser M 4, Kayipmaz SS 5

1. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of Radiation Oncology, Istanbul, Turkey
2. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of Radiology, Istanbul, Turkey
3. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of Medical Oncology, Istanbul, Turkey
4. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of General Surgery, Istanbul, Turkey
5. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of Pathology, Istanbul, Turkey

Correspondence: Dr. Kemal Ekici. Dr.Lutfi Kirdar Kartal Education and Research Hospital, Department of Radiation Oncology, Istanbul, Turkey
Email: drkemal06@hotmail.com


ABSTRACT

Metastasis to mediastinal lymph nodes is an uncommon finding in epithelial ovarian cancers. We could only find five reports in the literature of mediastinal metastases from high-grade serous ovarian carcinoma. A 49-year-old woman was admitted to hospital for dyspnea due to an anterior mediastinal mass. PET (Pozitron emission tomography) and CT(Computed tomography) combined to assess the mediastinal mass and lymph nodes. The surgical biopsy showed metastatic involvement of multiple lymph nodes in adipose tissue and accompanying mediastinal mass which was reported as a thymolipoma. A clinician and a radiologist should be aware of the mediastinal lymph node involvement in ovarian serous papillary adenocarcinoma although it is rare.

Key words: Rare, ovarian cancer, mediastinal metastasis

INTRODUCTION

Metastatic involvement of the mediastinal lymph nodes is an extremely uncommon finding in epithelial ovarian cancers. Lymph nodes metastasis are usually a latter event; pelvic, paraaortic and inguinal lymph nodes are the sites included. Although ovarian carcinoma commonly metastasises to the pleura and lung parenchyma, mediastinal deposits are infrequent. We could only find five reports in the literature of mediastinal metastases from high-grade serous ovarian carcinoma 1-2.
A case of serous papillary adenocarcinoma as mediastinal lymphadenopathy following the ovarian surgery and combined chemoterapy described and discussed.

**CASE REPORT**

A 49-year-old woman was admitted to hospital for dyspnea due to an anterior mediastinal mass following period for a year later after the ovarian surgery and combined chemotherapy. One year ago, patient underwent total abdominal hysterectomy and bilateral salpingo-oopherectomy and used adjuvant 6 cycles paclitaxel and carboplatine chemotherapy. Patient was followed approximately 15 months free of disease. Patient admitted with chest pain and palpitaion 6 months ago. Standart chest X-Ray showed no abnormality and a subsequent chest CT (computed tomography) was interpreted as a suspicious mass and multiple lymph nodes at prevasculary area in mediastinum(Figure 1, 2).

![Preoperative posterior anterior chest X-ray](image_compressed.7503781.01.png)

Figure 1. Preoperative posterior anterior chest X-ray.
Metastasis to mediastinal lymph nodes from ovarian cancer


Then PET CT (Positron emission tomography) was performed for restaging. It showed low and heterogeneous FDG involvement in the mediastinal soft tissue and interpreted as mediastinal lymph nodes or the abnormality can be related to thymus.

The patient underwent thoracic surgery to remove the mass and lymph nodes. The surgical specimen consisted of an anterior mediastinal mass which was reported as a thymolipoma and multiple lymph nodes in the adipose tissue. Some of lymph nodes were reactive whereas most of them were involving ovarian papillary serous adenocarcinoma. The lymph nodes demonstrated papillary serous adenocarcinoma of the female genital tract. The cells were positive for cytokeratin K-7 and showed strong, nuclear positivity for WT-1. They were negative for CA-125, TTF-1, thyroglobulin, CK-20 and ER. The patient’s CA-125 was 870 kU/l at this time (Figure 3, 4, 5, 6).
Figure 3. Islands in the solid lymphoid tissue and tumor infiltrating papillary and gland structures.

Figure 4. Atypical nuclei and high rate nuclei/cytoplasm of tumor cells.
Figure 5. Diffuse positive staining with CK7 in tumor cells.

Figure 6. Diffuse positive nuclear staining with WT1 in tumor cells
Based on clinical and pathological findings, the patient received six courses of gemcitabine regimen. We received 3000 cGy palliative radiation to mediastinal tumor bed in 10 fractions. The last CT was showing no peritoneal, tubal, uterine, ovarian and metastatic lesions (Figure 7). Only CA-125 elevation was observed.

Figure 7. Postoperative computed tomography scan.

**DISCUSSION**

Ovarian carcinomas may metastasize in many different and unusual districts, especially in advanced stage. Extraabdominal nodal metastasis are rare at presentation but do occur in recurrent.1,3,5 Almost in all cases the diagnosis of the mediastinal metastasis was made at the same time or after the removal of the ovarian tumor. Mediastinal and supraclavicular
lymphadenopathy and metastasis to the brain at the time of initial presentation have been documented in rare HGSCs (high grade serous cancer) cases. The differential diagnosis of the mediastinal mass include neoplastic diseases. In this case, the mediastinal lymph nodes was found after the surgery. The mass which was thougt as a metastatic lymph node was reported as a thymolipoma, but the lymph nodes in the adipose tissue were involving papillary serous ovarian carcinom. In our case, the cytokeratin 7 and WT1 staining together with high serum CA125 made the case for a müellerian derived tumour. Strong nuclear positivity for WT1 confirms ovarian serous histotype.

Computed tomography (CT) and magnetic resonans imaging (MRI) are the traditional imaging technique for surveillance and both have fairly similar accuracy. CT is performed most often because of its availability. PET and CT combines functional and anatomic imaging and may increase dagnostice confidence for the detection of the current disease. The first we follow the subsequent CT for six months period and before the surgery we combined the PET and CT.

Unusual sites of ovarian cancer recurrence are increasingly recognized in clinical practice because of advances in chemotherapy and radiation therapy. Patient who received cisplatin as part of their initial treatment regimen have been reported have a higher incidence of metastasis to adrenal glands, thoracic nodes, bladder and liver. Radiologists should be aware of this changing pattern of disease spread in ovarian cancer patients who receive aggressive chemotherapy or radiation therapy. Although the mediastinal lymph node metastasis in ovarian serous papillary carcinom is rare and usually occurs recurrent, a clinician and also a radiologist should be aware of the changing pattern of disease spread which is about radioterapy and chemoterapy regimen. Assessment of the disease spread needs a multidisplinary approach by onchologist, pathologist and radiologist.

COMPETING INTERESTS

The authors declare that they have no competing interests.

REFERENCES