Guillain-Barré syndrome and acute transverse myelitis in a young child - a rare overlap syndrome

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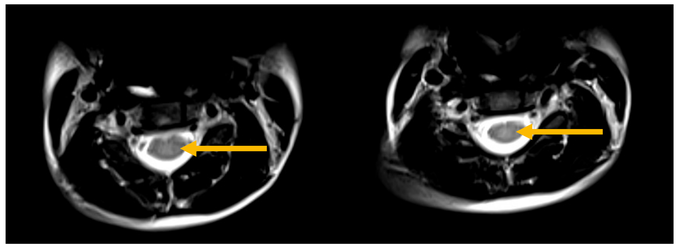
INTRODUCTION

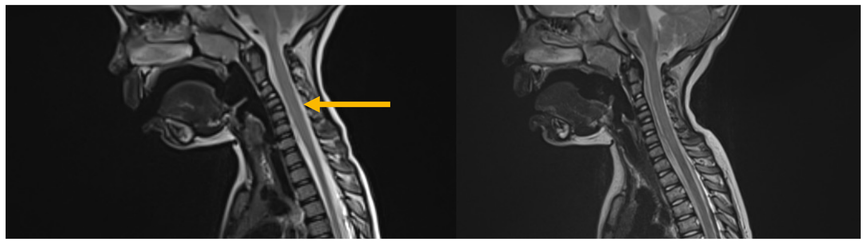
Guillain-Barré syndrome (GBS) and acute transverse myelitis (ATM) are autoimmune diseases with differences in therapeutical approach and prognosis. However, concurrent GBS and ATM can occur in rare cases as overlap syndrome.

CASE

A 2-year-old boy presented with paresis and areflexia of both lower extremities. The symptoms rapidly spread to both upper extremities, accompanied by trunk hypotonia and dysphagia.
A recent respiratory infection was reported. In the respiratory PCR test SARS-CoV-2-, parainfluenza and enterovirus were deteced.
The MRI showed a transverse myelitis at C2-C3 and C5. However, the cerebrospinal fluid (CSF) analysis revealed albuminocytologic dissociation indicating GBS (cell count 11/µl; protein 147mg/dl). Myelin oligodendrocyte glycoprotein (MOG)-, aquaporin-4- and ganglioside antibodies were negative. Also, virological screening in CSF was negative.
The electrophysiological findings were consistent with GBS.
The patient was initially treated with intravenous immunoglobulin (IVIG) with 1g/kg/d for 2 days, which resulted in rapid clinical improvement.
However, as complete restitution had not yet occurred, another cycle of IVIG and additional methylprednisolone pulse therapy with 10mg/kg/d for 3 days were administered. Finally, the patient recovered fully.



Pic. 1 and 2:
T2-hyperintensity of the myelon at C3 at onset



Pic. 3 (left): fusiform distension of the cervical myelon at onset; Pic. 4 (right): follow-up MRI after 2 months

DISCUSSION

A GBS/ATM overlap syndrome is extremely rare. Hence, there is no evidence-based treatment available. In the literature, reviews report that most patients received combined IVIG and corticosteroid therapy.
Therefore, although IVIG is the first choice of therapy in GBS, additional corticosteroid therapy should be considered in concurrent ATM, especially if the clinical improvement is not sufficient.

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