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CASE REPORT

Opsoclonus-Myoclonus Syndrome in a Child with Birth Asphyxia

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ABSTRACT

A case of Opsoclonus Myoclonus Syndrome associated with birth asphyxia presented with antiseizure treatment started soon after birth and continued after discharge. The child presented at two years of age and had jerky movements in the limbs and eyes. The eye movements promptly responded to phenobarbital, and the limb movements appreciably diminished after adding clonazepam. The practice of continuing antiseizure treatment post-discharge in asphyxiated babies is questionable. No asphyxiated baby is reported in the literature to have OMS.

Introduction

Opsoclonus Myoclonus Syndrome (OMS) is an uncommon neuroimmunological disorder frequently associated with insomnia and irritability. An opsoclonus is an ocular flutter that occurs in all planes, and myoclonus is a brief, involuntary jerk.

Developmental plateauing and poor long-term outcomes are frequent in OMS. The diagnosis is solely clinical and does not require laboratory tests. Autoimmune disorders, viral prodrome, or neoplasms, particularly neuroblastoma, may accompany it.

Case report

A two-year-old child, born of a non-consanguineous marriage, presented to the primary health centre (PHC), Kamshet, in March 2023 for delayed milestones and jerky movements of the limbs and the eyes. She was a hospital delivery with a birth weight of 1900 g. The baby was depressed at birth, as told to the parents by the doctor. After some stabilization, the baby was transferred to a first-referral unit and, subsequently, to a tertiary care centre. No discharge summary was available; the parents narrated the events. The baby went home on the 17th day of life. The mother provided smartphone videos of the chaotic and rapid eye movements in all directions. The baby cried excessively. Only the sclera was visible when opening the eyes, and the baby preferred to keep its eyes closed. At the time of presentation to the PHC, she received L-carnosine, Sodium valproate, Trihexyphenidyl, Clobazam, and Lycopene. She had also received a course of steroids. The treatment made no apparent change in the baby's condition. MRI revealed periventricular leukomalacia and thinning of the corpus callosum, with no calcifications. The EEG, done on the tenth day, showed multifocal epileptiform activity in bilateral parieto-occipital regions, and the one done at one year reportedly had hypsarrhythmia. There were no infantile spasms. Test results to detect neuroblastoma were not available. There is a global development delay with no neck control or vision. Hearing is normal, and the left side of the body moves less.

The clinical diagnosis was opsoclonus-myoclonus syndrome (OMS) in a baby with birth asphyxia. The baby received phenobarbital for myoclonus not responding to earlier treatment (1). The jerky eye movements stopped immediately, and the jerky limb movements significantly diminished after adding clonazepam. Any attempt to increase the clonazepam dose for the myoclonic jerks made the child excessively drowsy.

She started opening her eyes, gradually developed eye contact, and now responds to her mother's voice. She continues to feed normally. Irritability and sleep disturbances, a part of OMS, have responded well to the treatment.

The main diagnostic criteria for OMS syndrome are a) fast, involuntary, arrhythmic eye movements in multiple directions (vertical, horizontal, torsional), b) Presence of myoclonus, c) Behavioural changes (most often irritability) or sleep disturbances, and d) Half of the cases have neuroblastoma.

Three of the four criteria are needed to diagnose OMS (2). Neurological involvement is the area of primary concern. Association

with neuroblastoma is known, and the disease presentation is the same, with or without neuroblastoma (3). Opsoclonus and ocular flutter may be post-infectious and usually treated with immunomodulating agents. To the best of our knowledge, no asphyxiated baby is reported in the literature to have OMS.

There is evidence to suggest that the continuation of antiseizure medication at discharge may be associated with a higher risk of death or disability at 18–22 months of age among asphyxiated babies (4). Therefore, the recent International League Against Epilepsy guidelines recommend against continuation of anticonvulsants after the discharge of the asphyxiated babies, regardless of MRI or EEG findings (5). Glass et al. concluded that it was safe to stop anticonvulsants before discharge, which in most cases is phenobarbital (6). In our case, although there are no details available on the treatment given at birth, the discharge prescription for sodium valproate and clobazam does suggest antiseizure medication and a history of depression at birth. It raises the possibility of anticonvulsant treatment, at least contributing, if not causing, the OMS in our case.

Conflict of Interest:

None

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References:

1. Susumu Ito, Kaoruko Nagumo, Aiko Nishikawa, Hirokazu Oguni, Satoru Nagata. Low-dose phenobarbital for epilepsy with myoclonic absences: A case report. Brain and Development 2021; 43:666-8.

2. Bhatia P, Heim J, Cornejo P, Kane L, Santiago J, Cruer M. Opsoclonus–myoclonus–ataxia syndrome in children.
Journal of Neurology 2022; 269:750–757.

3. Krug P, Schleiermacher G, Hichon J, Valteau-Counet D, Brisse H. Opsoclonus-myoclonus in children associated or not with neuroblastoma. European Journal of Paediatric Neurology 2010;14: 400-409.

4. Sewell EK, Shankaran S, McDonald SA, et al. Antiseizure medication at discharge in infants with hypoxic-ischaemic encephalopathy: an observational study. Arch Dis Child Fetal Neonatal Ed 2023; 108:421–8.

5. Hunt RW. Neonatal seizures. Treat! But when, with what, and for how long? Arch Dis Child Fetal Neonatal Ed 2023;108: F552–F553.

6. Glass HC, Soul JS, Chang T, et al. Safety of early discontinuation of antiseizure medication after acute symptomatic neonatal seizures. JAMA Neurol 2021; 78:817–25.