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CASE REPORT

Cerebellar Hemispheric Medulloblastoma in a 1 Year Old Female

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Abstract

Medulloblastoma is a common malignant pediatric tumor. Peak incidence is during the first decade and has a male predominance. A second peak of incidence is noticed in around third decade. Usually arise from the fastigium of the fourth ventricle. Hemispheric type of medulloblastoma is very rare and is found in the second peak incidence group. A case of medulloblastoma in a one year old female baby is presented here which was removed by occipital craniotomy. CT finding showed the tumor was hemisperic and compressing the fourth ventricle. Although vary rare, a cerebellar hemispheric lesion in pediatric age group, medulloblastoma should be taken into consideration as a differential diagnosis.

Introduction

Medulloblastoma is a common posterior fossa tumor in children and commonly occur in the midline in the fourth ventricle. This tumor has a higher incidence in boys. Meudlloblastoma also has a second peak age of incidence around thirty years of age and hemispheric variety is common in this age. We are presenting a case of hemispheric medulobllastoma in a one year old female baby who was diagnosed on a CT scan done due to vomiting after a fall from the bed. The tumor was operated by an occipital craniotomy and almost total removal was done. The histopathology confirmed the tumor as medulloblastoma.

Case Report:

One-year-old female baby was admitted to our paediatrics department with a history of fall from bed followed by repeated vomiting and convulsion. Her mother also gave a history of repeated vomiting few months back. On admission, her body weight was 9.5 kg, OFC 46.5 cm. On neurological examination, the baby was found conscious, bilateral papilloedema was noted. Moro reflex, grasp reflex were normal. A CT scan was done, which showed a huge hyperdense mass with mild homogeneous enhancement in the left cerebellar hemisphere. The fourth ventricle was compressed pushed towards right. Triventriculer hydrocephalus was noted. Scattered calcification was noted (Figure 1). She was transferred to the neurosurgery department and was operated with a bilateral sub occipital craniotomy, the tumor was almost totally removed. After operation she was doing fine. Her papilledema improved and the baby started breast-feeding. Histopathology confirmed the diagnosis as medulloblastoma. She was referred to the oncology department for further management on 8th postoperative day.

Discussion:

Medulloblastoma accounts for 15-30% of intracranial tumors in children and is the most

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common malignant pediatric brain tumor [2, 3, 4, 6, 7]. Peak incidence is during the first decade. Male: Female ratio is 2:1. Usually arises in the cerebellar vermis, in the fastigium of the fourth ventricle [2, 4]. A second peak is noted at a mean age of 35 years and the incidence is less than 0.5 per 100000 and hemispheric type is common in adult variety[1, 8].

The CT finding of cerebellar medulloblastoma in children is well established as a hyperdense homogeneous midline mass with marked enhancement with IV contrast and calcification is rare [4, 5, 9]. These tumors are radiosensitive, however prognosis is poor below the age of 4 years. 5 and 10 years survival is around 56% and 43% after debulking of the tumor as much as possible and followed by craniospinal radiotherapy[2].

Hemispheric medulloblastoma in the pediatric group is rare. Usually the patients presents with headache and vomiting. In our case, the patient was admitted with a history of fall from the bed followed by vomiting and convulsion. Although there was a history of vomiting few months back which was found after enquiring the patient's mother which was overlooked by the parents and they did not bring the patient to medical attention due to unawareness.

CT scan of brain showed a mixed density mass lesion with a cystic component and calcification in the left cerebellar hemisphere. There was significant midline shift and brain stem compression. Mild contrast enhancement of the solid component was noted after IV contrast administration. The fourth ventricle was compressed. There was a tri-ventricular hydrocephalus due to obstruction of CSF pathway (Figure 1). As in pediatric variety of Medulloblastoma, the mass is commonly in the midline, homogeneous and remarkably enhances on IV contrast on a CT scan, all the CT features were atypical of the common features of pediatric variety of medulloblastoma in our case, rather similar to the features that are common in adult variety .

The initial diagnosis was a pilocytic astrocytoma. The patient underwent operation. Debulking of the tumor was performed. Neurologically the patient improved. Histopathology showed a typical appearance of a Medulloblastoma.

Although having atypical radiological features, Medulloblastoma should also be kept in the differential diagnosis for a posterior fossa tumor in pediatric group.

To our knowledge, this is the first case of medulloblastoma having all the rare features in the CT scan presented in the literature.

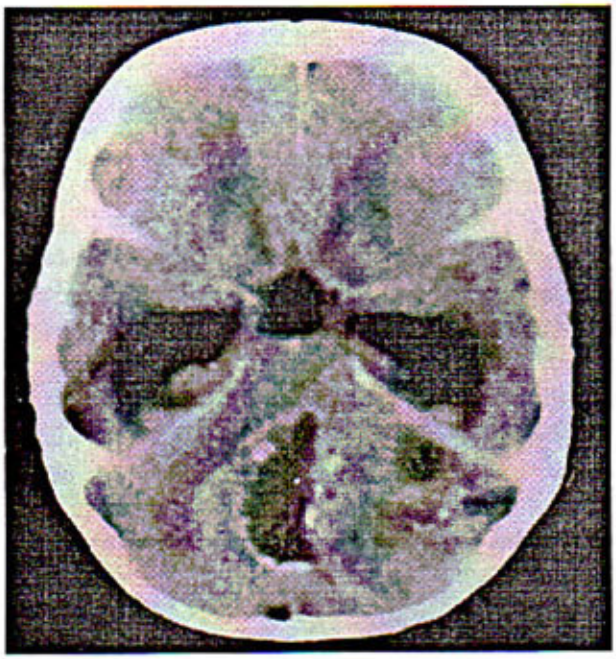

Figure : Contrast enhanced CT Scan.
Legend: Contrast enhanced CT scan shows mild enhancement of the solid component.

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