Case Report

# Respiratory symptoms as an initial presentation of choriocarcinoma

**Ramandeep Singh, Paramdeep Singh, Rupinderjeet Kaur[1], Rubal Rai[2], Simmi Aggarwal**

Departments of Radiology, [1]Medicine and [2]Anaesthesia, Guru Gobind Singh Medical College and Hospital, Baba Farid University of Health Sciences, Faridkot, Punjab, India

## ABSTRACT

Chronic dyspnea, chest pain, cough, and hemoptysis for more than 2 weeks often indicate a diagnosis of infective etiology of the respiratory tract in a tropical country. However, in a young reproductive female, these complaints with an episode of hemoptysis may rarely be the presenting symptomatology of pulmonary metastasis of choriocarcinoma. A young female of reproductive age group presented with hemoptysis, cough, and breathlessness. Chest X-ray revealed bilateral lower lobe opacities. Fine-needle aspiration cytology of the lung lesions depicted choriocarcinoma metastasis. Ultrasonography and magnetic resonance imaging revealed endomyometrial mass lesion suggestive of invasive gestational trophoblastic disease. β hCG levels were high. Dilatation and curettage and histopathological analysis of the mass confirmed the diagnosis of choriocarcinoma. This young female who presented with respiratory complaints was finally diagnosed to be a case of choriocarcinoma with lung metastasis. Therefore, choriocarcinoma metastasis must be considered as a differential diagnosis in a female of childbearing age presenting with respiratory complaints and hemoptysis.

**Key words:** Choriocarcinoma, gestational trophoblastic disease, imaging, lung metastasis, respiratory

## INTRODUCTION

Choriocarcinoma is a highly malignant form of the gestational trophoblastic disease (GTD) which is usually seen in reproductive-aged females. Approximately, 50% cases are known to occur following molar pregnancy, 25% after normal gestation, 24% after spontaneous abortion, and 1% after an ectopic pregnancy.[1] Its incidence is more common in low socioeconomic strata owing to the association of choriocarcinoma with low dietary protein.[2,3] Pathologically, the tumor tissue comprises cytotrophoblast and syncytiotrophoblast with the lack of chorionic villi.[4] The trophoblastic tissue invades the myometrium and the patient usually presents with vaginal bleeding. It may also present as complete or incomplete abortion, and when presenting as complete abortion, the expelled products of conception usually have a grape-like appearance. It is not uncommon for choriocarcinoma to be missed, owing at times to small size of the lesion.[5] However, secondaries to lungs and brain are common, and the patient might present with complaints pertaining to the specific metastatic site. Lung is the most common site of metastasis and the patients usually presents with respiratory symptoms such as breathlessness, cough, and hemoptysis. We report a case of young female presenting with respiratory complaints where a chest X-ray done revealed radio-opaque shadows in the lung which were confirmed on fine-needle aspiration cytology (FNAC) to be choriocarcinoma metastasis. Written informed consent was taken from the patient. Ultrasound and magnetic resonance imaging (MRI) pelvis revealed the endomyometrial mass suggestive of GTD. Thus, a retrospective diagnosis of choriocarcinoma with lung metastasis was made based on imaging, β hCG and histopathological confirmation. Since clinician has an important role in the initial assessment of patients with respiratory complaints, knowledge of such presenting features can help in making a timely diagnosis and can ultimately lead to a better prognosis.

| Access this article online | |
|---|---|
| Quick Response Code: | Website: www.ccij-online.org |
| | DOI: 10.4103/2278-0513.157941 |

## CASE REPORT

A 28-year-female presented in Internal Medicine Department with a history of a single episode of hemoptysis associated

**Address for correspondence:** Dr. Paramdeep Singh, Department of Radiology, Guru Gobind Singh Medical College and Hospital, Baba Farid University of Health Sciences, Faridkot, Punjab, India. E-mail: paramdeepdoctor@gmail.com

with breathlessness and cough since 20 days. The patient also had a history of significant weight loss since 4 months. Chest X-ray of the patient revealed multiple well-defined rounded opacities of variable sizes in bilateral lungs [Figure 1]. FNAC of lung confirmed the diagnosis of choriocarcinoma metastasis. Ultrasonography revealed a heterogenous mass lesion in the endometrial cavity invading into the myometrium. MRI also showed an endomyometrial mass showing heterogenous signal intensity and avid heterogenous enhancement in postgad images. There was loss of endomyometrial interface [Figure 2a and b]. Serial β hCG levels of the patient were 23,450 mIU/ml and 27,490 mIU/ml, 4 days apart indicating a rise. Past history of the patient was positive for abortion with the passage of grape-like clusters transvaginally around 5 years back. The abortion occurred at 10–12 weeks of gestation. Dilatation and curettage was done, and the material was sent for histopathological analysis which confirmed the mass lesion to be choriocarcinoma [Figure 3]. The patient was put on chemotherapy, and complete resolution of the disease was achieved.

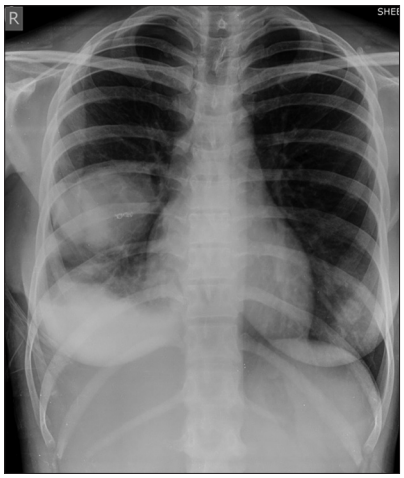


**Figure 1:** Chest X-ray showing cannon ball opacities in bilateral lower zones

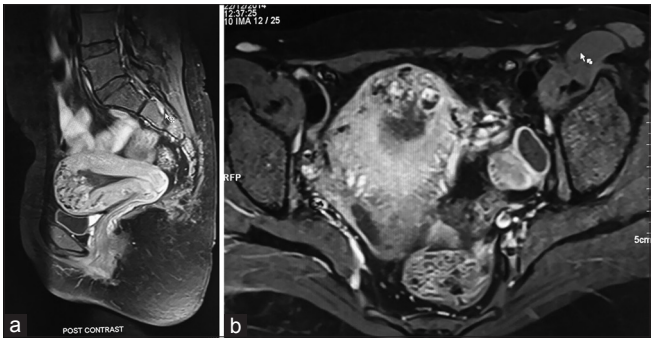


**Figure 2:** (a and b) Postgadolinium-enhanced magnetic resonance imaging shows heterogenously enhancing trophoblastic tissue of choriocarcinoma involving endometrium and invading the myometrium

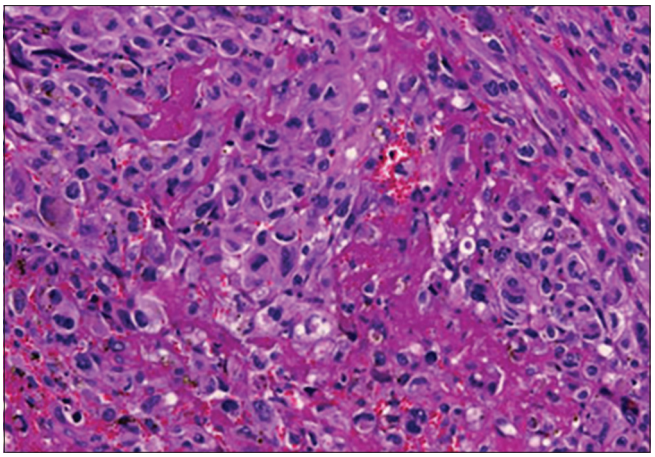

**Figure 3:** Histopathology slide of choriocarcinoma depicting malignant syncytiotrophoblast and cytotrophoblast cells

## DISCUSSION

Choriocarcinoma incidence in pregnant female varies between 1:13,000 and 1:50,000.[6] In South Asia, its incidence is 1/5000 and in North America it is 1/50,000.[7] It usually presents with prolonged vaginal bleeding, ovarian cysts and bulky uterus with endomyometrial mass.[8] It is a highly vascular tumor, and the trophoblastic tissue has a high predilection for the blood vessels. Thereby this tumor metastasizes very early, most commonly to the lung.[9] In descending order of occurrence, metastases are found most commonly in the lungs (80%) followed by vagina (30%), pelvis (20%), and brain (10%).[10] However, certain reports suggest that the metastasis rarely occur in the lungs.[11] Liver secondaries are uncommon (10%) and that too are reported to be very late in the disease process.[12] Usually, the disease metastasizes between 6$^{th}$ and 10$^{th}$ month of disease occurrence. Rarely, lung secondaries may be the presenting feature of choriocarcinoma. Clinically, the patient with pulmonary metastasis presents with complaints of chest pain, hemoptysis, and dyspnea. At times, the lung secondaries could be incidentally detected in an asymptomatic patient.[13] There have been reports of choriocarcinoma primarily found in the lung.[14] Literature has also illustrated metastatic endobronchial tumor with bronchial obstruction and pleural effusion as the clinical presentations of choriocarcinoma.[15] The route of metastasis being hematogenous, there are three main types of lung metastasis of choriocarcinoma based on the radiological features.[15,16] In type I (65–95%), well-defined, nodular lesions are seen which are usually 1–10 in number. This was the presentation in our case. In type II (5–15%), miliary or alveolar pattern with indefinite borders are seen, mimicking an inflammatory pathology. In type III, pulmonary infarction and hypertension can result from pulmonary artery embolization by secondaries. β hCG levels are essential in making the diagnosis and most commonly shows rise of titers in three consecutively analysis.[17] In our case, two serial titers 4 days apart showed

a rise in levels. Therefore, in a female in reproductive age group, choriocarcinoma metastasis should be considered as a differential diagnosis in all chest X-rays with space occupying lesions.[18] It is hereby stressed that such patients with abnormal chest X-ray should be followed with a detailed history relating to GTD and serial serum analysis for β hCG should be evaluated. This is a simple, noninvasive procedure and helps in the early diagnosis and treatment which can be life-saving in most cases. Radiological imaging comprising ultrasound and MRI should be subsequently done which are crucial in making the correct diagnosis. It is imperative to make an early diagnosis of the disease as most patients recover with chemotherapy and surgery is infrequently required.[8,19]

## CONCLUSION

In a young female of reproductive age group presenting with respiratory complaints, choriocarcinoma metastasis must be considered as a differential diagnosis. A comprehensive history and detailed examination in a young female with respiratory complaints are pertinent for the early detection and management of metastatic choriocarcinoma that ultimately determines the disease prognosis.

## REFERENCES


1. Green CL, Angtuaco TL, Shah HR, Parmley TH. Gestational trophoblastic disease: A spectrum of radiologic diagnosis. Radiographics 1996;16:1371-84.
2. Inamullah I, Bokhari M, Khan K. Unusual presentation of choriocarcinoma. J Surg Pak 2009;14:44-5.
3. Nkyekyer K. Pattern of gynaecological cancers in Ghana. East Afr Med J 2000;77:534-8.
4. Philippe E, Boue J, Boue A. Les maladies trophoblastiques gestationnelles. Ann Anat Pathol 1980;1:13-38.
5. Nimje K, Deore L, Deshmukh M, Pai B, Ruparel M, Kulkarni M. Case report: Case of metastatic choricarcinoma, unusual metastatis. Indian J Radiol Imaging 2006;16:801-3.
6. Alveyn CG, Loehry CA. Hepatic metastases due to choriocarcinoma. Postgrad Med J 1988;64:941-2.
7. Maigre M, Thomas B, Camp G, Theodore CH. Choriocarcinome uterin révélé par des métastases pulmonaires. Sem Hop (Paris) 1992;68:1408-11.
8. Nabers J, Splinter TA, Wallenburg HC, ten Kate FJ, Oosterom R, Hilvering C. Choriocarcinoma with lung metastases during pregnancy with successful delivery and outcome after chemotherapy. Thorax 1990;45:416-8.
9. Pritchard JA, MacDonald PC, Grant NF. Diseases and abnormalities of the placenta and fetal membranes. In: Williams Obstetrics. 17th ed. Connecticut: Appleton Century-Crofts; 1985. p. 454-6.
10. Goldstein DP, Berkowitz RS. The management of gestational trophoblastic neoplasms. Curr Probl Obstet Gynecol 1980;4:1-42.
11. Sierra-Bergua B, Sánchez-Marteles M, Cabrerizo-García JL, Sanjoaquin-Conde I. Choriocarcinoma with pulmonary and cerebral metastases. Singapore Med J 2008;49:e286-8.
12. Hillard AE, Allen RW, Beale G. Metastatic choriocarcinoma: Correlation of MRI, CT, and angiography. South Med J 1993;86:1299-302.
13. El Fekih L, Hassene H, Fenniche S, Ben Abdelghaffar H, Belhabib D, Megdiche ML. Pulmonary metastases revealing choriocarcinoma. Tunis Med 2010;88:49-51.
14. McLeod DT. Gestational choriocarcinoma presenting as endobronchial carcinoma. Thorax 1988;43:410-1.
15. Libshitz HI, Baber CE, Hammond CB. The pulmonary metastases of choriocarcinoma. Obstet Gynecol 1977;49:412-6.
16. Bagshawe KD, Garnett ES. Radiological changes in the lungs of patients with trophoblastic tumours. Br J Radiol 1963;36:673-9.
17. Droz JP, Lhomme C. Les tumeurs trophoblastiques gestationnelles. Rev Prat 1992;42:7.
18. Evans KT, Cockshott WP, Hendricksepde V. Pulmonary changes in malignant trophoblastic disease. Br J Radiol 1965;38:161-71.
19. Robboy SJ, Anderson MC, Russell P, editors. Pathology of the Female Reproductive Tract. Philadelphia, PA: Churchill Livingstone; 2002. p. 775-9.


**Cite this article as:** Singh R, Singh P, Kaur R, Rai R, Aggarwal S. Respiratory symptoms as an initial presentation of choriocarcinoma. Clin Cancer Investig J 2015;4:555-7.

**Source of Support:** Nil, **Conflict of Interest:** None declared.