

Spontaneous intracerebral haemorrhage as initial presentation of gestational choriocarcinoma in a young woman: a case report and review of literature

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Citation

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Abstract

Choriocarcinoma is the most malignant tumor of gestational trophoblastic tissue with a tendency to early metastasis. We report a case of metastatic cerebral choriocarcinoma in a 23 year old female with appearance of acute neurological signs following spontaneous intracerebral haemorrhage as the initial presentation. The diagnosis was established by histopathological examination of the blood clots and confirmed by a high serum beta human chorionic gonadotrophin (HCG) level. However; the patient did not have any evidence of the tumour elsewhere. The case emphasizes the importance of suspecting an underlying choriocarcinoma and measuring serum beta HCG level in women of child bearing age group presenting with spontaneous cerebral haemorrhage.

INTRODUCTION

Choriocarcinoma is a malignant tumor of trophoblastic tissue with a tendency to early metastasis. It grows rapidly and metastasizes to the lung, liver, and, less frequently to the brain^[1], cranial metastasis being responsible for death in nearly 50 % of cases^[2]. Cerebral metastasis of choriocarcinoma is known to have a tendency to produce intracranial haematoma causing significant morbidity and mortality^[3].

CLINICAL SUMMARY

A 23 year old female presented with headache and projectile vomiting, later she developed left sided hemiparesis. She gave history of medical abortion of 6 weeks pregnancy using hormonal tablets procured from a chemist 6 months prior to her present symptoms.

Contrast enhanced computerized tomography (CT) head revealed a 5 . 8 x 3 . 4 cm. intra cranial haematoma in right parietal region with perilesional edema and extension of blood into right lateral ventricle causing mass effect and midline shift to left (Fig 1). Intracerebral haemorrhage resulting from ruptured aneurysm or arteriovenous malformation bleed was suspected. Patient underwent right parietal craniotomy with evacuation of the haemorrhage and specimen was sent for histopathological examination.

Figure 1

Figure 1

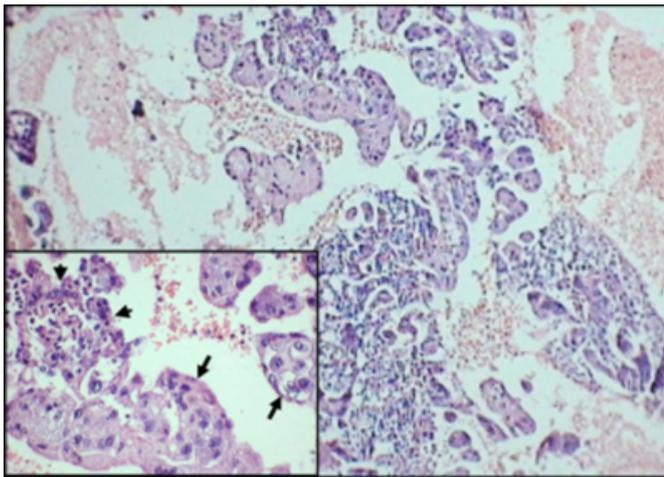


CT scan showing intra cranial haematoma in right parietal region with perilesional edema and extension of blood into right lateral ventricle causing mass effect and midline shift to left.

Gross examination of the surgically resected material revealed mainly blood clots, no brain parenchyma was seen. Microscopic examination of hematoxylin and eosin stained sections revealed tumour foci within blood clots. The neoplastic cells showed a characteristic biphasic arrangement composed of aggregates of syncytiotrophoblasts having abundant voluminous often vacuolated cytoplasm containing large vesicular, single or multinucleated nuclei with clumped chromatin. These were seen to be surrounding clumps of uniform cells with single round-oval nuclei and indistinct cell borders representing the cytotrophoblastic component (Fig 2).

Figure 2

Figure 2



Microphotograph showing metastatic choriocarcinoma amidst blood clot (H&E x 100). Inset shows biphasic arrangement comprising syncytiotrophoblasts (arrows) and cytotrophoblasts (arrow heads). (H&E x 400)

A diagnosis of metastatic choriocarcinoma was offered which was confirmed by elevated serum beta HCG levels of more than 225000 mIU/ml (n= less 4mIU/ml). She is currently undergoing 4th cycle of EMA-CO chemotherapy regime comprising etoposide, methotrexate, actinomycin-D, cyclophosphamide and oncovin. Her beta HCG levels have dropped dramatically to 7.74 mIU/ml over a period of 2 months.

DISCUSSION

Choriocarcinoma is a malignant gestational tumour of syncytiotrophoblasts and cytotrophoblasts arising in any type of gestation, most frequently hydatidiform mole followed by normal pregnancy, spontaneous abortion or ectopic pregnancy^[4]. Most cases of metastatic choriocarcinoma with an unknown primary have been reported to arise in the placenta from prior normal pregnancy^[3] as is substantiated by the present case.

Various studies have reported a wide range of incidence of central nervous system (CNS) metastasis from gestational carcinoma. In a study from Bangalore TN Suresh et. al. (2001) found that metastatic choriocarcinoma formed 4.0 % of all brain metastatic lesions. However; none of the patients in their study were known cases of gestational choriocarcinoma as the present case being reported. There was no evidence of pulmonary metastasis in our case. In a study of patients having brain metastasis in cases of gestational choriocarcinoma, pulmonary metastasis was seen in 27 out of 28 cases^[5]. On the other hand metastatic choriocarcinoma may be seen without pelvic or pulmonary metastasis^[6]. This emphasizes that a diagnosis of metastatic cerebral choriocarcinoma should be considered even if pulmonary examination is negative.

Haemorrhagic lesions with significant perilesional oedema and mass effect on CT scan in these cases are often mistaken for primary Intracerebral haemorrhage due to local causes, rather than tumour metastasis, particularly when there is no evidence of a primary tumour in the patient. The correct diagnosis in this case was established only after histological examination of the resected blood clots. Due to the relatively low incidence of brain tumour as the cause for the intracerebral haematoma, pathological examination of the surgically removed blood clots from patients with intracerebral haemorrhage of uncertain aetiology is not always performed^[3]. Our case highlights the value of Histopathological examination of surgically excised blood clot in determining the aetiology of intracerebral haemorrhages.

Serum and cerebrospinal fluid (CSF) beta HCG levels should be measured to confirm the diagnosis. It is estimated that serum: CSF ratio of less than 60:1 is a sensitive indicator of metastasis in the brain^[7]. Surgical treatment is the method of choice for brain metastasis in patients displaying rapidly deteriorating neurological status. A combination of surgical removal, chemotherapy and

irradiation has been reported to result in a better prognosis^[8].

Our patient has shown a good response with post surgical chemotherapy as indicated by rapidly dropping levels of serum beta HCG. Athanassiou A et. al. 1983 recommend intrathecal prophylaxis with methotrexate given in high risk patients which has improved the overall survival to 80% in the CNS presentation group and 25% in the late CNS group.

CONCLUSION

A circumscribed haemorrhagic lesion in the brain parenchyma with perilesional oedema in young women of reproductive age group should raise the suspicion of metastatic choriocarcinoma. It is imperative that complete obstetric history be elucidated in all such cases. Accurate diagnosis rests upon histopathological examination of the surgically removed blood clots. Measurement of beta HCG in CSF and serum as a tumour marker further helps to implement early therapy and effective management of these patients.

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