

Carcinoma Ovary with Lung Metastasis: A Rare Case Report

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Received Date: July 19 2022 | **Accepted Date:** August 03 2022 | **Published Date:** October 25 2022

Citation: Shwetal Sonvane (2022) Carcinoma Ovary with Lung Metastasis: A Rare Case Report. *International Journal of Clinical Case Reports and Reviews*. 12(2); DOI: [10.31579/2690-4861/240](https://doi.org/10.31579/2690-4861/240)

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Abstract:

Ovarian cancer is the most lethal gynecological malignancy. Despite advances in chemotherapy, five year survival rate of advanced ovarian cancer patients with peritoneal metastasis remains around 30%. The most significant prognostic factor is stage and most patients present at an advanced stage with peritoneal dissemination. There is often no clearly identifiable precursor lesion, therefore, the events leading to metastatic disease are poorly understood. Solitary lung metastasis is extremely rare. We report the case of a 39-year-old woman who was admitted to our department with a lung mass. She had a past history of ovarian cancer 6 years ago for which she underwent Cytoreductive surgery and HIPEC in August 2016. Histopathology report suggestive of High-grade serous carcinoma. She received adjuvant chemotherapy. She was on follow up and PET scan shows two soft tissue density nodules noted in left lung lower lobe largest 2.8×2.5cm. Left lower lobectomy was performed. Microscopically, the tumor was a high-grade serous carcinoma and was diagnosed as an ovarian cancer metastasis.

Keywords: carcinoma ovary; lung metastasis; chemotherapy

Introduction:

Ovarian cancer is a common cancer of female genital tract. Peritoneum showed the highest rate of recurrence. A very few cases have been reported in the past where ovarian cancers have shown to spread to only lung parenchyma after 6 years of primary disease. Here we present a case report of lung metastasis with positive outcome.

Case report:

A 39-year-old female diagnosed with high grade serous adenocarcinoma ovary, underwent cytoreductive surgery (TAH+BSO+Omentectomy) and Hyper thermic intraperitoneal chemotherapy (outside hospital) in August

2016 followed by adjuvant 6 cycles of chemotherapy paclitaxel and cisplatin (due to allergy to carboplatin). Patient was on regular follow up. After Disease free interval of 2 years, PET scan showed subcutaneous deposit in right iliac fossa, no other metastasis seen in body, for which wide local excision of nodule was done in September 2019 and histopathology report suggestive of ovarian high grade serous carcinoma. Patient received 6 cycles of lipodox, carboplatin and Bevacizumab. Last chemotherapy she received in May 2021. Patient was on regular follow up and asymptomatic. Pet scan done on May 2022 shows FDG avid two conglomerated soft tissue density nodules noted in left lung lower lobe, largest measuring 2.8×2.5cm. (figure: 1) No other peritoneal metastasis seen anywhere in the body.

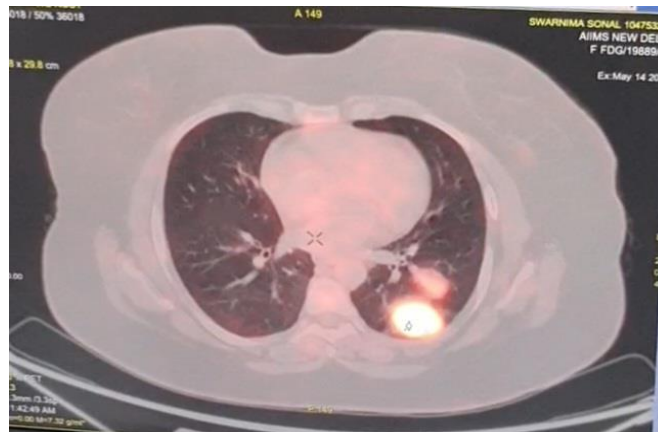


Figure 1: PET CT WB showing two left lower lobe lung mass

Left lower lobectomy was done (figure: 2).

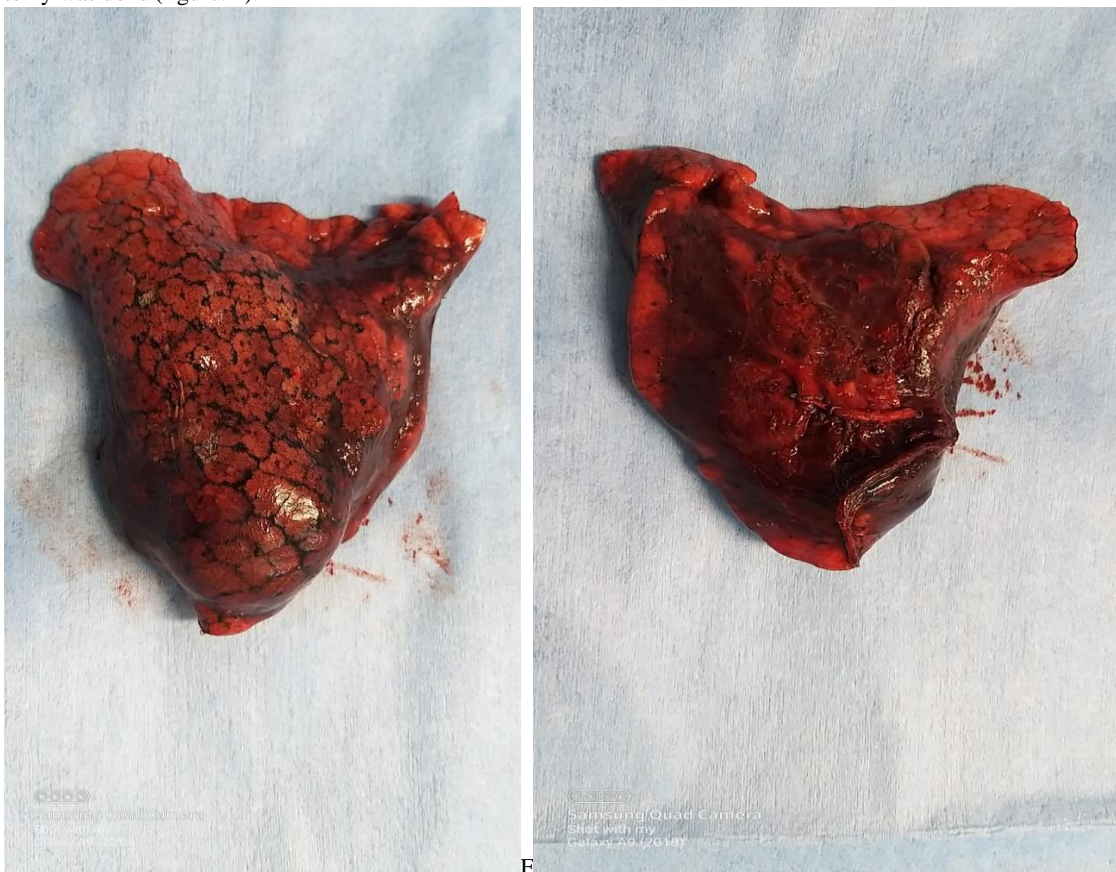


Figure 2: VATS converted to Open Left Lower Lobectomy

Intraoperatively, two conglomerated lung nodules 3×3 and 2×2cm hard nodules seen in left lower lobe of lung parenchyma. Deeper nodule was in close proximity to left lower lobe bronchus and left lower lobe pulmonary artery branch. Left upper lobe was normal. No pleural nodules or effusion seen. Diagnostic thoracoscopy was done and above findings were noted through 8th intercostal space in mid axillary line. In view of close proximity of nodules with artery and left lower lobe bronchus, procedure was converted to open. Left lower lobectomy completed.

Final histopathology report showed high grade serous carcinoma. Lung lesion suggestive of metastasis from ovary.

Discussion:

The present report describes a case of metastatic carcinoma ovary in a woman with invasive serous epithelial ovarian carcinoma. Ovarian cancer usually presents at an advanced stage in >75%, but the disease is confined within the peritoneal cavity in 95% of patients [1].

However, significant advancements in ovarian cancer treatment may lead to an increased incidence of metastases in uncommon sites. Despite of multimodality treatment, ovarian cancer still is notorious for recurrence. More than 70% patients experience recurrence.

Lung metastasis from ovarian cancers are uncommon. Breast, colon, and renal adenocarcinoma are the most frequent tumors associated with EBMs [2] Almost 50% of ovarian carcinoma metastasize to thorax, mainly as pleural involvement, probably with direct dispersion from the peritoneal cavity, through the diaphragm lymphatic vessels [3] Lung metastases are extremely rare. In a recent review involving 204 patients with EBM, only 2 cases were related to ovarian cancer [2].

In our case, the lung lesions were easily removed. Moreover, in the PET scan showed no findings of relapse of the primary tumor in the peritoneal cavity or any other sites.

The time interval from the diagnosis of the primary tumor to lung involvement was 2.8years.. According to a retrospective chart review, conducted on 162 patients with ovarian cancer, distant metastasis is a late complication that occurs in about 30% of ovarian cancer patients and the median interval time between diagnosis of ovarian cancer and metastatic disease is 3.5 years [4]. The prognosis is generally poor averaging 1 to 2 years [5]. Possible explanation is that this metastasis may result from hematogenous spread.

Conclusion:

Ovarian cancer show very rarely metastasis to the lung. The management depends upon location and accessibility. Excision of lesion with further chemotherapy showed excellent result. As ovarian cancer is notorious for recurrence both clinician and patients should be cautious about the timing of follow up dedicatedly as early detection improves survival.

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DOI: [10.31579/2690-4861/249](https://doi.org/10.31579/2690-4861/249)

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