SUBACUTE ENTEROVIRUS CEREBELLAR SYNDROME IN A YOUNG PATIENT PREVIOUSLY TREATED FOR LYMPHOMA WITH CHIMERIC ANTIGEN RECEPTOR T-CELL (CAR-T) THERAPY: A CASE REPORT

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OBJECTIVE

Subacute cerebellar syndrome could be related to several autoimmune, infectious, or neoplastic-paraneoplastic causes [1]. We present a rare case of subacute cerebellar infectious syndrome in a **34-years-old woman** treated with **CAR-T therapy** for diffuse large B-cell lymphoma.
Fourteen months later (March 2025), she presented with double vision, dizziness, speech disorder, worsening over one week.

MATERIAL AND METHODS

Neurological examination revealed dysarthria, scanning speech, sustained horizontal nystagmus, multidirectional diplopia, limb ataxia predominantly on the right side and gait instability.
According to the subacute onset and the patient's medical history, we searched for lymphoma recurrence, central nervous system (CNS) infections, secondary autoimmunity, and immune effector cell-associated neurotoxicity syndrome (ICANS) post CAR-T therapy [2].

RESULTS

Brain magnetic resonance imaging (MRI) with gadolinium was unremarkable (Fig.1). Blood tests revealed hypogammaglobulinemia. **Cerebrospinal fluid** (CSF) analysis showed mild hyperproteinorrachia, slight pleocytosis, and reduced glycorrhachia. No evidence of lymphoma relapse, ICANS, or autoimmune/paraneoplastic etiology. Among viral and bacterial antigens, CSF **enterovirus** resulted positive (in two samples).
A multidisciplinary evaluation did not suggest the use of an antiviral treatment. Intravenous immunoglobulin (IVIg) was ineffective, but after five days of **high-dose methylprednisolone** dysarthria and ataxia resolved (while diplopia and nystagmus persisted).

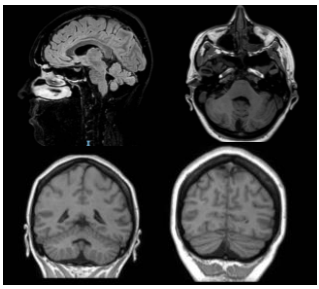

Fig. 1 – Brain MRI

CONCLUSIONS

This is a rare case of subacute cerebellar syndrome in a patient previously treated with CAR-T therapy. **Enterovirus infection** should be considered among the causes of cerebellar syndrome in **immunosuppressed patients** despite normal MRI. Further research is needed to identify proper treatment guidelines.

FOLLOW-UP

Despite the initial improvement, one month after corticosteroid therapy initiation the patient's condition worsened with **recurrence of dysarthria and ataxia**. One-month follow-up brain MRI revealed **cerebellar atrophy** (Fig.2), with persistent **CSF enterovirus positivity**.
After four months of corticosteroid therapy and a second cycle of IVIg, CSF analysis tested negative for enterovirus. Nonetheless, no clinical improvement was observed, with worsening dysarthria, ataxia, and gait instability, and persisting diplopia and nystagmus. The patient is currently continuing corticosteroid treatment.

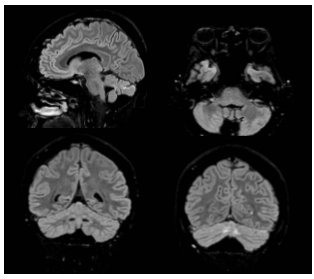

Fig. 2 – Follow-up Brain MRI

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