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Case Report

Metastatic choriocarcinoma presenting as upper gastrointestinal bleeding: A case report ☆

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ABSTRACT

Choriocarcinoma is a type of gestational trophoblastic disease that occurs as a complication of pregnancy-related events. The gestational trophoblastic disease includes both benign and malignant conditions including complete and partial mole, invasive mole, choriocarcinoma, and placental site trophoblastic disease. Choriocarcinoma generally presents with pervaginal bleeding, symptoms of anemia, and symptoms of its metastatic lesion. The common sites of metastasis are the lung, vagina, brain, and liver. The gastrointestinal (GI) tract is an uncommon site of metastasis occurring in <5% of patients. Upper GI bleeding as presenting complaints without pervaginal bleeding is also very rare with only a few reported cases. Here we present a case of 29 years young female who presented in our emergency department with complaints of hematemesis and altered sensorium where clinical suspicion was peptic ulcer disease but imaging modality with computed tomography showed hypervascular lesions in the brain with suspicion of choriocarcinoma. With further imaging and laboratory tests, confirmatory diagnosis of choriocarcinoma was made. This case highlights the importance of imaging in the diagnosis of choriocarcinoma where the history of the patient is misleading.

Backgrounds

Gestational trophoblastic disease is a spectrum of cellular proliferation disorder arising from placental site villous trophoblast. It includes hydatiform mole (complete and partial mole), invasive mole, choriocarcinoma, and placental site trophoblastic tumor. The latter 3 are called GTN. The incidence of GTD and choriocarcinoma varies from literature to literature and in different parts of the world probably due to poor

Abbreviations: HCG, Human chorionic gonadotropins; GTD, Gestational trophoblastic disease; GTN, Gestational trophoblastic neoplasia; PSST, Placental site trophoblastic disease; GI, Gastrointestinal; CT, Computed tomography; USG, Ultrasonography.

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data collection and reporting of this disease. The incidence of choriocarcinoma in Southeast Asia is 9.2 per 40,000 pregnancies [1]. Common risk factors for choriocarcinoma include prior hydatiform mole, advanced maternal age, and ethnicity of the patient with the disease being more common in Asian women and African women [1]. Pathologically it consists of abnormal trophoblastic tissue consisting of areas of hyperplasia and anaplasia, absent villi with areas of hemorrhage and necrosis. Choriocarcinoma has been reported to occur in association with any pregnancy event [1]. The common clinical presentation of choriocarcinoma consists of irregular vaginal bleeding following abortion or evacuation of hydatiform mole and symptoms due to its metastatic lesion, like metastasis in the brain may present with altered sensorium and abnormal body movements. It is not uncommon that patients may present with symptoms of its metastatic deposit rather than gynecological symptoms, where the diagnosis of this entity becomes more challenging [2]. Our case also presented with hematemesis and altered sensorium rather than pervaginal bleeding. Common sites of metastasis include lung (80%), vagina (30%), brain (10%) and liver (10%) [3,4]. Only fewer than 5% of patients present with metastasis to the GI tract [2]. Common causes of upper GI bleeding include peptic ulcer disease, gastritis, esophagitis, variceal bleeding, gastric cancer, and rarely metastasis [5]. Our case also presented with hematemesis and altered sensorium in the emergency department, where the initial clinical diagnosis at this young age was probably peptic ulcer disease/ gastritis leading to hematemesis, anemia, and altered sensorium. Noncontrast CT scan of the head was performed to evaluate for altered sensorium which showed the presence of hypervascular metastasis leading to suspicion of choriocarcinoma. Here we present a case report where radiological imaging findings were crucial in diagnosing the patient leading to early management and decreasing morbidity and mortality.

Case presentation

A 29-year-old female presented to our emergency department with chief complaints of the passage of black-tarry stool for 12 days and hematemesis on and off. She had a history of 1 episode of hematemesis daily for 3 days with altered sensorium for 1 day. She had no history of jaundice, abdominal distension, or chronic intake of alcohol and analgesics. She had a history of Depo injection (depot medroxyprogesterone acetate) as contraceptives 3 months ago. She didn't give any significant gynecological history initially. On examination, pallor was present with BP of 110/70 mm Hg and pulse rate of 80 bpm. No enlarged lymphnodes were noted in the supraclavicular region. Central nervous system examination was grossly within normal limits. The rest of the examination was unremarkable. A provisional diagnosis of upper GI bleeding secondary to peptic ulcer disease/ gastritis was made and routine lab investigations were sent. Provisional diagnosis of peptic ulcer disease was made because it is more common in this age group and there was no other significant gynecological history to suggest an alternative diagnosis. The altered sensorium was not explained by her vitals, so a noncontrast CT scan of the head was also performed as screening to rule out any other pathology. Routine lab reports findings were Total leucocyte count (TLC) of 15,000/mm^3, Platelet count -137,000/mm^3,(Na)- 137 mmol/L, Potassium (K) 3.5 mmol/l, Hb level of 8.5g/dl and INR of 1.1. Noncontrast CT scan of the head showed a heterogeneously hyperdense mass with disproportionate perilesional edema in the left parietal lobe (Fig. 1). These findings suggest Hypervascular metastasis in the left parietal lobe. The common differential diagnosis of Hypervascular metastasis includes renal cell carcinoma, papillary carcinoma of the thyroid, melanoma, breast carcinoma, carcinoid tumor, and choriocarcinoma. Upon discussion with the treating physi-

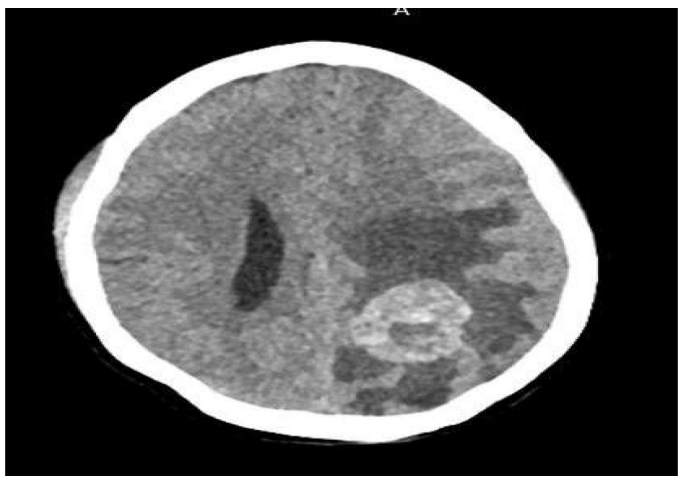

Fig. 1 – Noncontrast CT scan of the head showing heterogeneous hyperdense mass with central hypodensity in the left parietal lobe. Adjacent white matter shows hypodensity in finger-like projection suggestive of white matter edema. These findings were suggestive of hypervascular metastasis.

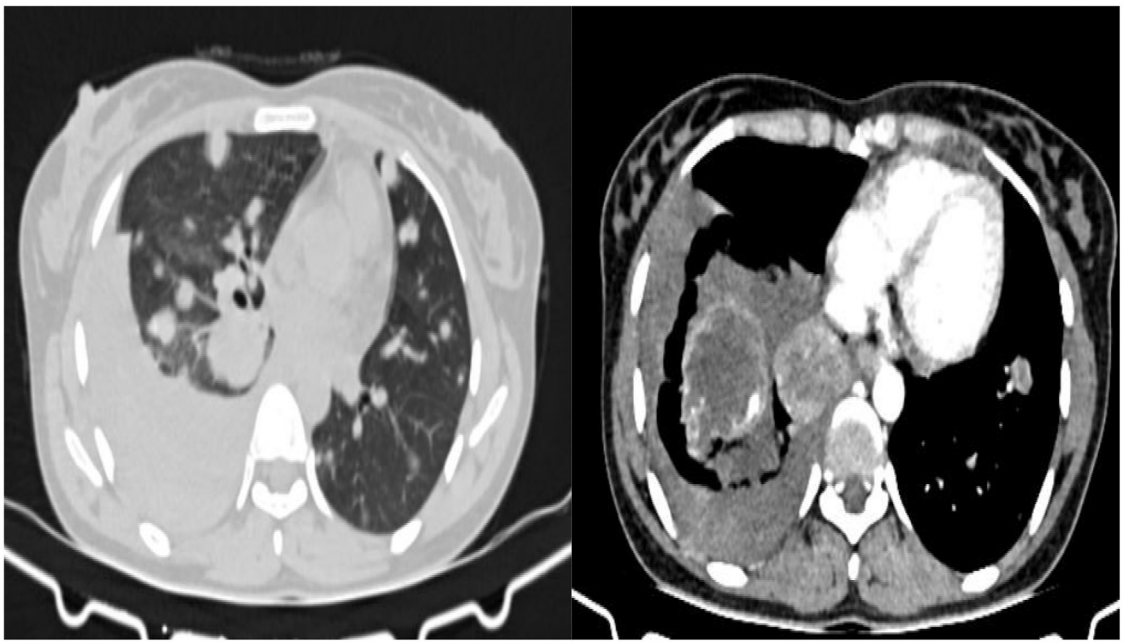

Fig. 2 – (A and B) Axial section CT scan image of chest in lung window shows multiple variable-sized soft tissue attenuating nodules scattered in bilateral lung fields (A). Few of these nodules show peripheral ground glass attenuation suggestive of peritumoral hemorrhage. On arterial phase, these lesion shows peripheral hyperenhancement with central nonenhancing area (B). Mild right pleural effusion is also noted.

cian, it was advised that those above-mentioned are the common differential diagnosis of hypervascular metastasis and she needs further contrast-enhanced scan of the abdomen, pelvis, and chest for further evaluation as well as detailed gynecological history and skin examination to rule out choriocarcinoma and melanoma respectively. Detailed history revealed a history of suction and evacuation 3 years back for hydatiform mole, for which she lost follow-up since she was asymptomatic. Presently she didn't give any history of pervaginal bleeding. Contrast-enhanced CT scan of the chest showed multiple well-defined rounded soft tissue attenuation nodules scattered in bilateral lung fields showing enhancement in the arterial phase with mild right pleural effusion (Figs. 2A and B). Some of these nodules showed a halo of ground glass nodules suggestive of peritumoral hemorrhage. A similar small-sized contrast-enhancing lesion was also found in the fundic region of the stomach (Figs. 3A and B). The arterial phase-enhancing lesion was probably the culprit for black-colored stool and hematemesis. Similarly, the endometrium showed irregular enhancing thickening in postcontrast images (Figs. 4A and B). A small arterial phase-enhancing metastasis lesion was also noted in the right lobe of the liver (Fig. 5). So with imaging findings of irregular enhancing thickening of the endometrium, hypervascular metastasis in the brain, bilateral lungs fields, stomach, and liver, radiological diagnosis of metastatic choriocarcinoma was made and correlation with serum β- HCG was advised. Serum β- HCG report showed the value of $>$15,000 μIU/mL, confirming the diagnosis of metastatic choriocarcinoma. She was referred to the oncology department for chemotherapy for metastatic choriocarcinoma. Currently, she is on chemotherapy and improving well.

Discussion

Choriocarcinoma is a malignant entity under gestational trophoblastic neoplasia consisting of abnormal trophoblastic hyperplasia and aplasia with absent villi and an area of hemorrhage and necrosis. It is one of the most curable solid tumors with a cure rate of $>$90% even in the presence of widespread metastatic disease [1]. So accurate diagnosis of the disease is important for the management of patients. However, because of atypical presentation in some patients, like symptoms of the metastatic lesion in the absence of gynecological symptoms poses a diagnostic dilemma [2]. Our patient also presented with altered sensorium, hematemesis, and passage of black tarry stool rather than gynecological symptoms. These symptoms were typical for upper GI pathology like bleeding peptic ulcer/ carcinoma stomach. Contrast contrast-enhanced CT scan of the pelvis in our patient showed irregular thickening of endometrium rather than obvious mass, which may be the reason for the absence of pervaginal bleeding. Noncontrast CT scan of the head showed a hypervascular lesion in the left parietal lobe with adjacent disproportionate perilesional edema suggestive of hypervascular metastasis. Brain metastasis in choriocarcinoma is at the grey-white matter junction with the propensity to spontaneous hemorrhage leading to high attenuation on noncontrast images [6].

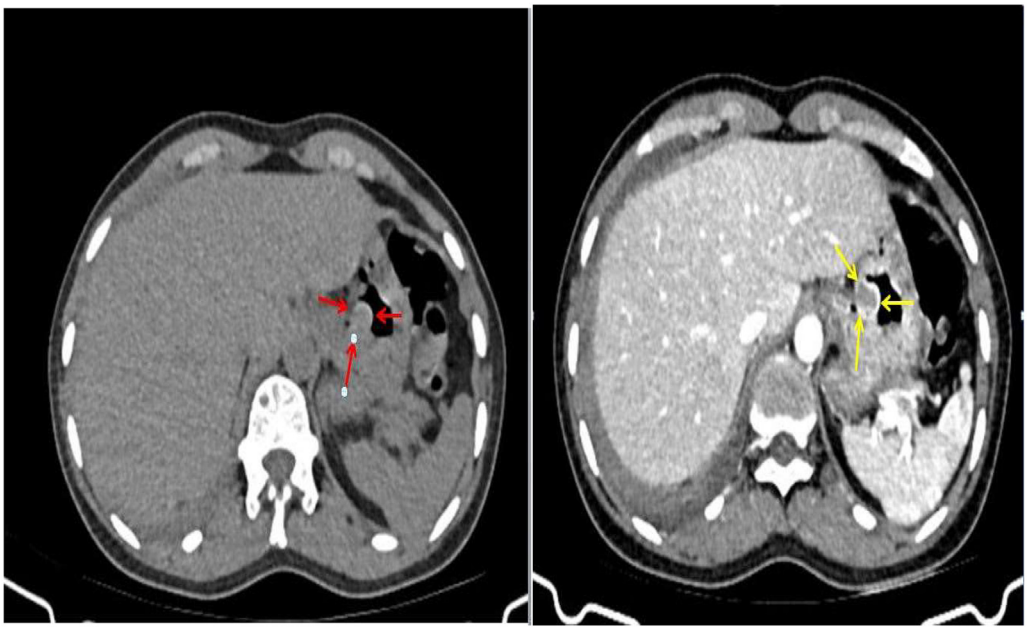

Fig. 3 – (A and B) CT scan of the abdomen at the level of gastric fundus showing a small hyperattenuating lesion is noted in fundic region with hyperenhancement in the arterial phase. This lesion was the culprit for hematemesis in this patient.

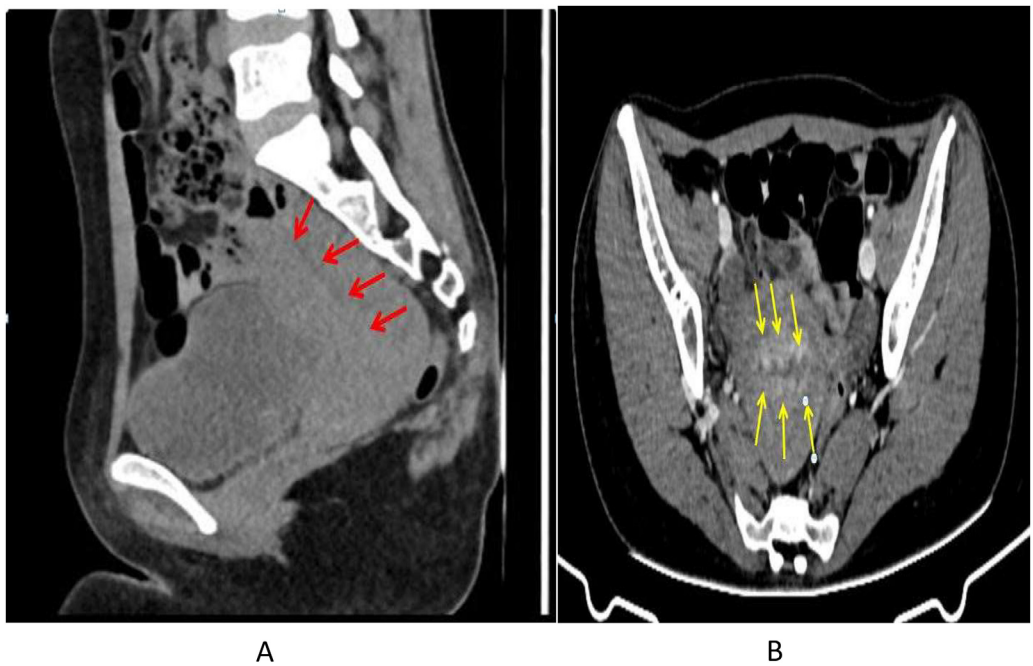

Fig. 4 – (A and B) Noncontrast CT scan of pelvis in sagittal section and contrast-enhanced axial images showing the focal low attenuating area in the endometrial region (Red arrow). This lesion shows enhancement in the arterial phase with features of irregular endometrial thickening (Yellow arrow). Bilateral adnexa appears normal.

Choriocarcinoma is characterized by marked neoangiogenesis with early and extensive vascular invasion resulting in the high tendency to metastasize [3]. Our case also presented with extensive metastasis involving the brain, bilateral lung fields, stomach, and liver. The lesions in the chest show multiple pulmonary nodules scattered in bilateral lung fields giving canon ball appearances. Some of the nodules may be surrounded by halo of ground glass attenuation due to peritumoral hemorrhage [6]. Cavitating and bulla-forming metastasis may occur in the lungs [6]. Metastasis to the GI tract occurs in less than 5% of cases and has a poor prognosis [2]. Metastasis to the GI tract like in the stomach as in our case causes

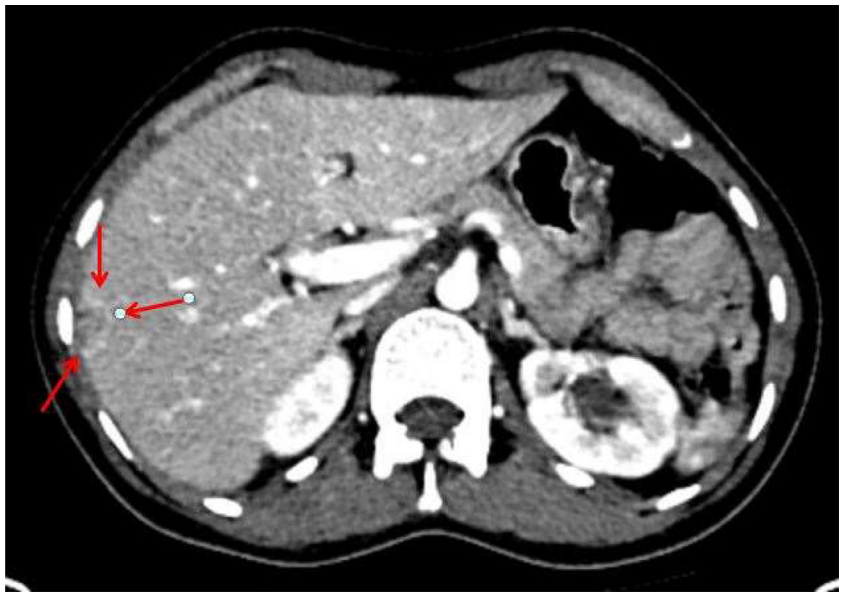

Fig. 5 – Contrast-enhanced arterial phase axial image of the abdomen at the level of liver showing small arterial phase enhancing lesion in segment V of the liver. There were no features of centripetal filling or washout in subsequent phases.

bleeding due to its hypervascular nature leading to symptoms of gastrointestinal tract bleeding. So summarizing, typical CT imaging findings of choriocarcinoma includes enlarged uterus with heterogenous enhancement of endometrium, enhancing hemorrhagic metastasis in the brain involving grey-white matter junction, and multiple canon-ball metastatic nodules in the lung with halo of ground glass attenuation. USG in the case of choriocarcinoma shows nonspecific mass centered within the myometrium with variable endometrial component [6]. The mass may be hyperechoic or hypoechoic and shows high vascularity due to intralesional arterio-venous shunts [6]. Although rare, treating physicians and radiologists should be aware of this condition and should be considered in the differential diagnosis if a hypervascular lesion is present in the stomach in the presence of hypervascular lung metastasis in a patient with a prior history of hydatiform mole or abortion. Treatment of choriocarcinoma is generally chemotherapy-based, although surgical intervention may be required for management of the complication [6]. The optimal chemotherapy regimens depend on FIGO stage of the tumor and patient prognostic factors. Patients with low-risk choriocarcinoma are treated with single chemotherapeutic agent consisting of either methotrexate or actnomycin D and high risk choriocarcinoma are treated with multiagent chemotherapy consisting of etoposide, methotrexate, actinomycin D, cyclophosphamide, and vincristine [6].

Conclusion

Choriocarcinoma can cause upper GI tract bleeding in the absence of gynecological symptoms in some patients. Metastatic choriocarcinoma should be considered in differential diagnosis especially if a hypervascular lesion is present in the stomach in a patient with a prior history of hydatiform mole or abortion. Presence of hypervascular metastasis in brain, lung, and stomach with heterogeneously enhancing endometrium strongly supports the diagnosis of choriocarcinoma even if patient doesn't have history of pervaginal bleeding.

Patient consent

Written informed consent for publication of this case report was obtained from patient.

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