Introduction
Neuromyelitis Optica (NMO) is an autoimmune "aquaporinopathy" of the central nervous system that causes inflammatory demyelinating lesions primarily in the spinal cord and optic nerve, leading to paralysis and blindness. The majority of NMO patients are seropositive for autoantibodies against AQP4 (AQP4-IgG), the main water channel of astrocytes.

Objective
To Stabilish the relationship between retroconversion and the use of RTX and other treatments in the follow-up of AQP4+ NMO Mexican patients.

Methods
A prospective and longitudinal descriptive study was carried out in 19 patients that meet the inclusion criteria, diagnosed according to Wingerchuk 2015 criteria, with positive AQP4-IgG and a subsequent AQP4-IgG serostatus at any given time. Clinical outcomes were defined by the changes in the annualized relapse rate (ARR) and EDSS score between the initial and subsequent evaluation.

Results
Of a total of 43 patients diagnosed with positive AQP4 Neuromyelitis Optica, 19 patients were identified that met the inclusion criteria, of which 17 (89.5%) were women and 2 (10.5%) men. The mean age at diagnosis was 47.84 years (21-68 years, SD 12.812). 18 patients (69.2%) had 1-5 years of disease evolution time. Chronic treatment was evaluated individually according to clinical and socioeconomic factors. Disease modifying treatment included Rituximab (RTX) (26.3%), cyclophosphamide (CYC) (5.3%), azathiprine (AZT) (21.1%), CYC+ RTX (21.1%), CYC + AZT+ RTX (21.1%), AZT+ MTX (methotrexate) (5.3%). Due to adverse reactions, failure (relapse on medication) or intolerance 63.3% were escalated to treatment with Rituximab. Figure 1.

Discussion
This study demonstrates the efficacy of rituximab in NMO, particularly in ARR and EDSS. From our cohort of 19 patients, we documented seronegative conversion in 6/13 RTX-treated patients. Our data showed that accumulated dose seems to influence the seronegative conversion rate and indirectly supports that longer time is needed to reach this state. Previous studies suggest that AQP4-IgG serostatus has prognostic value and may be related to worse outcomes in NMO patients. Although we did not manage to document a statistical significant clinical effect on seropositive vs seronegative conversion patients, a lower mean ARR (0.6 vs 0.7) and EDSS score (3.1 vs 4.4) was found.

Figure 2
RELATIONSHIP OF CURRENT EDSS, ARR VS AQP4 CONTROL

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Conclusion
Treatment with Rituximab is effective in NMO AQP4 seropositive, demonstrating improvement in EDSS and decrease in ARR, particularly in patients with retroconversion. This finding can be of great impact by opening doors to the use of NMO AQP titles in the monitoring and prognosis of patients.

References