

# CLINICAL EVOLUTION IN MEXICAN PATIENTS WITH SEROPOSITIVE AQP4 NEUROMYELITIS OPTICA SPECTRUM DISORDERS TREATED WITH RITUXIMAB

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## Introduction

Neuromyelitis Optica spectrum disorders (NMOsd) are a group of inflammatory disorders of the CNS characterized by episodes of demyelination and immunomediated axonal damage and are usually associated with the presence of serum anti-aquaporin-4 antibodies (AQP4). Rituximab (RTX) is a monoclonal antibody directed against CD20 that has long-term reduction in AQP4-IgG titers and the relapse rate in patients with NMOsd.

## Methods

In an observational and retrospective study, all patients treated in our institution diagnosed with NMOsd by 2015 criteria, with recurrent clinical phenotype, anti-AQP4 antibodies seropositive under treatment with RTX at least 2 years were included. The Student's t-test, survival curves and log analysis were performed. Rank Values of  $p \leq 0.05$  were considered statistically significant.

## Results

A total of 15 patients (100% female) were identified. Mean age at onset was 34 (SD 11) with a mean evolution time of 8.11 years and mean of 7 relapses during the same period. 14 patients received an immunosuppressive agent before RTX (AZA 40%, CFM 46%, MMF 6.7%, MTX 6.7%). The mean age of initiation of treatment with RTX was 37 years (SD 12), with a mean treatment time of 52 months (SD 28). The mean ARR before and after treatment with RTX was 2.55 and 0.35 (5 vs 1 relapses before and after the start of RTX); with a difference of -2.20 ( $p = 0.006$ )

## Conclusions

This study shows a statistically significant reduction in the ARR in patients with AQP4 seropositive NMOsd after the onset of RTX, as well as an increase in the rate of relapse-free patients. The benefit seems to be maintained regardless of the time of evolution of the disease, or prior treatment. This information supports the use of rituximab in our population, and indirectly suggests that the early use of rituximab would modify the course of the disease.