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Case Report

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A Rare Case of Metastatic Choriocarcinoma Presented Us Single Lung Mass and Burn Out Uterine Primary

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Abstract

Metastatic choriocarcinoma is presenting as a solitary lung mass is rare. Metastasis to lung with burn-out primary is extremely rare. Choriocarcinoma is one of the gestational trophoblastic diseases that occurs in women of reproductive age group. Most common site of choriocarcinoma metastasis is lungs.

Keywords: Choriocarcinoma; Metastasis; Burnout; Lungs; Uterus, Case report

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Introduction

Choriocarcinoma is a highly aggressive germ cell neoplasm. Most of the cases of choriocarcinoma occur in the female genital tract after a gestational event such as molar, term or ectopic pregnancy. Here we report a case of metastatic choriocarcinoma lung in a 24-year-old lady with burn-out primary, who was treated with combination of surgery and chemotherapy. The patient regularly reviews in the outpatient department for follow up care and no recurrence or distant metastasis was noted up to three years after surgery and chemotherapy.

Case Report

A 24-year-old woman (P1L1) with history of hypothyroidism presented with complaints of multiple episodes of coughing out of blood-stained sputum for 5 months. Following 1 episode of massive hemoptysis she was admitted. The patient had no significant past medical or surgical history. Routine blood examination sputum AFB, sputum cytology, bleeding time, clotting time, platelet count *etc.,* were within normal limit. Chest Xray showed left upper zone rounded opacity with surrounded consolidation **figure 1**. Patient was subjected to CT bronchial angiogram, showed soft tissue density lesion in the anterior segment left upper lobe with focal area showing enhancement similar to that of aorta and the lesion is supplied by anterior segmental branch of left pulmonary artery. The differential diagnosis was pseudoaneurysm arising from left pulmonary artery secondary to mass lesion or infection and bronchial artery pseudoaneurysm **(figure 2)**.



Figure 1: Chest x-ray of left upper zone rounded opacity with surrounded consolidation.

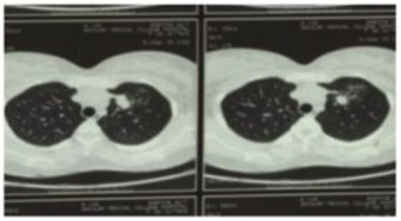


Figure 2: Pseudoaneurysm arising from left pulmonary artery.

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Patient was evaluated under interventional radiology and angiogram showed pseudoaneurysm arising from anterior segmental branch of left upper lobar pulmonary artery. Embolization was done using 1 cc of 33% glue. Post embolization check angiogram showed complete obliteration of pseudoaneurysm sac. No further episodes of hemoptysis reported. Patient was discharged with an advice to review after 2 weeks with repeat CT angiogram.

CT pulmonary angiography after 2 weeks showed soft tissue density lesion in the anterior segment of left upper lobe and residual lesion showing enhancement similar to aorta within the soft tissue density. It receives arterial feeder from left internal mammary artery and venous drainage to left upper lobe pulmonary vein. Possibility of underlying primary tumor with intratumouralaneurysm should be considered **(figure 3)**.

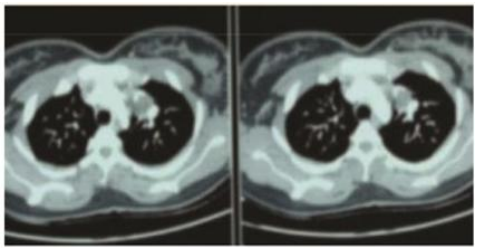


Figure 3: CT pulmonary angiography after 2 weeks.

FOB was normal, patient was evaluated under department of thoracic and cardiovascular surgery and underwent wedge resection of left upper lobe.

Histopathology

Macroscopy showed a grey, white lesion with blackish area, adjacent lung unremarkable **(Figure 4)**.



Figure 4: White lesion with blackish area in macroscopy.

Microscopy- section shows neoplasm composed mainly of hemorrahgic areas with periphery showing clusters of malignant cells. Cells are polygonal, eosinophilic cytoplasm, round nuclei and prominent nucleoli. Large multinucleated cells with eosinophilic cytoplasm, pleomorphic nuclei with prominent nucleoli **(figure 5)**. Findings are morphological and IHC features are consistent with high grade malignant neoplasm with beta human Chorionic Gonadotropin (hCG) production. Possibilities are choriocarcinoma metastasis, malignant lung tumor with ectopic beta hCG production.

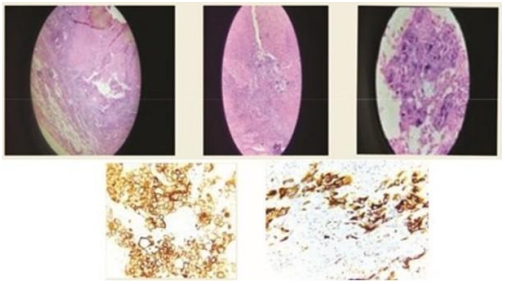


Figure 5: Neoplasm of hemorrhagic areas with periphery showing clusters of malignant cells.

Immunohistochemistry (IHC) was positive for Cytokeratin (CK), beta hCG, SALL 4 & GATA3. Negative for α feto protein, TTF1, Napsin, P40. IHC was also negative for CD31, ERG, CD30 and Glypican3.

On further detailed history evaluation she has revealed that there was an abnormal uterine bleeding 5-6 months after the first delivery which was not investigated. Patient was evaluated under department of Gynecology, serum beta hCG, USG abdomen and pelvis were within normal limit. Whole body CT scan including abdomen pelvis and brain were within normal limit. PET scan doesn't show any metastatic lesion or lymph node anywhere in the body. Patient was started on EMACO regimen and completed 5 cycles now and doing well.

Discussion

Choriocarcinoma is a highly aggressive germ cell neoplasm composed of syncitiotrophoblast, cytotrophoblast and secreting beta subunit of hCG. Most of the cases of choriocarcinoma occurs in female genital tract after a gestational event such as molar, term or ectopic pregnancy. The most common metastatic site is lungs [1].

Choriocarcinoma of lung may represent: 1. Choriocarcinoma from molar, term or ectopic pregnancy or gestational; 2. Metastasis from undetected trophoblastic disease from anywhere in the body; 3. Retained primordial germ cell which may migrated abnormally during embryonic development and develop in to choriocarcinoma and; 4. Origin of primary pulmonary choriocarcinoma arising from dedifferentiation or trans differentiation from nongonadal tissue such as primary lung cancer like adeno carcinoma and squees cell carcinoma to trophoblast [1,2].

Gestational choriocarcinoma is often secondary to a normal or abnormal pregnancy and the intervals are

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variable. The development of the tumor may be related to the last pregnancy when the trophoblast reach the lungs through bloodstream which lie dormant and reactivated when there is change in the immune status of the body and develop in to choriocarcinoma [3-6].The second group is non gestational choriocarcinoma occurs in children and young adults in some midline structures such as gonads , retroperitoneum ,pineal, pituitary gland liver, bladder, stomach, colon and lung. Here the retained primordial germ cells may migrate abnormally during embryonic life in to above mention location and develop in to choriocarcinoma [7,8,9]. Our patient had a normal pregnancy one year back and single episode of abnormal vaginal bleeding after six months which was not evaluated. This patient presented with only respiratory symptoms without any vaginal or abdominal symptoms. The imaging studies showed a single soft tissue density, lesion in the lung. Usually, metastatic lung lesions of choriocarcinoma are multiple [3].

Immunohistochemistry showed positive Cytokeratin (CK), beta hCG, SALL 4 & GATA3 which is confirmatory for metastatic choriocarcinoma. Negative α feto protein and absence of germ cell components in the histopathology will rule out the possibility of primary choriocarcinoma of lung. There is no morphological difference between gestational and non-gestational choriocarcinoma. Non gestational choriocarcinoma is much more aggressive with poor prognosis and resistant to surgery, radiotherapy and chemotherapy [10]. TTF1 Napsin and P40 are negative which will rule out the possibility of trans differentiation from non-gonadal tissue such as primary lung cancers like Adeno ca and Sq cell ca. Negative CD30 and Glypican3 and absence of any primary trophoblastic tissue anywhere in the body will rule out metastasis from undetected trophoblastic disease. Negative CD31 and ERG will rule vascular tumor like angiosarcoma of lung.

The histopathology and immunohistochemistry were suggestive of metastatic choriocarcinoma from uterus and gynecological evaluation does not reveal any primary trophoblastic disease in the uterus. But the scar tissue in the uterus could not be demonstrated and is not possible in every case.

So, our case represent metastasis from trophoblastic disease of uterus that may have undergone spontaneous regression the so-called burn-out phenomena which is specific to choriocarcinoma.

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