Long term efficacy of fingolimod for the treatment of multiple sclerosis: results from a single-cohort observational study

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Introduction

Clinical trials have shown efficacy and manageable safety profile of fingolimod (FTY) for the treatment of relapsing-remitting multiple sclerosis (RRMS). Most long-term data on FTY derive from the extension of clinical trials, but long term data from "real-world" cohorts lack. Here we report long term safety and efficacy results of a 3-years follow-up of FTY in a single-center cohort of 81 patients (pts).

Methods

Clinical data about the whole population (N= 81, Table 1) who started FTY in a single center between May 2011 and May 2014 are reported in this study. Data were collected prospectively. Relapses, Expanded Disability Status Scale (EDSS) and brain magnetic resonance imaging (MRI) activity data until May 1, 2017 were collected. Clinical data were assessed in the whole population and according to previous treatments (naive, switching from first line, switching from natalizumab or switching from other therapies patients). Safety data were also collected.

Results

After three years (Y), **continuation rate with fingolimod was 74.1%** (81.8%, 80,6% and 63.6% in naïve, switching from first line or switching from natalizumab patients, respectively; p=0.4; Fig.1); 14 patients (17.2%) discontinued FTY due to inefficacy, 3 (3.7%) patients due to mild adverse events (AEs), 4 (4.9%) patients were lost to follow-up. We observed an **overall relapse free survival of 66.7%** (63.6%, 71% and 57.6% in naïve, switching from first line or switching from natalizumab patients, respectively; p=0.1; Fig. 2), with a mean time to first relapse of 13.2 months. Considering patients who reached a complete 3 Y follow up (N=60), mean **disability remained stable after one and 3 Y of observation** (3.4±1.9 at baseline vs 3.6±2.0 after 1 Y and 3.5±2.1 after 3 Y) while **mean ARR was significantly lower in the first and third Y of treatment** (0.18±0.3 and 0.15±0.3) compared to the Y before treatment start (0.96±0.9; p<0.001). Disability was stable regardless of previous therapies. Mean ARR did not increase significantly in pts who switched from NTZ. In a subgroup of pts (N=40), MRI activity data were assessed; at 3 Y 50% of patients had no evidence of MRI activity. NEDA status (defined as no relapses, no EDSS progression and no MRI activity) at 3 Y was obtained in 11 patients (27.5)%.

No serious adverse events (AEs) were observed. Asymptomatic elevation of liver enzymes was the most frequent AEs. Maximum decrease in lymphocyte counts in peripheral bloods occurred in the first semester of treatment.

Table 1: CHARACTERISTICS AND DESEASE HISTORY (N=81)

Mean (range) age, y	40.8 (21.5 – 65.3)
Mean (range) desease duration, y	14.9 (2 – 47.3)
Mean (range) baseline EDSS score	3.4 (0 – 8)
Relapses in previous year, n	0.9 (0 – 3)
Last MS treatment, n (%) - naive - switching from first line treatment - switching natalizumab - others	 11 (13.6%) 31 (38.3%) 33 (40.7%) 6 (7.4%)

Fig. 1: CONTINUATION RATE AT 3 Y

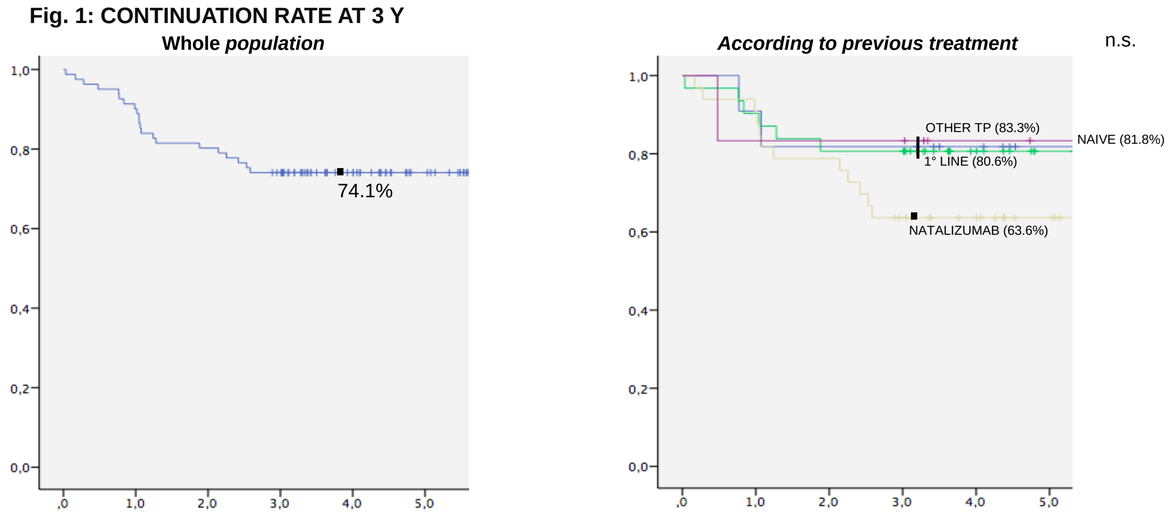


Fig. 2: RELAPSE FREE SURVIVAL AT 3 Y

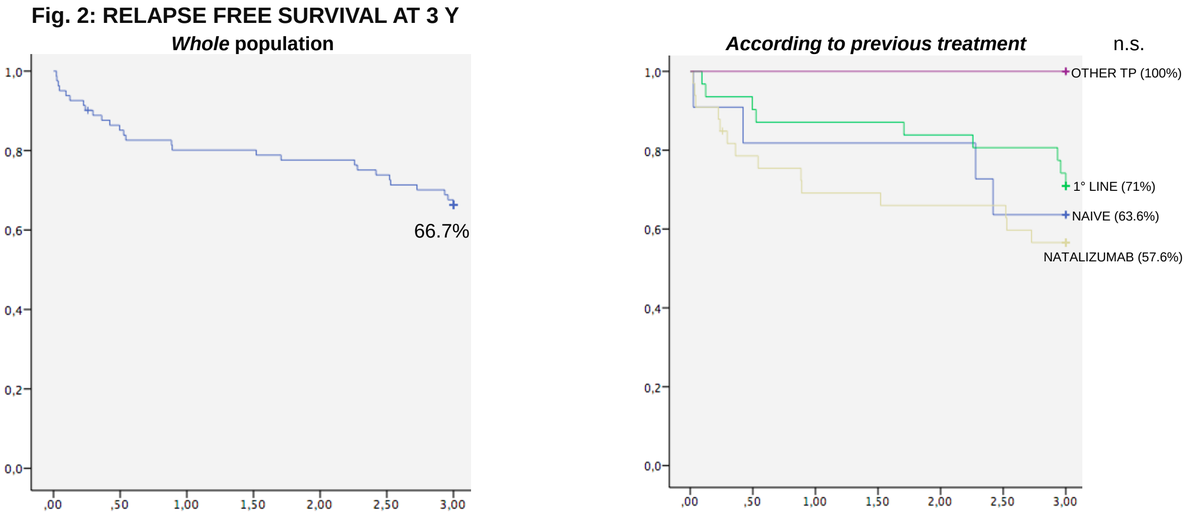
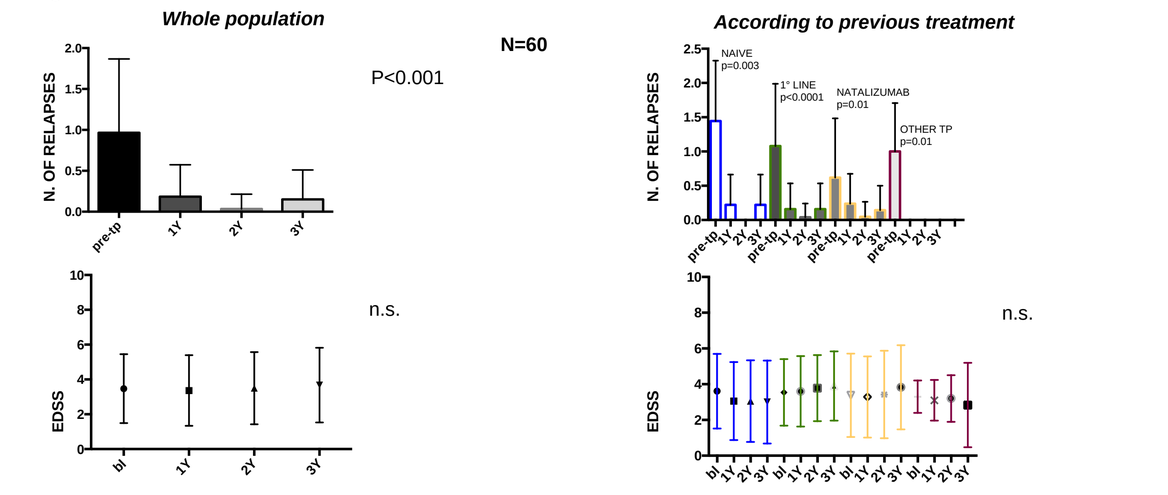


Fig. 3: DESEASE PROGRESSION AT 3 Y



Discussion and conclusions

- In this cohort, we report long term safety and efficacy data in a "real-world" population, including a significant number of subjects who switched from NTZ.
- Stability in disability was associated with a marked decrease in mean ARR, in the total population and in patients who had switched from DMS; ARR did not increase in those who had been treated with NTZ.
- No serious AEs occured.
- In conclusion FTY is a long-term safe and effective treatment option for RRMS who failed a first line treatment.

References

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