

Case Report

Persistent vomiting, an alarm sign in children

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ABSTRACT

Brain tumors, the second common cancer following hematological malignancies account for up to 21% of all malignancies below 14 years of age. Medulloblastoma is a common form of Primitive neuro ectodermal tumor and likely arise from either the external granular layer (e.g., desmoplastic variant) or the subependymal matrix cells of the fourth ventricle (e.g., classic variant), or both. The clinical course of the disease is aggressive in children than in adults. The tumor can invade the CSF through the ventricles or even cause metastases to bones and lymph node. With the emergence of advanced technologies and treatment facilities, the morbidity and mortality of the disease is greatly improved with a five-year survival of up to 75%. However, the presence of disease in children <3 years or evidence of dissemination on diagnosis carries poor prognosis. Here we are discussing a case of 5-year-old girl who presented to OPD with vomiting for 1 month.

Keywords: Medulloblastoma, Persistent vomiting, Primitive neuro ectodermal tumor

INTRODUCTION

Brain tumors are the most common solid tumors in childhood (21%) and off which Medulloblastoma is the commonest CNS tumor.^{1,2} Medulloblastoma accounts for around 20% of all tumors. It arises from the floor of skull involves cerebellum and posterior fossa and has a bimodal distribution peaking at 3-4 years and then 8-9 years of age followed by another peak between 18-25 years of age.³

Approximately 70 percent cases of medulloblastoma diagnose before the age of 20 years.⁴ The diagnosis of medulloblastoma is based on clinical suspicion and neuroimaging.

The standard treatment for medulloblastoma is multidisciplinary approach which includes surgery, radiation and chemotherapy.⁵ In extremes of age, the

outcome of medulloblastoma is poor and long-term complications are more.

CASE REPORT

A 5-year-old girl presented with complaints of vomiting, headache and blurring of vision for past 1 month. Child was previously evaluated for vomiting by pediatrician and gastroenterologist and treated with Proton pump inhibitor. In spite of it the vomiting persisted. Three days prior to admission child developed heaviness of head and blurring of vision. There was no h/o convulsion and gait instability. Vomiting was more during morning times. On central nervous examination, child was oriented to time place and person, all reflexes were noted to be normal, plantar showing flexor response, and no clonus was elicitable. The patient had bilateral papilledema on ophthalmological examination following which MRI Brain was done. MRI was suggestive of well-defined heterogeneous predominantly solid lesion in the posterior

fossa in the midline predominantly arising from the floor of 4th ventricle. The lesion caused significant mass effect over the pons and medulla oblongata displacing them anteriorly and cerebellar vermis posteriorly with no extension in to CP angles. The lesion is predominantly heterogeneously hyper dense on T2W1 and FLAIR and hypodense on T1W1 and also shows restricted diffusion. The lesion also showed few areas of calcification. The lesion caused moderate to severe hydrocephalus with diffuse periventricular ooze (L>R). Child was planned for surgery after the diagnosis of medulloblastoma was confirmed on MRI brain.

DISCUSSION

Children with medulloblastoma usually present with symptoms of vomiting associated with early morning headache, lethargy, seizures, altered sensorium, visual and gait disturbances. These symptoms usually arise first and it is secondary to increased intracranial tension (93.10%). The main symptoms associated with medulloblastoma are Raised intracranial pressure (98.2%) Cranial nerve deficit (15.5%) patients, Ataxia (41.37%) and long tract signs (17.2%) and few nonspecific signs of ventricular dilatation such as inability to elevate the eyes, the so-called “sun-setting sign”.⁴

Medulloblastoma, by definition, originates in the cerebellum.⁶ In this case MRI suggested of solid lesion in the posterior fossa arising from the floor of fourth ventricle. The mass effect due to tumor leads to moderate to severe hydrocephalus with diffuse periventricular ooze which was thought of mainly the reason for long standing, resistant vomiting in this child.

As mentioned above by R J Packer et al, persistent vomiting is a classical and consistent feature of raised ICT suggested of intracranial mass, which was the major complaint for our index case who presented with persistent early morning headache and vomiting multiple episode during whole day over last one month. But the striking feature in this case was the absence of any other clinical findings suggested of CNS involvement and no signs of raised ICT like bradycardia, hypertension and irregular breathing efforts, etc were noted at admission. Due to absence of clinical findings suggesting of raised ICP or any CNS pathology, the diagnosis could have been delayed leading to late treatment and making the prognosis worse. Luckily in this case based on strong clinical suspicion of brain tumor based on history of persistent vomiting and headache, MRI was done and was further intervened.

The proper clinical history, examination and early investigations could direct the clinician to diagnose the space occupying lesions in case of nonspecific symptoms such as isolated persistent vomiting and headaches.⁷ While the progression of symptoms takes 1-2 months the earlier diagnosis of the disease can help in better prognosis.⁸ As in our case she was diagnosed after one to

two months of presenting complaints, she was operated as soon as the diagnosis was made. Child is now recovering well and is currently symptom free.⁹

CONCLUSION

Vomiting an important symptom can occur due to many causes like Gastroesophageal reflux disease, Acute gastroenteritis and Acute gastritis, but also occurs commonly in increased Intracranial tension. Any case of persistent vomiting should be carefully evaluated to rule out even the slightest possibility of any reason that rises intracranial tension. Headache may be misdiagnosed in case of space occupying lesion as migraine, tension headache, Sinusitis and myopia. So any child who presents with headache associated with blurring of vision is not only essential to check the visual acuity and local pathology of ear, but also mandatory to do fundus examination and neuroimaging to rule out the space occupying lesions. Earlier diagnosis and provision of proper timely care in patients with Space occupying lesions have known to improve survival and quality of life.

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