TREATMENT PATTERNS IN MULTIPLE SCLEROSIS WITH DISEASE-MODIFYING DRUGS

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INTRODUCTION / OBJECTIVES

Over the past few years several drugs for the treatment of multiple sclerosis have become available. Current guidelines recommend treatment selection with disease-modifying drugs (DMD) based on patient or provider preferences [1]. Studies based on hospital pharmacies contribute to a better knowledge of drug utilization patterns in a real-world setting and are very important to inform health care decision making in multiple sclerosis treatment.

We aimed to characterize time trends in the utilization of DMD for multiple sclerosis, between 2012 and 2019.

METHODS

This was an observational cohort study based on hospital pharmacy claims data. All patients with multiple sclerosis, with at least one drug claim with any available DMD (cladribine, dimethyl fumarate, fingolimod, glatiramer acetate, interferon, natalizumab, ocrelizumab and teriflunomide) between 2012 and 2019, in a general hospital, were eligible. Patients were defined as naïve whenever there was no previous claim within a 365-day period and switchers whenever a patient used more than one different drug over the study period, from 2012 to 2019.

Main outcomes included comparison of treatment patterns, treatment switchers over time and oral drug uptake, between 2012 and 2019.

RESULTS

A total of 305 patients were included, with a mean age at first drug claim of 42.4 (SD:10.7) years. Most patients were experienced to therapy (77.4%) and 22.6% were naïve (Table 1).

Table 1 Patient characteristics

Patient characteristics	All patients (n=305)
Age (years), mean (SD)	42.4 (10.7)
Treatment experience, n (%)	
Naïve	69 (22.6)
Experienced	236 (77.4)

In 2012, the majority of patients were under treatment exclusively with interferon (68.8%), glatiramer acetate (24.1%) and natalizumab (4.0%), the remaining (3.0%) switched between treatments over one year.

Only from 2018 onwards, interferon was not administered to the majority of patients, with 48.5% and 44.9% in 2018 and 2019, respectively.

Nonetheless, in 2019, interferon was still the most used DMD followed by glatiramer acetate (14.5%), teriflunomide (10.3%), natalizumab (6.1%), fingolimod (10.7%) and dimethyl fumarate (4.7%) (Figure 1).

Utilization patterns had only slight changes over time, still the steepest decrease was observed for interferon and, with the opposite trend, both fingolimod and teriflunomide had the highest increases over study period.

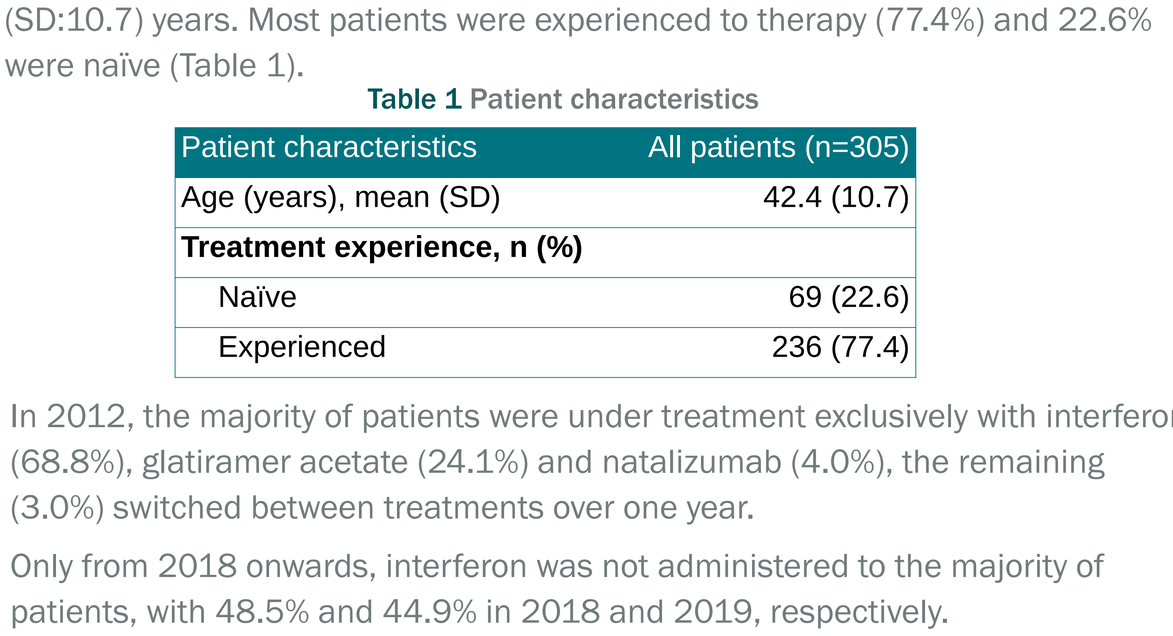

Figure 1 Utilization patters of DMD from 2012 to 2019

RESULTS

Over the study period 72.8% of patients never switched therapy. Overall, 47.2% of patients remained on interferon, 16.7% on glatiramer acetate and 3.9% on natalizumab, during study period (Figure 2).

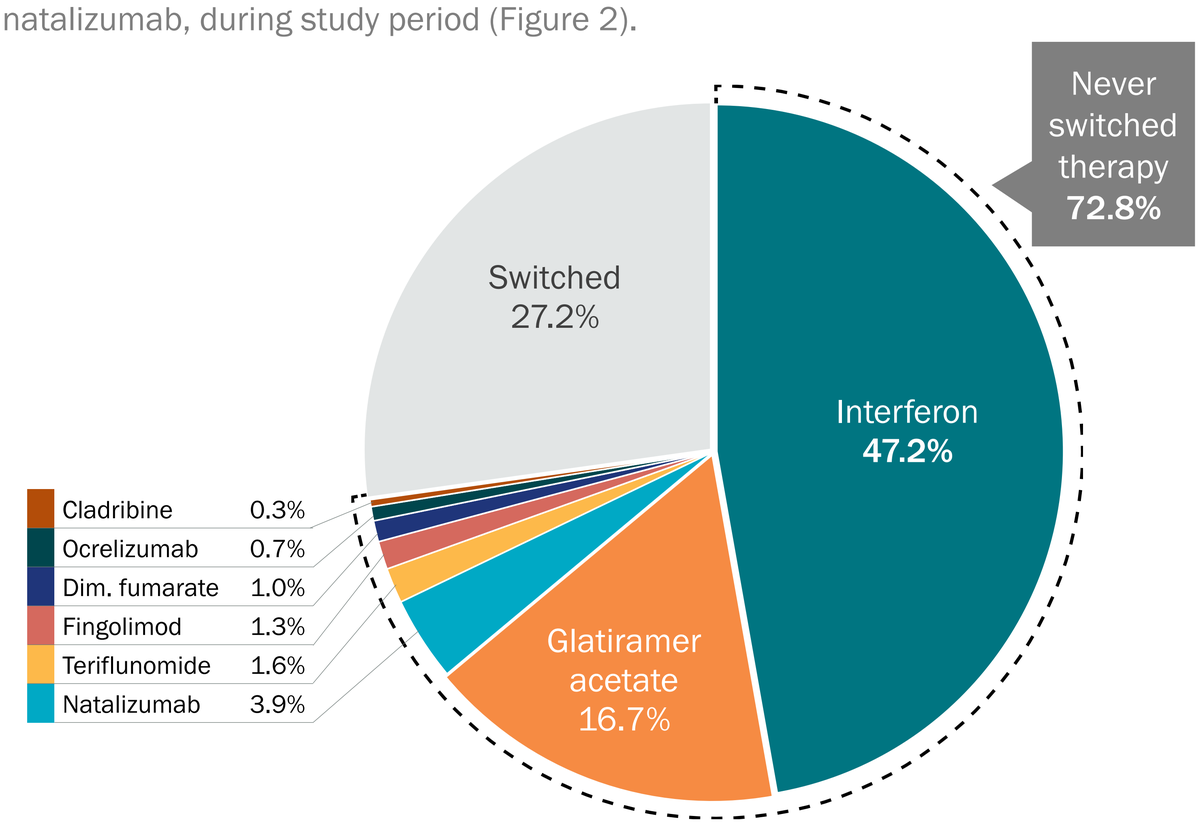

Figure 2 Distribution of drug utilization, from 2012 to 2019 (n=305)

In 2012, almost all patients were on injectable DMD, only 1.0% were administered and oral drug during 2012. During study period, oral DMD patient uptake steadily rose from 1.0% in 2012 to 20.6% in 2019 (Figure 3).

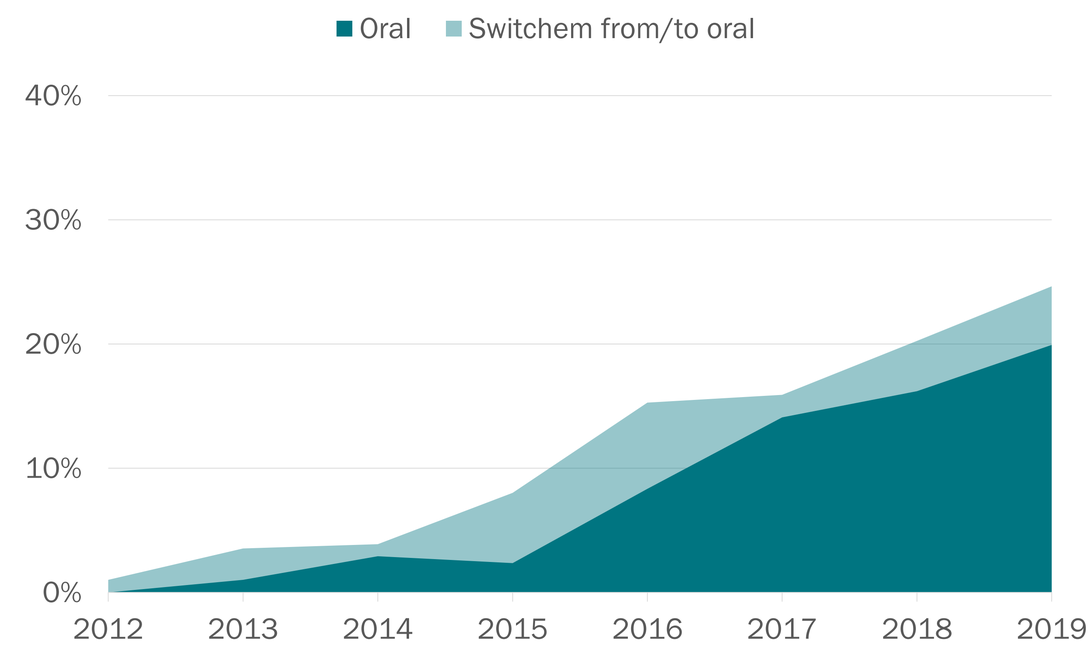

Figure 3 Trends over time to oral uptake and patients who switched from or to oral, from 2012 to 2019

CONCLUSION

Unlike previous published studies [2], this cohort of patients did not show a widespread adoption of oral DMD.
This study also showed a low proportion of switches to new drugs, with a large proportion of patients still under treatment with interferon, over an eight-year period.

REFERENCES: [1] Montalban X, Gold R, Thompson AJ, Otero-Romero S, Amato MP, Chandraratna D, Clanet M, Comi G, Derfuss T, Fazekas F, Hartung HP. ECTRIMS/EAN guideline on the pharmacological treatment of people with multiple sclerosis. Multiple Sclerosis Journal. 2018 Feb;24(2):96-120; [2] Desai RJ, Mahesri M, Gagne JJ, Hurley E, Tong A, Chitnis T, Minden S, Spettell CM, Matlin OS, Shrank WH, Choudhry NK. Utilization patterns of oral disease-modifying drugs in commercially insured patients with multiple sclerosis. Journal of managed care & specialty pharmacy. 2019 Jan;25(1):113-21.

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