Introduction
Antibodies directed against myelin oligodendrocyte glycoprotein (MOG-Ab) have been reported in the serum of pediatric patients with multiple sclerosis (MS) acquired demyelinating syndromes (ADS), and in adult patients with neuromyelitis optica spectrum disorders (NMO/SD). Previous data about disability outcome associated to MOG-Ab are limited and contradictory.1,2 Our goal was to investigate disability outcome associated to MOG-Ab in adults with NMO related disorder compared to aquaporin-4 antibody (AQP4-Ab) positive patients.

Methods and subjects
Inclusion criteria and recruitment
This is a multicentric retrospective study from all the French referral centers within the scope of observatoire français de la sclérose en plaques (OFSEP) performed between January 2014 - January 2017. Patients were included when fulfilling the following inclusion criteria: 1) diagnosis of ADS, 2) presence of MOG-Ab in serum detected either at onset of disease or during follow-up 3) age ≥ 18 years at onset of disease.

Epidemiological and clinical data were prospectively collected in standardized evaluation forms dedicated to the MOGADOR study (Figure 1).

Figure 1. Inclusion criteria, variables and outcome measures

Table 1. Baseline features in MOG and AQP4-Ab positive patients

Table 2. Effects of baseline features on time to reach a first relapse, time to reach DSS 3.0, and time to reach VA 20/100

Discussion
MOG-Ab-positive patients were initially associated with a monophasic and less severe disease course, in comparison to AQP4-Ab positive ones.1,3 Recently, a longer follow-up time revealed a higher frequency of relapses than initially described with potential more important disability.4 However, these studies were based on small-sized cohort of patients, mixed features from adults and pediatrics, and did not consider time when performing outcome analysis. In the present study, we showed that MOG-Ab are associated with a better motor and visual outcome when compared to AQP4-Ab after a first ADS. This distinction is supported by pathologic findings showing an oligodendrocytopathy in MOG-Ab-positive patients, and experimental studies demonstrating that MOG-Ab induce a transgenic myelin alteration with complete recovery in mice.5,7

In conclusion, our study, MOG-Ab is associated to a better outcome than AQP4-Ab in patients presenting with NMO or associated disorders. This should be considered for future clinical trials.

References