Choriocarcinoma is a rare, highly malignant neoplasm of trophoblastic origin in gestational trophoblastic disease. This tumor is known for its association with molar pregnancy, rapid hematogenous spread to multiple organs, high human chorionic gonadotropin (hCG) levels and good response to chemotherapy. It is known that about 80% of gestational choriocarcinoma have remote metastasis lesions and the incidence of brain metastasis is the second highest next to lung metastasis. Cerebral metastasis occurs in 10% to 20% of patients with choriocarcioma. Many patients with brain metastasis develop sudden neurological involvement due to intracranial hemorrhage. The suspected cause of hemorrhage is bleeding from aneurysms that develop due to neoplastic cell invasion of the arterial wall.

Intracerebral hemorrhage cause by a ruptured oncotic aneurysm from choriocarcinoma metastasis

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ABSTRACT
Ruptured oncotic aneurysms from choriocarcinoma metastasis are very rare. One rare case of metastatic cerebral choriocarcinoma with an initial presentation of intracerebral hemorrhage is reported. A 25-year-old woman initially presented with sudden onset of alteration of consciousness. The computed tomography scan showed left parietal hematoma and CT angiography showed a small aneurysm of the left middle cerebral arteries territories. Her chest X-ray showed two lung masses. A craniectomy was performed to remove the hematoma and decompression following the aneurysm excision. After surgery the patient regained consciousness and had no neurological deficit. The pathology reported metastatic choriocarcinoma and her beta – HCG was 73,656 units. After recovery she received chemotherapy with an etoposide, methotrexate, actinomycin D, cyclophosphamide, and vincristine/oncovine (EMA-CO) regimen.

Key words: Cerebral metastases, choriocarcioma, oncotic aneurysm

Introduction
Choriocarcinoma has a marked tendency to be metastasized by blood borne dissemination. It is known that about 80% of choriocarciomas have remote metastatic lesions. Choriocarcinoma has a tendency to rapidly and hematogenously spread to the lung, vagina, brain, liver, kidneys, and ovaries. Favorable sites of involvement are the lungs (94%) and vagina (44%), followed by the liver (28%), and the brain (28%). Metastatic choriocarcinoma involves the brain in 3 to 28% of
Because of the innate capacity of trophoblastic cells to invade and erode the vessel wall, many patients with brain metastasis develop sudden neurological involvement due to intracranial hemorrhage. The intracranial hemorrhage may be subdural,
subarachnoid, or intracerebral. The most common symptoms are headache, nausea, vomiting, hemiparesis, depressed level of consciousness, and seizure.[1]

Single or multiple aneurysms are sometimes seen in choriocarcinoma. However, there are comparatively few cases in which the presence of aneurysms have been proven angiographically or histologically.[6,7] Less than 20 cases of ruptured oncotic aneurysms were reported in the literature, and most of them were located on branches of the middle cerebral artery. The angiography usually reveal a single, peripheral, and irregular aneurysm, but proximal and multiple aneurysms were also described.[8,9] The neoplastic aneurysms are postulated to occur because partial destruction of the vessel walls and rupture of the vessels. Histological examination of the aneurysms showed occlusion of the vessels by tumor cell emboli, proliferation of the tumor cells into the vessels walls and rupture of the internal elastic lamina.[10,11]

Metastatic choriocarcinoma must be treated as soon as possible because this tumor has a tendency to grow rapidly and spread hematogenously. Surgery is associated with a high incidence of hemorrhagic complications and should only be performed if the hemorrhage is life threatening. A craniotomy is required to provide acute decompression or to control bleeding if cerebral lesions induce hemorrhage.[6] Moreover, there are reports in the literature of complete resolution of cerebral metastasis, oncotic carotid - cavernous fistulas and oncotic aneurysms with chemotherapy.[6,8,12]

Chemotherapy is indicated in virtually all patients with choriocarcinoma, and it is appropriate that the regimen of chemotherapy be selected depending on the expected prognosis. It is well known that the prognosis of choriocarcinoma is affected by the existence of metastasis, patient’s age, duration of chemotherapy, hCG levels, size of the tumor, and preceding pregnancy. More intensive chemotherapy is indicated for patients with remote metastases. Recently, combination therapy with etoposide, methotrexate, actinomycin-D, cyclophosphamide, and vincristine (EMA-CO) has been considered the most effective regimen in patient in the high risk group.[13,14] Patients who developed resistance or recurrence after EMA-CO regimen may then successfully be treated with a modification of the regimen by substituting etoposide and cisplatin on day 8 with the EMAEP regimen.[1]

Conclusion

In conclusion, this case illustrates many points; first, the importance of biopsy in vascular lesions of undetermined etiology; second, angiographic studies are recommended in young patients with metastatic choriocarcinoma who present with intracerebral hemorrhage.

References


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