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Case Report

A Case of Difficult-to-Treat Fever-Triggered Dystonia in a Child with Cerebral Palsy

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Abstract:

Fever-induced dystonia in children with underlying cerebral palsy is uncommon and may be challenging to manage. We report a 2-year-old child with global developmental delay consistent with cerebral palsy who presented with recurrent episodes of fever followed by severe generalized dystonia. Neuroimaging revealed delayed myelination involving the centrum semiovale. The dystonia was refractory to multiple. Anti-dystonia medications. Initial therapy with baclofen and trihexyphenidyl failed to control symptoms, followed by tetrabenazine without significant improvement. Pulse methylprednisolone was administered for three days with persistent dystonia. Levodopa–carbidopa (Syndopa) was added considering the possibility of Segawa syndrome, but symptoms continued. Subsequently, intravenous immunoglobulin (IVIG) was given, following which the child showed gradual clinical improvement. This case highlights the complexity of managing fever-triggered dystonia in children with underlying brain injury and emphasizes the need for a systematic therapeutic approach.

Keywords: Fever-triggered dystonia, cerebral palsy, refractory dystonia, delayed myelination, IVIG.

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Introduction

Dystonia is a common movement disorder in children with cerebral palsy, particularly in dyskinetic subtypes. Systemic stressors such as fever may exacerbate abnormal motor activity and lead to severe functional impairment. Fever-triggered dystonia is rarely reported and may mimic metabolic, genetic, or inflammatory disorders. Management is often difficult and requires a multimodal approach. We present a child with cerebral palsy who developed recurrent fever-associated dystonia that was refractory to conventional therapy.

Case Report

A 2-year-old first-born child of a non-consanguineous marriage was admitted with recurrent episodes of fever followed by abnormal posturing. The child was delivered by normal vaginal delivery with an uneventful antenatal history but required neonatal intensive care admission for 4–5 days with ventilatory support. Breastfeeding was initiated on the 15th day of life. Developmental history revealed significant global delay consistent with cerebral palsy. Neck holding was achieved at 18 months, and the child could reach for objects with right-hand dominance and vocalized monosyllables only.

This was the fourth episode of illness. Fever was intermittent, occurring once or twice daily for 27 days, and dystonic posturing appeared after the onset of fever. Previous episodes had resolved gradually within 5–8 days. There was no history of seizures or

regression of milestones between episodes. There were no neurocutaneous markers, and hearing and vision were normal.

MRI brain showed delayed myelination involving the centrum semiovale, with otherwise normal brain structures. Routine laboratory investigations were unremarkable.

Management was challenging due to persistent dystonia. Initially, baclofen and trihexyphenidyl were started, but dystonia persisted. Tetrabenazine was subsequently added without significant improvement. Pulse methylprednisolone was administered for three days; however, dystonia continued. Levodopa–carbidopa (Syndopa) was then initiated in view of suspected Segawa syndrome, but there was no clinical response. Finally, intravenous immunoglobulin (IVIG) was administered, following which the child showed gradual improvement.

Figure 1: Our subject during episode of dystonia

Figure 2: MRI Brain, T2- weighted image

Discussion

Children with cerebral palsy are vulnerable to worsening dystonia during systemic illnesses such as fever. Differential diagnoses include metabolic decompensation, autoimmune encephalopathy, infection-related movement disorders, and genetic dystonias. The refractory nature of dystonia in this case required sequential therapeutic trials. Improvement after IVIG suggests a possible immune-mediated component, although spontaneous resolution cannot be excluded.

Conclusion

Fever-triggered dystonia in children with cerebral palsy can be difficult to treat and may require escalation beyond conventional anti-dystonia medications. A systematic approach including consideration of metabolic, genetic, and immune-mediated causes is essential. Immunomodulatory therapy may be beneficial in selected cases.

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