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Spontaneous intracerebral haemorrhage as an initial presentation of a choriocarcinoma. A case report

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Keywords
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Abstract

Introduction: Choriocarcinoma is a rare gestational trophoblastic neoplasm with a high risk of pulmonary, hepatic, and, rarely, cerebral metastasis. We report a rare case of intracerebral haemorrhage as an initial manifestation of metastatic choriocarcinoma.

Case presentation: A 33-year-old female with a history of multiple abortions, ectopic pregnancy, and complete hydatidiform mole presented with a disturbed level of consciousness. Emergency brain computed tomography (CT) scan revealed an intraventricular haemorrhage (IVH) and a left frontoparietal, non-traumatic intracerebral haemorrhage (ICH) with a significant midline shift. The patient underwent emergency evacuation of the hematoma and histological evaluation revealed choriocarcinoma. Later investigations revealed evidence of systemic metastasis. The patient underwent chemoradiotherapy and recovered well.

Conclusion: Metastatic choriocarcinoma should always be in the differential of non-traumatic intracerebral haemorrhage in a female child-bearing age. Also, the pathological diagnosis should always be performed in cases of ICH of an unknown source.

Introduction

Choriocarcinoma is a gestational trophoblastic disease; it is a rare, malignant tumor of human chorionic tissue (1). Choriocarcinomas have an incidence ranging between 3 and 21.4% with a higher incidence in southeast Asia. Choriocarcinomas may complicate any type of pregnancy, with more than 50% of cases arising from hydatidiform moles (2, 3). Choriocarcinoma is an aggressive tumor that frequently metastasizes to the lung, liver, and to a lesser extent to the brain (4,5).

Cerebral choriocarcinoma typically presents as single or multiple lesions, manifesting as infarction, subarachnoid hemorrhage, oncotic,

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or pseudoaneurysms (6, 7). Intracerebral hemorrhage (ICH) as the initial manifestation of choriocarcinoma is an exceptionally rare presentation and signifies poor prognosis (8). The Initial appearance of choriocarcinoma in patients with intracranial hemorrhage (ICH) is extremely rare and is considered a poor prognosis factor (8). In this paper, we detail the case of an adult female with ICH that later led to a diagnosis of metastatic choriocarcinoma.

Case report

A 33-year- old female presented with a disturbed level of consciousness and a history of repeated episodes of vaginal bleeding lasting 3 days on average. Upon neurological examination, her Glasgow coma scale was 5/15 with fixed dilation of the left pupil.

This lady is a gravida, with a history of recent ectopic pregnancy and two abortions, one of them being a complete hydatidiform mole (G4P1A2). Initial brain computed tomography (CT) scan revealed an intraventricular hemorrhage (IVH) and a left frontoparietal, non-traumatic intracerebral hemorrhage (ICH) with a significant midline shift (**Figure 1**).

The patient underwent surgery to evacuate the hematoma and resect the lesion (**Figure 2**). Histopathological examination showed the lesion to be metastatic choriocarcinoma. Postoperative GCS was 10/15, and the patient had persistent aphasia with a right-sided hemiparesis (Medical Research Council grade 3/5).

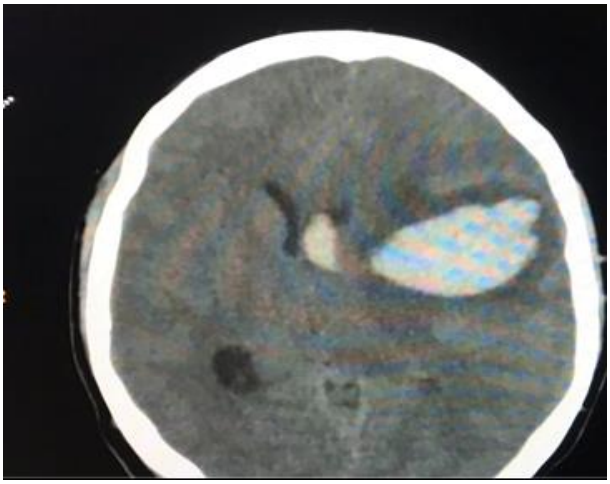

Figure 1. A non-contrast CT scan axial section showing a left lateral ventricular haemorrhage (IVH, left fronto-parietal intracranial hemorrhage (ICH), with significant midline shift and ventricular compression.

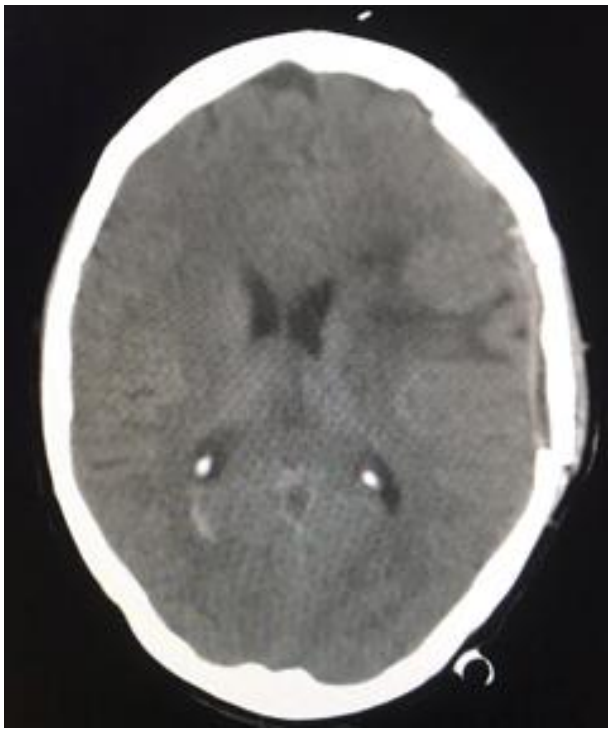

Figure 2. A non-contrast post-operative axial CT scan showing complete evacuation of the intracranial and intraventricular haemorrhages with a significant decrease in the midline shift.

The serum level of human chorionic gonadotropin hormone serotype Beta (B-HCG) was significantly elevated (78800 mIu/ml). Abdominal CT scan showed right, a pleural-based, well-defined lesion with a significant post-contrast enhancement. The CT also showed an ill-defined heterogeneously enhancing soft tissue lesion in the left kidney that suggesting a metastatic deposit. The uterus was normal in size. A well-defined mass was detected anterior to the uterus. Pelvic MRI showed a right ovarian mass that was complex, multiloculated, and had cystic components. The mass invaded the right posterolateral wall of the urinary bladder and uterus.

The patient was referred to oncology for further assessment and chemoradiotherapy. She later underwent a total abdominal hysterectomy, bilateral salpingo-oophorectomy, radical left nephrectomy, and excision of the small intestinal metastasis.

On follow-up, her B-HCG levels started to normalize. Her subsequent follow-up head CTs revealed no residual or new lesions or recurrence.

Discussion

The clinical picture of tumoral ICH often overlaps that of cerebral vascular malformations, necessitating the exclusion of these more common pathologies (9, 10).

In neurosurgical practice, the primary presentation of non-traumatic ICH suggests a local cerebral cause, mostly vascular malformations, rather than tumor metastasis (11). However, Choriocarcinoma should be suspected in every female of reproductive age with an unexplained non-traumatic ICH and considerable perilesional edema and mass effect. Significant elevation of beta-HCG raises the suspicion of choriocarcinoma. Serum: CSF ratio of beta-HCG is usually used as a confirmatory test for diagnosis, as well as an important follow-up test to measure disease remission and detect recurrence (10-13).

The mechanism under which choriocarcinoma is disseminated explains its propensity to manifest as mass hemorrhage, vascular malformations, such as aneurysms or pseudoaneurysms. Choriocarcinoma progresses by blood-borne metastases at an early stage. Trophoblastic tumors are associated with fragile vessels, by their innate capacity to erode vessel wall after tumor embolization, causing weakening and destruction of the vessel wall, leading to the manifestation of intracranial hemorrhage, aneurysmal dilatation, or infraction if the emboli closed the vessel lumen (14,15).

Cerebral metastasis is most often seen in patients with advanced stages of choriocarcinoma and is considered to be a poor prognosis indicator. The treatment of choriocarcinoma with cerebral metastases includes chemoradiotherapy with or without surgery. Surgery is associated with a high risk of hemorrhagic complications and should thus only be performed in patients with life-threatening ICH or focal recurrent lesions resistant to chemo-irradiation (5,11,13,16)

Conclusion

Metastatic choriocarcinoma should always be in the differential of non-traumatic intracerebral haemorrhage in a female child-bearing age. Also, the pathological diagnosis should always be performed in cases of ICH of an unknown source.

Abbreviations

DLOC - Disturbed level of consciousness;
GCS - Glasgow coma scale;
ICH - Intracerebral hemorrhage;
IVH - Intraventricular hemorrhage;
AVM – Arteriovenous malformation.

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