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Perspective

Primary Mediastinal Yolk Sac Tumor in Rare Case of Brain Metastatic

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Abstract

Extragonadal germ cell tumours known as primary yolk sac tumours are frequently diagnosed in adolescents and young adults. Men are more likely to have them. Germ cell tumours are categorised as seminomas and non seminomatous tumours based on their histological features. A mediastinum Extragonadal yolk sac tumour is the least common type of NSGC. The clinical signs and symptoms are vague and can mimic those of other chronic illnesses like various cancers or tuberculosis, including chest pain, vena cava superior syndrome, fever, weight loss, and chronic cough. The results of immunohistochemistry for pan-cytokeratin and alpha-fetoprotein were favourable. Because brain metastases are uncommon, there is little information available about their clinical signs and symptoms, anatomical locations, and characteristics. But the metastatic brain process produced histology results that were comparable to those of the originating site. Added radiological and laboratory examinations can conducted to find more metastatic mechanisms. There is currently no clear standard of care for treating primary mediastinal sac tumours with brain metastases.

Keywords: Brain metastases, Extragonadal tumor, Non-seminomatous germ cell tumor, Yolk sac tumor

INTRODUCTION

Combining radiation, surgery, and chemotherapy could enhance prognosis and overall results (Marwaha S 2013). We describe a rare case of a 32-year-old man who had a primary mediastinal yolk sac tumour that had spread to his brain (Krahn GL 2011). Yolk Sac Tumor is a non-seminomatous Extragonadal germ cell tumour (Hayes JF 2015). In the United States, there were 500 new cases of NSGCT every year. According to the International Germ Cell Cancer Collaborative Group, 1.3% of brain metastases occur before chemotherapy (Crump C 2013). It has a bimodal distribution of ages, with children being the most common age group and males between the ages of 20 and 30 being the second most common (Craddock N 1999). Brain There was few cases with a poor outcome of mediastinal yolk sac tumour metastatic process. A case of a young adult male with brain metastases is presented in our study (Group PGCBDW 2011). A 32-year-old male was referred from the primary healthcare facility with superior vena cava syndrome, progressing pulmonary tuberculosis, and oral ant tuberculosis medication three months before to admission (Fan J 2008). Clinical symptoms of prolonged cough and weight loss led to the diagnosis of tuberculosis in the previous clinic, and a chest x-ray revealed pleural effusion and a negative AFB test (Cho HJ 2005). The patient's condition did not improve and worsened after three months of OAT. He was therefore directed to the better healthcare system (Aas M 2014). In addition to an 8 kg weight loss, he also had a chronic cough, dyspnoea, swelling in the upper extremities, and a swollen neck vein (Oliveira J 2015). Following a general checkup and we discovered a solid mass on the middle anterior mediastinum using a thorax CT scan. A mediastinal yolk sac tumour was discovered after a mediastinal mass biopsy.

DISCUSSION

PanCK and AFP immunohistochemistry results were favourable. A rise in AFP was detected in the blood sample. The patient underwent platinum-based chemotherapy for six months, including cycles of PEB and rounds of bleomycin. Clinical signs and symptoms of the patient

improved during the course of treatment. The patient underwent a 7-month treatment but developed a chronic progressive headache, a burning sensation, and gradual left-side weakening without receiving medical care. The patient was taken to the emergency room the next week after experiencing loss of consciousness after the third bout of left focal to bilateral tonic-clonic seizures. He had a vital sign. Stable Following injections of phenytoin and diazepam, an evaluation revealed a Glasgow Coma Scale score of 15. Neurological impairments included left body weakness, left body paraesthesia, and supranuclear lingual and facial palsy. The left parietal cortex of the patient had ccs of intracerebral haemorrhage, according to an emergency non-contrast computed tomography scan.

CONCLUSION

We sought advice from the internal medicine and neurosurgery departments. It was decided to remove the Intratumoral bleeding and take a biopsy. After surgery, the neurological condition did not worsen. The left parietal lobe of the right frontal-occipital tract was destroyed, and a solid mass was found with peritumoral haemorrhage on brain magnetic resonance imaging with contrast and spectroscopy. In intra- and peritumoral lesions, spectroscopy revealed an increase in the choline/creatinine ratio. Further examinations include contrast CT thorax, abdomen and testicular USG showed no evidence of a tumour. The results of the tests revealed mild Hypocalemia (2.9 mmol/L) and hypoalbuminemia (2.9 g/dL). The level of beta-hCG was normal. After brain surgery, alpha-fetoprotein levels were much lower than before. The results of the brain biopsy were consistent with a yolk sac type NSGCT. Pan-cytokeratin, AFP, and CD30 were all positively expressed by immunohistochemistry in both specimens. This finding supported a mediastinal yolk sac malignancy. Levetiracetam, an antiepileptic drug, was administered to the patient. Dexamethasone was administered 15 mg daily, with weekly tapering. His GCS was 15 when he was discharged, and his neurological deficits did not worsen. The patient passed away nine months after receiving his first diagnosis of a primary mediastinal malignancy.

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