EPIDEMIOLOGICAL FEATURES AND THERAPEUTIC STRATEGIES IN A POPULATION OF MULTIPLE SCLEROSIS PATIENTS FROM THREE PROVINCES OF VENETO REGION: PRELIMINARY RESULTS

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Introduction

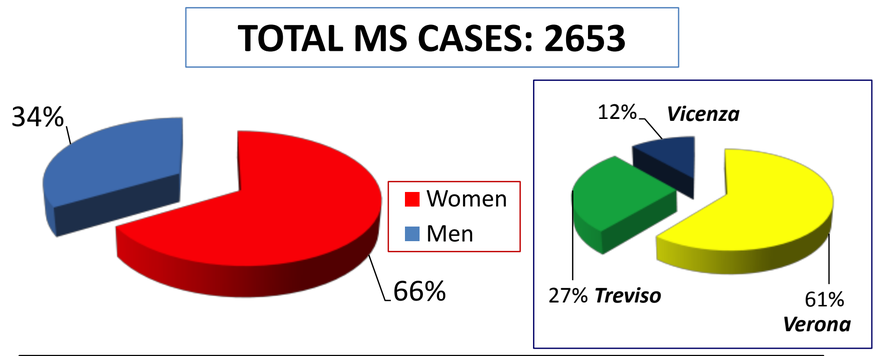
The approval of new first and second line disease modifying drugs (DMDs) for Multiple Sclerosis (MS) has changed the criteria for selecting the more suitable treatment in each patients taking into account tolerability and efficacy. We present the preliminary results of an observationl study aimed to analyse the epidemiological characteristics and drugs strategies of MS in three provinces of Veneto Region covering a population of 2,675,144 inhabitants, investigating the differences in treatment persistence between new and old drugs.

Methods

We collected demographic and clinical data, DMDs history, and MRI features of patients regularly followed in the period January 2013 to April 2017 in the MS Centers of Verona, Treviso and Vicenza areas. McDonald diagnostic criteria (*2010* revision) and Lublin disease course classification (*2013* revision) were used to define clinical aspects, and Expanded Disability Status Scale (EDSS, Kurtzke,*1983*) to score disability. The outcome was persistence in treatment at 24 months, analysed by drug and time of therapy onset. Statistical analyses were performed by using IBM SPSS v. 21.

Results

Demographic and clinical characteristic of the first 2653 MS cases included in the database (expected overall N about 3200 individuals) are shown in Fig.1. At last follow-up median disease duration was 14 yrs (range 2 months-67 yrs), in 49% of cases EDSS score ranged 0-2 while in 12% was over 6.5. More than 65% of patient were on treatment at the time of the study, 75% with a first line and 25% with a second line drug (Fig. 2). Out of 725 cases who started DMDs since 2011, 57% discontinued the therapy within 24 months due to side effects, lack of efficacy or other reasons (Fig.3). 70% of them resumed or started a
different DMT, switching to a different first-line injectable drug (25%) or to a first-line oral drug (28%), while 30% escalated to a second-line therapy. The median time to discontinuation of all DMDs was 16 month, 20 for second-line and 15 for first-line injectable treatments (Fig. 4). Prevalent reasons to quit were safety protocol for natalizumab, both side effects and inefficacy for fingolimod and azathioprine, early side effects for the new oral treatments, especially teriflunomide.



SM type	N	%	Mean age (SD)	min	max	
RIS	13	0.5	36.0 (9.9)	26	55	
CIS	153	5.8	42.4 (11.4)	19	60	
RR	1990	75.0	45.2 (11.2)	15	87	
SP	335	12.6	58.0 (10.8)	34	85	
PP	162	6.1	58.4 (11.3)	29	82	
Total	2653	100,0	48.0 (12.3)	15	87	*p<0.001*

Figure 1. Age, sex, type of MS, referral MS Center of 2653 cases

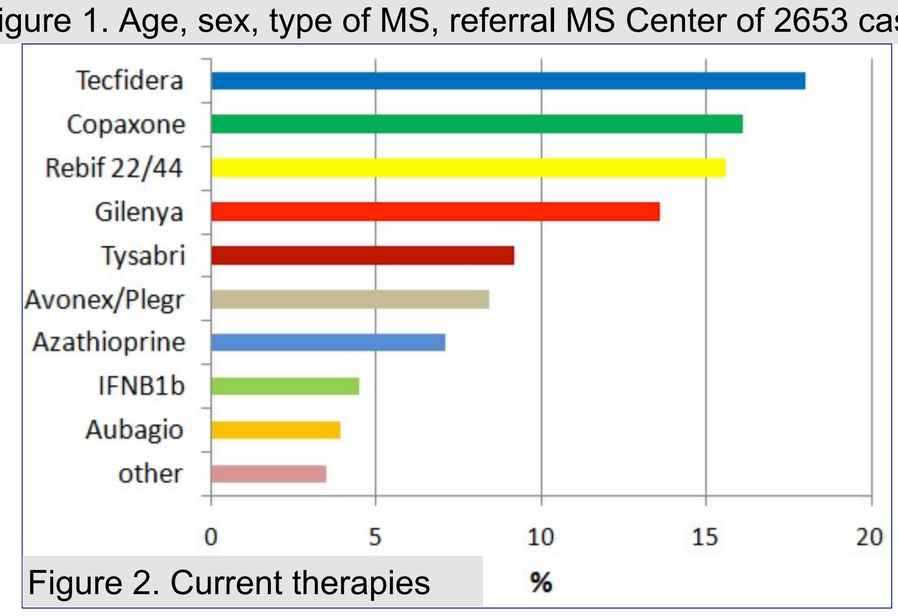


Figure 2. Current therapies

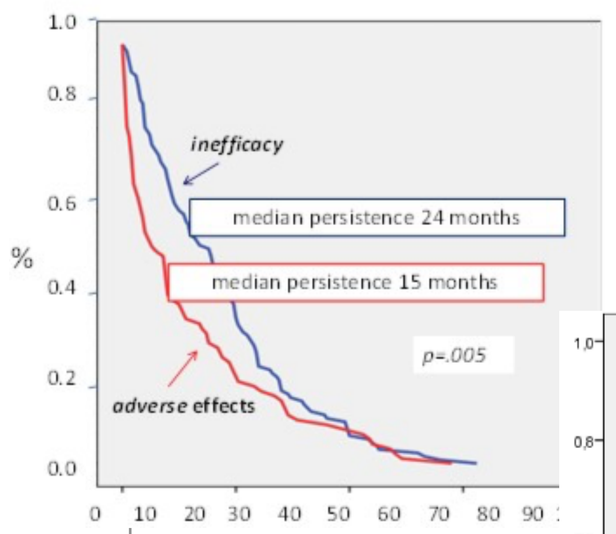


Figure 3. Reasons to discontinuate treatment

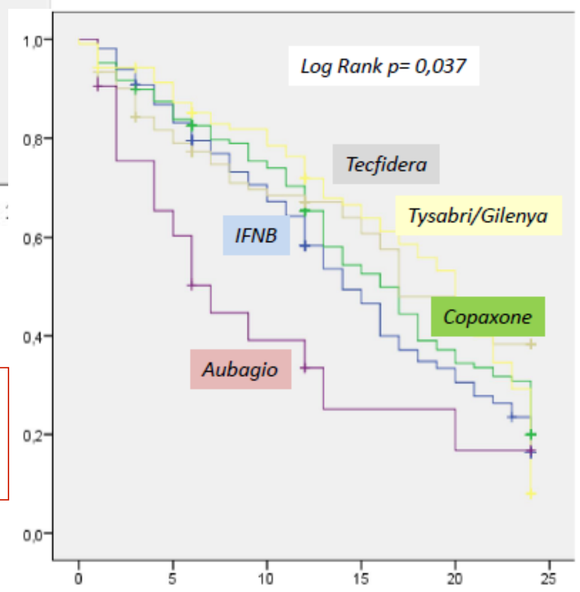


Figure 4. Kaplan-Meier plots of persistence in therapy by drug

Conclusions

Although the treatment options for MS have increased in the last few years more than half of the patients in this large observational study discontinued therapy within 24 months. To identify the best therapy for specific groups of cases in a given stage of the disease is still a priority for clinicians, both for MS patients, clinicians and the National Health Systems.

This study was funded by Veneto Region (RP21400000415 RSF)

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