

When Breastfeeding Transfers More Than Milk: A Case of Infant Dystonia

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Abstract

Background: Acute Drug-Induced Dystonia is a common type of extrapyramidal movement disorder. This condition is characterized by involuntary and sustained contractions of skeletal muscles, which can lead to abnormal postures such as torticollis, oculogyric crisis, facial spasm, laryngospasm, and opisthotonus.

Case Presentation: A 6-month-old female infant was brought to the pediatric emergency department by her parents due to the sudden onset of neck deviation to the right (torticollis) since the morning of admission. The parents stated that the child woke up with her head in an abnormal position and was unable to return it to the central position. The medication history revealed that the mother had received a single dose of intravenous metoclopramide the night before at a medical center due to nausea and vomiting. The infant herself had not received any other medications. Neurological examination showed no focal signs, meningeal stiffness, signs of increased intracranial pressure, or other involuntary movements. The patient received a single dose of biperiden 0.04 mg/kg intramuscularly. Reports from parents and the treatment team indicated that within minutes, the neck deviation was completely corrected, and the infant regained the ability to move their head freely. No recurrence of symptoms was reported during 6 hours of emergency monitoring.

Conclusion: This report shows that 1) Acute drug-induced dystonia should be one of the primary diagnoses in sudden torticollis in infants. 2) Taking a detailed drug history is very important. 3- Rapid diagnosis and initiation of anticholinergic treatment lead to complete recovery and prevent unnecessary invasive procedures.

Key Words: Drug-Induced Dystonia, Infant, Metoclopramide, Torticollis.

* Please cite this article as: Alizadeh A, Pourbadakhshan N, Shokrgozar M. When Breastfeeding Transfers More Than Milk: A Case of Infant Dystonia. J Ped Perspect 2026; 14 (5):20134-20139. DOI: 10.22038/jpp.2026.96603.5684

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1- INTRODUCTION

Acute Drug-Induced Dystonia is a common type of extrapyramidal movement disorder that occurs following the use of drugs with antagonistic effects on dopamine receptors, especially in the nigrostriatal pathways. This condition is characterized by involuntary and sustained contractions of skeletal muscles, which can lead to abnormal postures such as torticollis, oculogyric crisis, facial spasm, laryngospasm, and opisthotonus. The onset of these reactions usually occurs a few hours to a few days after starting the medication or increasing the dose, and if not diagnosed quickly, it can lead to airway dysfunction or misdiagnosed neurological conditions such as seizures or meningitis (1,2). The incidence of acute dystonia is significantly higher in children than in adults, and according to epidemiological studies, its prevalence among users of anti-dopaminergic drugs is estimated to be between 1% and 5%, while in adolescents and young adults, this rate reaches 6% to 10% (3,4). Known risk factors include young age, male gender, sudden onset of treatment, high-dose use, a history of similar reactions, and co-occurrence with stress or infectious diseases (4,5). Metoclopramide is a common drug used to treat nausea and vomiting in various age groups, but due to its antagonistic effect on D2 receptors in the basal ganglia, it is considered one of the most common causes of acute drug-induced dystonia (6). Studies have shown that the use of this drug in children, especially infants, is associated with a higher risk of extrapyramidal reactions, and for this reason, the U.S. Food and Drug Administration (FDA) has recommended the use of metoclopramide in young children only when strictly necessary (7). Torticollis is one of the earliest and most common manifestations of acute drug-induced dystonia, and if correctly diagnosed, complete

improvement usually occurs within minutes with anticholinergic treatments such as diphenhydramine, benztropine, or biperiden (1,8). Given the importance of timely diagnosis and preventing unnecessary diagnostic interventions, a precise understanding of clinical manifestations and the association of anti-dopaminergic drug use with acute dystonia in young people is essential. This report describes a case of acute torticollis in a 6-month-old infant that occurred after the mother took metoclopramide and rapidly improved with appropriate treatment.

2- CASE PRESENTATION

A 6-month-old female infant was brought to the pediatric emergency department by her parents due to the sudden onset of neck deviation to the right (torticollis) since the morning of admission. The parents stated that the child woke up with her head in an abnormal position and was unable to return it to the central position. The mother reported that over the past week, the infant had experienced mild fever, mild lethargy, and coryza, but at the time of admission, no fever, vomiting, seizures, altered level of consciousness, or trauma were observed. The infant was exclusively breastfed, and feeding continued without issues.

The medication history revealed that the mother had received a single dose of intravenous metoclopramide (4mg /2cc) the night before at a medical center due to nausea and vomiting. The infant had not received any other medications, including over-the-counter, herbal, or traditional remedies. No additional maternal medications were reported. The pregnancy history indicated that the patient was born preterm at 36 weeks and had no history of NICU admission, underlying neuromuscular diseases, or drug allergies. Growth and development were appropriate according to WHO curves (BW 2200g Z-score -1.2), current weight was 6600g (Z-

score -0.8), and vaccinations were complete.

Upon arrival, the patient's general condition was good, and she was fully conscious, with no signs of severe irritability or respiratory distress. The neck was in a fixed rightward rotation, and the infant was unable to correct the head's direction, which was consistent with cervical dystonia. The skin was warm and dry; no lymphadenopathy was palpable in the neck; the chest was clear on auscultation without retractions, and heart sounds were regular without murmurs. The abdomen was soft, non-tender, and without rebound. The extremities were normal, and pulses were symmetrical and strong. The patient's oxygenation was adequate, and no cyanosis or edema was observed. Neurological examination revealed an alert infant with normal tone in the extremities, symmetric movements, preserved primitive reflexes, and no jaw spasm, oculogyric crisis, or other involuntary movements. No focal neurological deficits, meningeal signs, or evidence of increased intracranial pressure were observed.

On admission, vital signs were as follows: heart rate 110 beats/min, respiratory rate 34 breaths/min, blood pressure 75/60 mmHg, oral temperature 36.6°C, and oxygen saturation 94% on room air.

Blood tests performed on the same day showed CBC results of WBC 10.8 with 22% neutrophils and 74% lymphocytes, suggesting a mild viral illness. CRP was 1 mg/L, and BS was 103 mg/dL. Electrolytes, including sodium 136, potassium 4.6, and creatinine 0.4, were within normal limits. VBG acid-base showed pH 7.35, PCO₂ 34.5, HCO₃ 18.3, which was consistent with mild compensated respiratory alkalosis and unrelated to the neurological symptoms. Urinalysis was normal, and urine culture was reported as negative.

To investigate structural causes of intracranial hemorrhage, a transfontanellar ultrasound was performed, which showed normal brain parenchyma and no signs of space-occupying lesions, hydrocephalus, or intraventricular hemorrhage.

2-1. Differential Diagnosis

When faced with acute torticollis in an infant, several diagnoses should be considered, including:

- Drug-induced acute dystonia (most probable diagnosis given the history of metoclopramide use and sudden onset) (9- 11).
- Meningitis or central nervous system infection (unlikely given the absence of fever, low CRP, no neck stiffness, and normal examination) (12).
- Neck injury or structural disorder/trauma.
- Musculoskeletal causes such as congenital torticollis.
- Intracranial tumors or lesions.
- Tetanus or hypocalcemia (rare and ruled out based on laboratory findings).

In summary, based on the sudden onset of symptoms, history of dopamine antagonist (metoclopramide) use, normal neurological examination, and normal imaging, drug-induced acute dystonia was the most probable cause.

2-2. Management and Clinical Course

Given the diagnosis of acute drug-induced dystonia, treatment with anticholinergics was initiated based on the recommendations of Nelson Textbook of Pediatrics (2023) and UpToDate (2025). The patient received a single dose of biperiden 0.04 mg/kg intramuscularly (13,14). Reports from parents and the treatment team indicated that within minutes, the neck deviation was

completely corrected, and the infant regained the ability to move their head freely. No recurrence of symptoms was reported during 6 hours of emergency monitoring.

The exact interval between maternal metoclopramide administration, the subsequent breastfeeding session, and the onset of neonatal symptoms could not be precisely determined; however, the temporal association was close, with symptoms appearing the following morning.

Based on scientific literature recommendations, to prevent recurrence, parents were educated and advised to avoid re-administering dopamine-blocking drugs, including metoclopramide and promethazine (8,15).

3- DISCUSSION

Acute drug-induced dystonia is a known extrapyramidal reaction, most commonly observed after the use of dopamine antagonist drugs such as antipsychotics and antiemetics, including metoclopramide (10,16). This reaction primarily occurs in children, adolescents, and young adults, with an incidence reported up to 10% in high-risk populations (12). The underlying mechanism involves an imbalance of dopamine and acetylcholine in the basal ganglia pathways, resulting in sustained muscle contractions and abnormal motor postures, including torticollis (8).

Similar cases of acute dystonia after exposure to dopamine antagonists, particularly metoclopramide, have been reported in pediatric patients. However, neonatal presentations associated with maternal metoclopramide use during breastfeeding are rare (5-7). In this case, the close temporal relationship with maternal intravenous metoclopramide administration, exclusive breastfeeding, rapid symptom resolution after biperiden,

and absence of alternative causes make this report notable.

One of the crucial aspects in diagnosing this disorder is the rapid initiation of treatment, as it can lead to severe complications, such as airway obstruction due to laryngeal muscle spasm (10). Standard treatment involves the use of central anticholinergic drugs or antihistamines with anticholinergic properties (diphenhydramine or benztropine). Biperiden is also recognized as an effective treatment in European sources and Lexicomp (17,18). Many studies have shown that a response to treatment is achieved within minutes, and the prognosis is entirely favorable (12,16).

This case report highlights the importance of a thorough review of the drug history, attention to maternal drug use during breastfeeding, and avoidance of unnecessary diagnostic interventions such as LP, especially when the clinical and paraclinical picture does not align with CNS disorders.

The infant's dystonic presentation was temporally associated with maternal intravenous metoclopramide administration during breastfeeding and was possibly related to drug exposure via breast milk, although drug levels in maternal milk or infant blood were not measured.

4- CONCLUSION

This report shows that:

- Acute drug-induced dystonia should be one of the primary diagnoses in sudden torticollis in infants.
- Taking a detailed drug history is very important.
- Rapid diagnosis and initiation of anticholinergic treatment lead to complete recovery and prevent unnecessary invasive procedures.

- The use of metoclopramide in children should be limited and done with extreme caution, and ondansetron is considered a safer alternative.

5- ACKNOWLEDGEMENT

We would like to thank the Clinical Research Development Unit of Akbar Hospital, Mashhad University of Medical Sciences, for assistance in this manuscript.

6- FUNDING

The authors received no financial support for this article's research, authorship, and/or publication.

7- CONSENT FOR PUBLICATION

We obtained informed consent from the infant's parents for the publication of the information.

8- COMPETING INTERESTS

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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