A RARE CASE OF MORVAN SYNDROME WITH DUAL CASPR2 AND LGI1 ANTIBODIES REVEALING METASTATIC THYMOMA

M.S. Adragna[1], G. Di Paola[1], A. Barbaccia[1], A. Scarola[1], E. Maiorana[2], F. Biasini[1], M. Marafioti[2], S. Messina[1], C. Rodolico[1];
[1]Department of Clinical and Experimental Medicine[1] – University of Messina, Italy.
[2]Department of Human Pathology "G. Barresi", University of Messina, 98125[1]

Introduction:

Morvan Syndrome is a rare autoimmune encephalopathy characterized by peripheral nerve hyperexcitability, severe insomnia, autonomic instability, and neuropsychiatric symptoms. It is frequently associated with antibodies against voltage-gated potassium channel complex proteins, especially CASPR2, and more rarely LGI1 LGI2. A paraneoplastic etiology, particularly with thymoma, is observed in a subset of cases. Early recognition and treatment of the underlying malignancy are crucial to improving prognosis (1-3).

Case Report:

We report the case of a 46-year-old woman with an history of autoimmune thyroiditis and undifferentiated connective tissue disease. The patient contracted SARS-CoV-2 in June 2024. Since then, she has presented with low back pain, myalgias, significant weight loss (13 kg), dysphagia, and diffuse muscle hypotrophy.

Work-up:

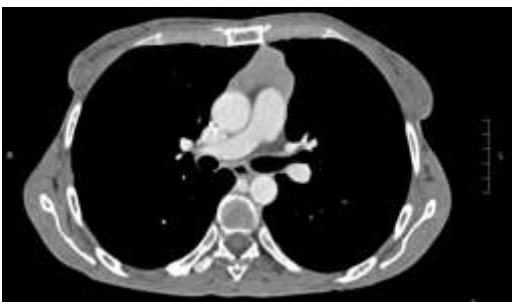
Neurological examination revealed: wide-based gait, tetra-hyposthenia, hypotonia, tetra-hyperreflexia, myochimia and fasciculations at lower limbs.
The main clinical symptoms included: agrypnia excitata, marked insomnia, nocturnal hallucinations, and behavioral and personality changes.
Antibody testing was positive for *both anti-CASPR2 and anti-LGI1 antibodies.*
Electromyography (EMG) showed the presence of myokymic discharges in the right biceps brachii and adductor magnus muscles. Brain EEG was unremarkable.
Thoracic CT scan revealed a large anterior mediastinal mass (8.1 × 3.4 cm), and **PET/CT** confirmed a hypermetabolic thymic lesion with pleural and pulmonary dissemination and multiple osteolytic bone metastases, suggesting neoplastic dissemination.
Biopsy confirmed a type B2 thymoma with a high proliferative index (Ki67: 90%).

Therapy

During hospitalization, despite intensive therapy, including three sessions of plasma exchange, corticosteroid pulses for five days, three radiotherapy sessions, and Carbamazepine, the patient experienced only partial neurological improvement. She remains in poor functional status (ECOG PS 3), under multidisciplinary evaluation and palliative care.

Conclusion:

This case illustrates the complexity of diagnosing and managing Morvan Syndrome in the context of paraneoplastic autoimmunity. Interestingly, the clinical onset followed a recent SARS-CoV-2 infection, raising the possibility that the viral illness may have contributed to immune system dysregulation, potentially facilitating the emergence of the paraneoplastic syndrome.



References:
1. Masood W, Lui F, Sitammagari KK. Morvan Syndrome. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Feb 25 [cited 2025 May 28].
2. Paraneoplastic autoimmune neurologic disorders associated with thymoma. *Journal of Clinical Neuroscience*. 2024;82:1–6.
3. Passuello N, Blandamura S, Valmasoni M, Sperti C. Thymoma metastatic to liver and pancreas: case report and review of the literature.J Int Med Res. 2017;45(4):1293–1300. doi:10.1177/0305735617697885