



Clinical disability in coexisting NMOSD and Systemic Autoimmune Diseases.

Y. MARTINEZ^{*1}, **E. TETLALMATZI**², **A. GARCIA**², **E. VALENZUELA**², **J. VARGAS**², **D. COUTINHO**¹, **T. CORONA**³, **J. FLORES**¹, and **V. RIVAS**¹

1. Neuroimmunology Department, National Institute of Neurology and Neurosurgery, Mexico City, Mexico.
2. Neurology Department. National Institute of Neurology and Neurosurgery at Mexico City
3. Neurodegenerative Diseases Department. National Institute of Neurology and Neurosurgery at Mexico City /National Autonomous University of Mexico

INTRODUCTION

Background: Neuromyelitis optica spectrum disorder (NMOSD) is an autoimmune central nervous system disease that leads to significant clinical disability with each relapse. Its association with other autoimmune systemic diseases (ASD) is recognized, but the impact on clinical disability remains unclear.

OBJECTIVE

To assess clinical disability in patients with coexisting NMOSD and ASD.

METHODS

A cross-sectional study was conducted on NMOSD patients diagnosed by the 2015 criteria, with follow-ups from January 2002 to December 2023. ASD was diagnosed by rheumatologists, and sociodemographic and clinical data were collected. Multivariate Cox regression identified factors associated with reaching an Expanded Disability Status Scale (EDSS) score of 6 or higher.

RESULTS

Among 170 patients, 28 (16.5%) had coexistent-ASD. The clinical course was relapsing in 75% and monophasic in 25%. The most prevalent ASDs were systemic lupus erythematosus (35.7%) and Sjögren's syndrome (32.1%). Factors associated with higher clinical disability included AQP4-IgG positivity (HR = 2.82, $p < 0.05^*$), age at NMOSD diagnosis (HR=1.06, $p < 0.05^*$), coexistent-ASD (HR =1.68, $p = 0.36$), and first-attack neurological symptom (HR =1.16, $p = 0.44$).

Figure 1. NMOSD and ASD patients. a) First-attack neurological symptom: ON: 57.1%, TM:25%. ON+TM: 10.7%, TM+BT and diencephalic/cerebral 3.5% in each condition. ON: Optic neuritis, TM: Transverse myelitis, BT: Brainstem symptoms, b) Concomitant ASD conditions were found in 28 patients: SLE (35.7%), followed by SS (32.1%), APLS (14.2%), RA (7.1%), thyroiditis, scleroderma, and SLE+APL (3.5% in each condition), and were stratified into AQP4-IgG groups.

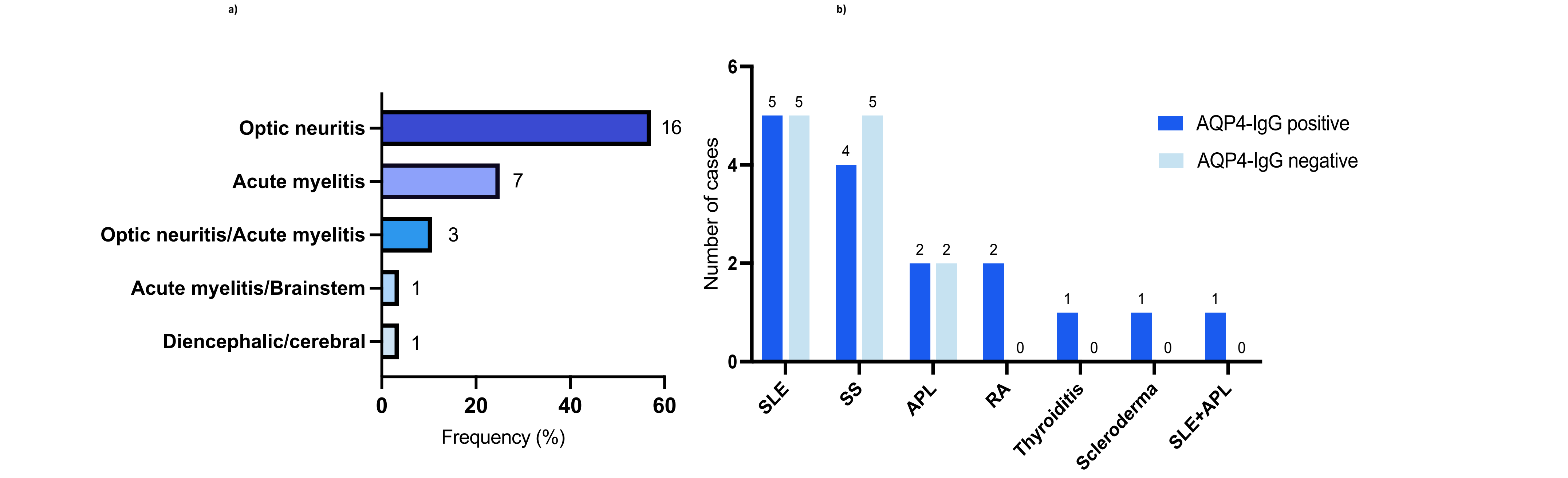
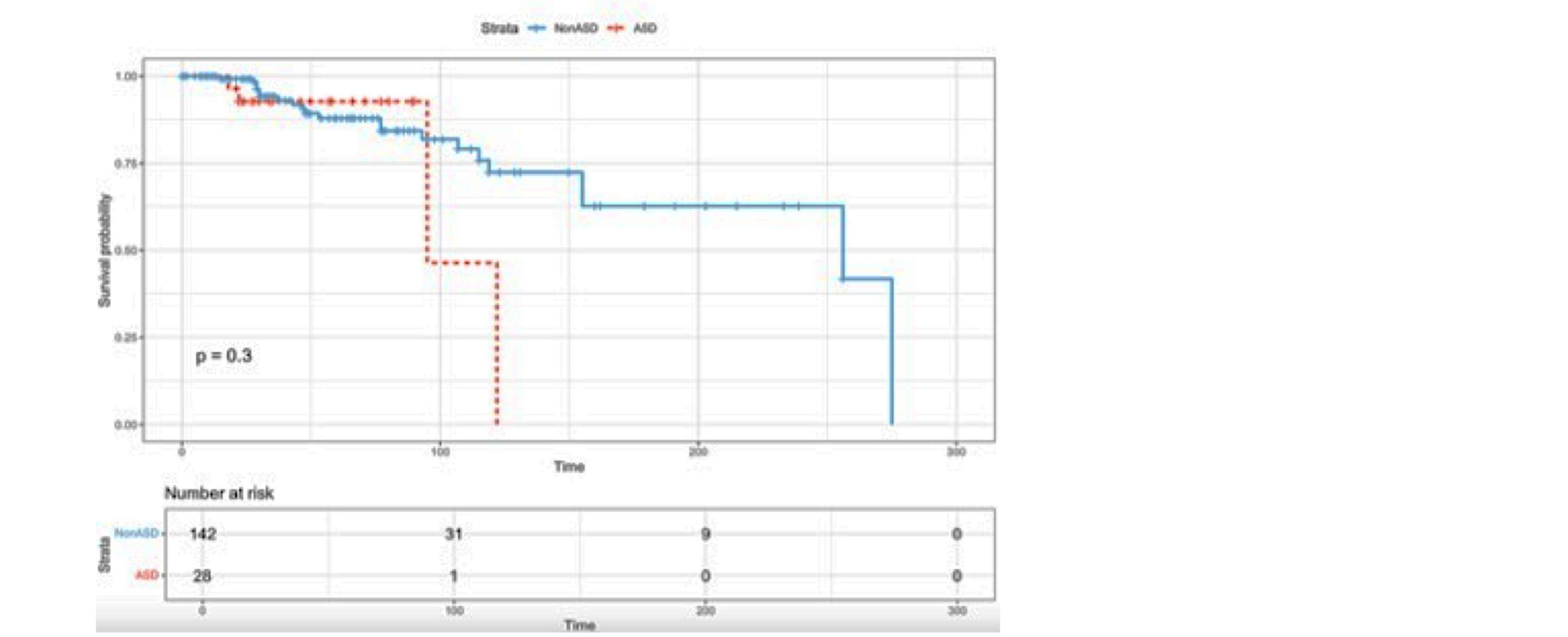


Figure 2. Kaplan-Meier curves to compare the survival probability to reach severe disability (EDSS of 6.0 or greater at the last visit) in NMOSD patients with and without ASD. (Log-rank test $p > 0.05$)



CONCLUSIONS

The coexistence of NMOSD and ASD impacts clinical disability, making early identification and evaluation crucial for effective therapy and reducing long-term disability.

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CONTACT INFORMATION

Yazmin Martinez
INNN
yazmarlo.2016@gmail.com