

## ORIGINAL RESEARCH

## CASE REPORT: UNSUSPECTED UTERINE CHORIOCARCINOMA WITH LUNG METASTASIS

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## ABSTRACT

**Background:** Choriocarcinoma is a rare form of cancer which commonly occurs in women of reproductive age, rarely in post-menopausal women and in women under 20 years of age. **Methods & Results:** We report an unsuspected case of uterine choriocarcinoma with lung metastasis in a 27 year-old woman who presented to a medical ward with a history of prominent respiratory, but also genital and gastrointestinal symptoms. **Conclusions:** The presented case report emphasizes the need for sophisticated diagnostic technology to enable early diagnosis and correct treatment. Furthermore the case highlights the need for healthcare workers to consider rare causes of respiratory signs and symptoms.

**KEY WORDS:** Choriocarcinoma; Uterine; Metastasis;  $\beta$ -hCG; Tanzania.

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## INTRODUCTION

Choriocarcinoma also known as chorioblastoma or trophoblastic tumor is a rare form of cancer which occurs in the female genital tract and is commonly associated with pregnancy. It may develop after a normal pregnancy, however, it is usually associated with molar pregnancy, ectopic pregnancy, miscarriage, or abortion. (Arslanian *et al.*, 2003, Canver and Voytovich, 1996). Common symptoms are prolonged vaginal bleeding, ovarian cyst and uneven swelling of the uterus (Nabers *et al.*, 1990). It may present through complete or incomplete abortion and in complete abortion products of conception usually have a grape-like appearance. In most cases choriocarcinoma is associated with a positive pregnancy test even without pregnancy and with high levels of the beta human chorionic gonadotrophin hormone ( $\beta$ -hCG).

## CASE REPORT

A 27 year old multiparous woman from Ukerewe reported to the medical ward at Bugando Medical Centre (BMC) with a history

of respiratory, genital and gastrointestinal symptoms about eight months ago. The woman was married with two healthy children and her youngest child was fourteen month old on her first admission to the district hospital. Prior to her admission to BMC, she had several admissions to the district and to regional hospitals. At admission to BMC, her main complaint was irregular menstrual cycles and vaginal bleeding for more than two months. However, she also reported sudden onset of fever accompanied by headache which was associated with blurred vision. In addition, she complained about nausea and excessive vomiting provoked by eating which occurred four to five times a day.

Clinical examination at the BMC revealed nothing significant. Laboratory investigation revealed positive results for the urine pregnancy test (UPT). Other laboratory results are shown in Table 1. We were unable to trace chest X-ray which had been taken at the regional hospital.

**Table 1:** Laboratory results for 27 year old case with choriocarcinoma: liver function tests,  $\beta$ -hCG and normal ranges

Liver function test (LFT) and $\beta$ -hCG	Laboratory results	Normal ranges
Aspartate aminotransferase (AST)	30.28 IU/L*	10-40 IU/L
Alanine transaminase (ALT)	19.75 IU/L	10-55 IU/L
Alkaline phosphatase (ALP)	88.6 IU/L	45-115 IU/L
Beta human chorionic gonadotrophin ( $\beta$ -hCG)	>30,000 IU/L	0-101 IU/L

\* IU/L international units per liter

According to the woman's medical records eight months ago she had reported to the district hospital with sudden onset of productive cough accompanied with haemoptysis. This was accompanied by a throbbing chest pain localized to the anterior part. She had been treated with broad spectrum antibiotics. A month later she experienced painful swallowing of both liquid and solid foods accompanied by on and off swelling of the

anterior part of her neck and a non-specific pain around the neck region. The swelling was in an area about 2x3cm in size, firm, non-pulsating with a regular surface. Fine needle aspiration revealed a straw coloured fluid. She was treated with broad spectrum antibiotics without any improvement and a month later she was again admitted to the regional hospital because of the same problem. Investigations revealed

microcytic anaemia and chest radiography revealed heterogeneous opacity on the right middle zone of the lungs and cannon balls on both sides of the lung fields. She was treated symptomatically without any improvement.

A month later she had a spontaneous abortion and was yet again admitted to the regional hospital following her prolonged vaginal bleeding. Evacuation was done and revealed clots with a grape like appearance. About three weeks later she was once more admitted to the regional hospital and investigations revealed that she had an ovarian cyst. Laparotomy and ovarian cystectomy was conducted. Four months later she noticed irregular menstrual cycles with vaginal bleeding which lasted for almost two months.

Medical history, clinical examination and laboratory findings confirmed that the patient had choriocarcinoma of the uterus which had metastasized to the lungs. She was referred to a medical oncologist for chemotherapy. She was given cyclophosphamide, methotrexate and 5-fluorouracil (5-FU) and her prognosis was good.

The patient gave the consent to publish her information.

## DISCUSSION

Choriocarcinoma is one of the trophoblastic diseases that may occur as a result of abnormal proliferation of Langerhans and syncytial cells of trophoblastic origin commonly situated at the female genital tract (Arslanian *et al.*, 2003). It is a relatively uncommon condition among different types of tumours and its exact cause is unknown. If left untreated choriocarcinoma is likely to transform into malignant trophoblastic disease. Metastasized stage on diagnosis is common in patients with choriocarcinoma, with a rate of 30% (Arslanian *et al.*, 2003). In a few cases choriocarcinoma may spread distantly and some reports mention lung metastasis as a common site (Rosai *et al.*, 2004) while others suggested that it rarely results in pulmonary metastases (Sierra-Bergua *et al.*, 2008). Other locations likely to have metastases include brain, liver, kidney and bowel (Rosai, 2004).

Women with low level of dietary protein are at high risk of developing molar pregnancies which pre-dispose to choriocarcinoma (Inamullah *et al.*, 2009). Hence choriocarcinoma is relatively more common in low income countries where most people have a poor nutritional status and general medical check-ups are not routinely conducted (Nkyekyer, 2000).

Choriocarcinoma occurs more frequently in females than in males (Habib *et al.*, 2007) and is commonly associated with vaginal bleeding (Nabers *et al.*, 1990). However, the symptoms are usually only observed when the cancer is already metastasized. In most cases choriocarcinoma occurs as hydatidiform mole (Murkhejee *et al.*, 2006) after pregnancy or abortion (Arslanian *et al.*, 2003) and its latent period is estimated to be less than one year (Murkhejee *et al.*, 2006; Rosai, 2004).

For most African countries, particularly Sub-Saharan African countries, no accurate health statistics are available which poses difficulties in determining incidence and prevalence of cancers like choriocarcinoma. In Ghana choriocarcinoma has been found to be relatively common in younger women and it occurs in 6.8% of gynaecological cancers (Nkyekyer K, 2000). However, in our setting choriocarcinoma appears to be a rare occurrence.

Being a relatively uncommon cancer presenting with a wide range of unspecific symptoms, choriocarcinoma is difficult to diagnose clinically, especially in cases of post-menopausal women, children and when of ectopic origin (Ozak *et al.*, 2001). Choriocarcinoma is rarely considered in differential diagnosis of the conditions likely to have similar clinical presentation.

In addition to other clinical manifestations, elevated levels of  $\beta$ -hCG are commonly useful for the diagnosis of choriocarcinoma and this hormone can also be used as a prognostic marker. So far, only few cases were described with normal levels of  $\beta$ -hCG (Shetty *et al.*, 2007).

In the current case it is obvious that metastatic uterine choriocarcinoma was not suspected during several visits to the district and regional hospitals which delayed the definitive diagnosis and the start of appropriate management. Improved and sophisticated diagnostic technology would be beneficial to clinicians and patients. Given the fact that the patient was in her reproductive age and early clinical symptoms were mainly respiratory and in the digestive system, the main focus was on other common conditions which are likely to have similar clinical presentations. Intermittent fevers are unspecific and could be the result of infections like malaria, tuberculosis and other inflammatory diseases. Other conditions such as adenitis, Hodgkin disease, thyroglossal cyst, cancer of larynx, cancer of thyroid glands, lymphomas and abscess may also result in swelling of the neck region, as was observed in this patient. In addition, systemic infections such as gram-negative bacterial pneumonias can be easily confused with clinical and radiological findings observed in this patient. On the radiological findings from the regional hospital, the lung metastases were reported to be heterogeneous opacity simulating pneumonia. However, at this point the combination of presented symptoms and radiological findings should give hints to the true underlying condition.

Some of the observations in the current patient such as fever, irregular cycles, absence of amenorrhea and vaginal bleeding had been previously described (Shetty *et al.*, 2007) where a definitive diagnosis was only obtained during post-mortem. This suggests that it is extremely important to consider the possibility of choriocarcinoma even when only a few of these unspecific symptoms are observed. From this perspective it seems important that during clinical examination and laboratory investigations all possible conditions be taken into account so as to allow an early diagnosis. Early diagnosis is extremely important for the successful management of this condition (Nabers *et al.*, 1990) and most patients have been reported to recover with chemotherapy (Robboy *et al.*, 2002), while surgical management was indicated in only few cases. There is evidence of success in chemotherapy. However because of the recurrence of the conditions surgical management has been indicated in some cases in combination with chemotherapy and has been shown to be successful (Sierra-Bergua *et al.*, 2008; (Murkhejee *et al.*, 2006; Lurain, 1994; Ramondetta *et al.*, 2002).

The development of combination chemotherapy for choriocarcinoma has dramatically improved the prognosis in some patients (Ramondetta *et al.*, 2002). In the present case prognosis was also good after combination chemotherapy.

## Conclusions

The current case report emphasizes the need for health care professionals to consider rare causes of respiratory signs and symptoms. When initial investigations and management fail, then health care practitioners should begin a broad search to

unveil the underlying pathological process. In the current case genital tract symptoms revealed the disease process and other symptoms appeared as manifestations of the advanced disease. In this context heightened alert is needed especially in high risk patients. This will allow prompt diagnosis which is important for successful management.

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