Sir,

We describe an unusual chronology of clinical features and investigations that led to the diagnosis of gestational choriocarcinoma (GCO) in a patient who reported to the hospital with complaints of hemoptysis and headache. Choriocarcinoma is an aggressive tumor with high metastatic potential. GCO occurs in association with pregnancy. Rare forms of this tumor include non-GCO (NGCO), and rarer primary sites have been reported in the cervix, ovaries, liver, and lungs. While GCO is restricted to the uterine corpus, NGCO is thought to arise from germ cells.

A 43-year-old Indian female reported to the hospital with complaints of headache and hemoptysis. The headache was of throbbing character more in the right temporal and occipital area. A magnetic resonance imaging of the brain was done which revealed a hemorrhagic lesion with perilesional edema in the right parietal lobe. The provisional diagnosis was hemorrhagic central nervous system (CNS) metastases from an occult primary malignancy. As the patient reported to our hospital with complaints of streaky hemoptysis daily, a chest radiograph was done which showed multiple cannonball lesions in both lung fields (Figure 1). Contrast-enhanced computed tomography (CECT) thorax showed multiple mildly enhancing round lesions scattered in the lung parenchyma with cannonball appearance suggestive of metastases (Figure 1). During her stay in the hospital, after 10 days, she developed vaginal bleeding. Her obstetric history indicated that she was multigravida and had four living children. All were full-term normal vaginal deliveries. She had undergone a medical termination of pregnancy (MTP) 8 months earlier. CECT pelvis revealed a large heterogeneous hyperechoic mass lesion involving posterior uterine wall with few prominent venous channels suggestive of a neoplasm (Figure 2). Urine pregnancy test (by sandwich enzyme-linked immunosorbent assay) was positive. Her serum \( \beta \)-human chorionic gonadotropin (\( \beta \)-hCG) level was elevated (absolute value 2.5 lakh mIU/ml).

Due to the highly vascular nature of the uterine lesion, tissue sampling of the lesion was not advisable. The diagnosis of uterine choriocarcinoma with metastases to brain and lungs was confirmed by the above investigations. She was treated with cranial irradiation, dexamethasone, and mannitol for CNS metastases and systemic chemotherapy with bleomycin, etoposide, and cisplatin for choriocarcinoma. Two cycles of chemotherapy significantly brought down her \( \beta \)-hCG level to 13,000 mIU/ml and she improved symptomatically. This confirmed the diagnosis and efficacy of treatment of GCO.

GCO is the malignant form of gestational trophoblastic neoplasia (GTN). It always produces elevated levels of \( \beta \)-hCG, metastasizes early and widely to other organs, especially to the lung, liver, and brain.

It is rare but can follow any pregnancy: molar pregnancy, abortion, ectopic, or term delivery. Exposure to MTP predisposed our patient to the risk of GTN. While pulmonary metastases are known to occur in choriocarcinoma at the time of diagnosis, most cases warrant attention by a history of vaginal bleed. Primary pulmonary choriocarcinomas have been reported in the literature presenting with symptoms of cough and hemoptysis. In this case, the patient first presented with symptoms of headache and hemoptysis secondary to the metastatic lesions, even though the primary site was the uterus. Vaginal bleeding manifested later during her stay in the hospital. The urine pregnancy test has been used as a screening tool for choriocarcinoma in view of the elevated \( \beta \)-hCG level associated with it. Although not approved by the federal drug administration, \( \beta \)-hCG level is a vital test for identification of choriocarcinoma. It is a perfect

Figure 1: Cannonball metastases in the lung

Figure 2: Contrast-enhanced computed tomography pelvis showing large heterogeneous hyperechoic mass lesion involving posterior uterine wall
surrogate marker with 100% sensitivity for management, progression, and recurrence of disease.\(^4\)

Our case was unique because the patient presented with symptoms due to the metastases, primarily streaky hemoptysis, and headache and later with vaginal bleeding. Pulmonary metastases occur in 45% cases and often manifest as nodular lesions, pleural effusion, hemothorax, or pulmonary infarcts due to tumor emboli.\(^5\)

A unique feature, in this case, is the accuracy of diagnosis obtained with documentation of $\beta$-hCG levels and response to chemotherapy in spite of the lack of histopathological information of the tumor. In conclusion, the clinical history and investigations of the clinical features caused by the metastases led us to the final diagnosis of GCO in this patient.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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**How to cite this article:** Dhamgaye TM, Bhaskaran DS. An unusual pulmonary metastatic manifestation of gestational choriocarcinoma: A diagnostic dilemma. Lung India 2017;34:490-1.

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