A 10-day-old baby with “lightning-like” myoclonic limb jerks during sleep: a case report

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ABSTRACT

Background: Benign neonatal sleep myoclonus (BNSM) is a condition commonly mistaken for seizures. It is characterized by self-limiting “lightning-like” myoclonic limb jerks that occur primarily during sleep in the newborn phase but are not associated with epilepsy that suddenly stops when the infant is agitated. This condition is potentially resolved between the ages of 2 and 6 months. The incidence of BNSM per 1,000 births is 0.8 to 3 cases. This case report aims to explain the findings of a neonate with multiple episodes of abnormal jerks affecting the entire limb, only during sleep.

Case Report: We reported a 40-day-old baby boy with multiple episodes of abnormal jerks affecting the entire limb since 10-day-old only during sleep. The jerky body movements appeared six until nine times a day with approximately an hour interval between movements. The patient did not have any neurologic deficits, pathologic reflexes and vital signs abnormalities. Electroencephalogram (EEG) revealed the normal result. We diagnosed the patient with BNSM.

Conclusion: The BNSM is a self-limiting disorder. For neonatal seizures or even neonatal status epilepticus, BNSM can be misinterpreted, recognizing childhood benign sleep myoclonus is important to prevent unnecessary diagnostic studies and treatments. The prognosis was good and the patient didn’t need any medication and long-term follow-up.

Keywords: Abnormal jerky movements, Benign neonatal sleep myoclonus, Electroencephalogram, Neonatal seizure

INTRODUCTION

Benign neonatal sleep myoclonus (BNSM) is a condition commonly mistaken for seizures.1 It is characterized by self-limiting “lightning-like” myoclonic limb jerks that occur primarily during sleep in the newborn phase but are not associated with epilepsy that suddenly stops when the infant is agitated.2 This condition is potentially resolved between the ages of 2 and 6 months. The incidence of BNSM per 1,000 births is 0.8 to 3 cases. Its significance lies in the differential diagnosis of infant seizures with epileptic, especially myoclonic seizures. Compared to neonatal seizures or even neonatal status epilepticus, BNSM can be misinterpreted, recognizing childhood benign sleep myoclonus is essential to avoid dispensable diagnostic studies and treatments.3 4 This case report aims to explain the findings of a neonate with with multiple episodes of abnormal jerks affecting the entire limb since 10-day-old only during sleep.

CASE REPORT

We reported a 40-day-old baby boy, referred to the neurology department by the pediatrics department at Zainoel Abidin General Hospital, with multiple episodes of abnormal jerks affecting the entire limb since 10-day-old only during sleep. The jerking movements happened for one until two times each, by the total movements appeared six until nine times a day with approximately an hour interval between movements. The patient did not have any neurologic deficits, pathologic reflexes and vital signs abnormalities. Electroencephalogram (EEG) revealed the normal result. We diagnosed the patient with BNSM.

Neurological examination showed that the patient’s consciousness was composed. The examination of the pupils was 3 mm / 3 mm, symmetrical with a strong light reflex. Both pathological and clonus reflexes are negative, meningeal signs were negative, motoric evaluation impressed no lateralization and normal physiological
The onset of myoclonic jerks characterized benign neonatal sleep myoclonus (BNSM) during non-rapid eye movement (NREM) sleep with a persistent absence of arousal with lack of concomitant electroencephalography performance. A temporary imbalance in serotonin, aside from genetic factors related to the etiology. Another possible risk factor that plays a role in this disease is genetics. The myoclonic jerks can be generalized, multifocal or focal. The attacks usually occur during NREM sleep and stop when the child is aroused. This characteristic assists in its diagnosis and differentiates it from other types of neonatal seizures.

Most neonates have generalized myoclonic, commonly found in distal limbs, jerking for 10 to 20 seconds. It may occur for over 30 minutes. The infant’s overall health is not affected, and the neurodevelopmental test does not show any associated defects. BNSM jerks are mostly triggered by sensations such as sound or contact or by benzodiazepines as well. Maneuvers such as head-to-toe rocking and repeated sound stimulation have been characterized as triggering processes in BNSM for myoclonic jerks.2 BNSM can be differentially diagnosed from benign familial neonatal seizures by the following criteria:1,4

- The jerking movements only occur during sleep,
- The jerking movements stop suddenly and progressively when the child is aroused,
- There were no electrographic seizures during events.

CONCLUSION

A rare case reported a 40-day-old baby boy at Zainoel Abidin General Hospital presented with multiple episodes of abnormal jerks affecting the entire limb since 10-day-old only during sleep. The jerking movements happened for one until two times each, by the total movements appeared six until nine times a day with approximately an hour interval between movements. The diagnosis was based on history taking, physical examination and supporting examinations, especially electroencephalography. The BNSM is.

Figure 1. EEG showing posterior-dominant rhythm (PDR) 2-3 at P3-O1

Figure 2. EEG during photic stimulation (5 Hz) at P3-O1
a self-limiting disorder. The prognosis was good and the patient didn’t need any medication and long-term follow-up.

**ETHICAL STATEMENT**

The informed consent was declared from the patient’s parent regarding the publication in this journal.

**CONFLICT OF INTEREST**

There is no conflict of interest regarding the manuscript.

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**AUTHOR CONTRIBUTION**

All authors are contributed equally to the content of the study.

**REFERENCES**


