**Background**

Retropective patient chart review fielded by an independent market intelligence agency which specializes in analyzing the disease-modifying therapy (DMT) market, including new start and switching treatment decisions, in multiple sclerosis (MS).

**Objective**

Analyze DMT switching patient characteristics and switching patterns pre- and post-launch of ocrelizumab, approved for relapsing forms of MS and first drug approved for primary progressive MS (PPMS).

**Methods**

A retrospective patient chart review of 1,035 MS patients who switched DMTs within the previous three months was conducted with 263 US neurologists between January and February 2018. The same study was fielded the two previous years (Q4 2015: 1,027 charts, 194 neurologists; Q1 2017: 1,002 charts, 197 neurologists) allowing for trending. Compared to submitted abstract, methods, results, and conclusions have been updated as needed based upon most recent data.

**Results**

Ten months post-ocrelizumab availability, 27% of recently switched MS patients were switched to a monoclonal antibody (mAb) DMT compared to 16-17% in the two prior years (Fig. 7). Considering switches from and to a class, the mAb DMT class benefits most from switches having gained a net 19% share compared to declining net oral DMT class share now at 16% (Fig. 2). Oral to mAb DMT switches are increasingly frequent among MS audit patients, with fewer patients switching from an interferon to an oral DMT compared to previous audits (Fig. 3). With 52% of ocrelizumab-switched patients diagnosed with a progressive form of MS (PPMS), PIMS now constitutes a greater share of all recently switched patients (21%) compared to pre-ocrelizumab launch (12%); Fig. 4. Compared to neurologists’ potential candidates for a next-line ocrelizumab switch from the 2017 audit, ocrelizumab-switched audit patients are significantly less likely to be diagnosed with relapsing-remitting MS (RRMS) and significantly less likely to have gadolinium-enhancing (GdE) T1 lesions on their last MRI scan. Lost Ocrevus switches, representing audit patients who were candidates for an ocrelizumab switch but were instead switched to another DMT, were significantly more likely to be diagnosed with RRMS and to have a significantly higher mean GdE lesion burden compared to ocrelizumab-switched patients. Expanded Disability Status Scale (EDSS) score and number of T2 lesions did not differ between subgroups (Fig. 5), 29% of ocrelizumab-switched patients specifically requested the DMT with patient request considered a driving factor in 25% of ocrelizumab selection cases (Fig. 6).

**Conclusion**

With strong ocrelizumab uptake and the paradigm shifting towards earlier use of more aggressive therapy and promptly switching nonresponders, the mAb DMT class constitutes an increasingly relied upon switch option among MS patients. Alternatively, the overall switch role of the oral DMT class is shrinking as more patients are switching from oral DMTs, especially dimethyl fumarate, that were initiated instead as first-line therapy. With clinical experience, neurologists are using ocrelizumab more for PIMS and less in patients with inflammatory activity than originally anticipated suggesting that the high unmet need for a DMT targeting a reduction disability progression risk is driving much of the current ocrelizumab brand selection.

Note: Spherix Global Insights is an independent healthcare market analytics company. All studies are independently funded and fielded by the organization. Final reports are developed from these studies which are then made available for purchase. For more information, contact info@spherixglobalinsights.com