

Drug abuse of betamethasone in 5 months old child- a case report

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Abstract: Pseudotumor cerebri is also known as idiopathic intracranial hypertension (IIH). It is a condition of elevated intracranial pressure in the absence of clinical, laboratory or radiological evidence of an intracranial space occupying lesion that can occur in the pediatric population. The exact etiology is still unknown. One of the causes of pseudotumor cerebri is long term steroid therapy and sudden withdrawal of steroids. The aim of case report is to discuss the drug abuse of Betamethasone oral drops 0.5ml (0.25mg) in a five month old female patient suffering from common cold.

Keywords: Pseudo tumor Cerebri, Betamethasone, Idiopathic Intracranial Hypertension, common cold.

INTRODUCTION

Pseudotumor cerebri is characterized by increased intracranial pressure with normal CSF study, normal ventricular size, anatomy and position in the absence of any intracranial mass or lesion. One of the causes of pseudotumor cerebri is long term steroid therapy and sudden withdrawal of steroids [1]. It is not commonly seen in children and is rare in early infancy [2]. The causes of pseudo tumor cerebri include drugs, infections, connective tissue disorders, hematological and metabolic disorders. Clinical features like headache, diplopia, and pulsatile tinnitus are common in adults. In infants it manifests as bulging anterior fontanelle, irritability, increased crying, vomiting and increased intracranial pressure. However there is usually no deterioration in the level of consciousness.

Betamethasone is in a class of drugs called steroids. It reduces swelling and decreases the body's immune response. This medicine is used to treat many different conditions. Primarily, it is used to treat endocrine (hormonal) disorders when the body does not produce enough of its own steroids. It is also used to treat many immune and allergic disorders, such as arthritis, lupus, psoriasis, asthma, ulcerative colitis, and Crohn's disease.

The term "common cold" refers to a mild upper respiratory viral illness. It is separate and a distinctly different illness than influenza, throat infection, bronchitis, sinusitis, pertussis, and allergic rhinitis. The average person has two or three colds a year. Colds are caused by many viruses, which cause similar symptoms. The same virus can cause another cold after re-exposure. However, the second illness is usually milder and lasts for a shorter period of time. Seasonal patterns may be seen for some of the viruses.

CASE REPORT

A five month old Indian female infant, presented with complaints of facial puffiness and bulging anterior fontanelle since 20 days and excessive cry since 2 days. The infant's mother has taken her to a local doctor for cold and noisy breathing at second month of life. She was advised to give betamethasone oral drops 0.5ml (0.25mg) bid for 3 days. In view of persisting noisy breathing and common cold the mother continued to administer the same for 3 months. A few days later the baby developed swelling over fontanelle and facial puffiness. At the time of hospitalization she weighed 6kgs and had cushingoid features with bulging anterior fontanelle. The baby was born to primi mother via normal vaginalis of age 25yrs at 37 weeks gestation with uneventful antenatal, natal, and post natal history. The baby weighed 3.2 kgs with normal apgar score. Her parents were of non-consanguineously married. She was immunized to date and had normal milestones of development. On general physical examination, baby was crying and at times very irritable. Her anterior fontanelle was bulging and prominent with pulsations. Her pulse rate and blood pressure were normal and there was no cranial nerve palsy or focal neurological deficiency. Other systems were clinically normal. Her hemogram, ultrasonogram of abdomen, liver and renal function tests was normal. The CT scan of brain and cerebrospinal fluid analysis was normal. Anterior fontanelle became normal after 2 days of lumbar puncture. Her general condition improved with treatment other than repeated lumbar cultures is usually with acetazolamide [3]. A diagnosis of pseudo tumor cerebri with cushingoid features secondary to betamethasone was considered. The child was discharged with advice to follow up.



Fig 1: Cushingoid features with bulging anterior fontanelle



Fig 2: Bulging anterior fontanelle

DISCUSSION

Pseudo tumor cerebri is characterized by increased intracranial pressure with normal csf study, normal ventricular size, anatomy and position in the

absence of any intracranial mass or lesion [4,5]. The pseudo tumor cerebri may be primary (idiopathic ICH) or arise from a detectable secondary cause. The secondary causes are multiple and includes causes such cerebral venous abnormalities, cerebral venous sinus thrombosis, subarachnoid hemorrhage and endocrine disorders such as Addison disease, hypoparathyroidism, Cushing's syndrome, Clinical features like headache, diplopia, pulsatile tinnitus are common in adults. In infants it manifest as bulging anterior fontanelle, irritability, incessant crying and vomiting due to increased intracranial pressure. However there is no deterioration in the level of consciousness. The pathogenesis of pseudo tumor cerebri is due to increased blood volume that in turn increases intracranial pressure, increased CSF production and decreased CSF absorption. The diagnosis of pseudo tumor cerebri include computed tomography scan of the brain, ophthalmology examination, including visual field testing, magnetic resonance imaging of the brain, and lumbar puncture for CSF analysis. Diagnostic criteria as per international Headache Society's Clinical criteria are 1) CSF pressure above 200mm h₂o, 2) CSF study should reveal normal white cell count with normal or low protein content,, 3) normal neurological examination except for papilloedema and 6th cranial nerve palsy, 4) no mass lesion or ventriculomegaly on neuroimaging and 5) no clinical or neuro imaging evidence of venous sinus thrombosis [6, 7]. This infant had increased intracranial tension as evidenced by bulging anterior fontanelle, irritability and excessive cry. Her CT scan brain showed normal ventricles without any mass or venous thrombosis. Although her CSF pressure was not measured, she had jetting of CSF while performing lumbar puncture and the CSF analysis was normal.

CONCLUSION

The irrational prescriptions of steroids as treatment for common cold should be stopped, apart from the irrational prescriptions, the health awareness among the general public is also lacking to the extent, that the rapid weight gain which is caused by steroids, which is basically a side effect, is mistaken for good health.

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