MS treatment patterns before, during and after the COVID-19 pandemic

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Background and objective

The global spread of the Coronavirus disease-19 (COVID-19) has significantly impacted all aspects of healthcare, posing unique challenges in managing the health of people with multiple sclerosis (PwMS)[1]. Current literature suggests that the pandemic coincides with a shift in disease modifying therapies (DMT) prescribing patterns and therapy modifications[2]. Vaccination response might be reduced during certain DMT[3]. Our objective was to compare DMT use before, during, and after the COVID-19 pandemic in PwMS.

Methods

PwMS from the German MS Register, who were newly diagnosed (A) or discontinued or switched DMT (B) between 2019 and 2024 were analyzed for the subsequent 3 months (Figure 1). A period before the pandemic ("pre-pandemic", Jan 2019-Dec 2019) was compared with periods during ("early", Mar 2020-Feb 2021; "late", Mar 2021- Feb 2022) and after the pandemic "post", March 2022-Dec 2023). DMT were classified as moderately (mDMT: interferons, fumarates, glatirameroids, teriflunomide) or as highly effective (hDMT: natalizumab, alemtuzumab, cladribine, S1P-receptor modulators, B-cell-depleting therapies [BCD]).

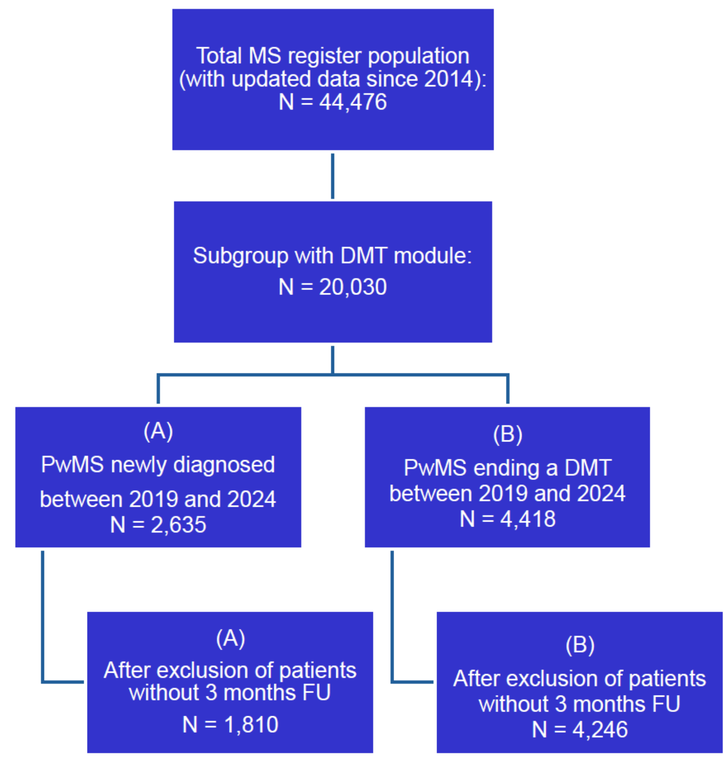

Figure 1. Flowchart showing the applied inclusion criteria

Results

Among newly diagnosed PwMS (A; n=1,810, Table 1, Figures 2-3) 46% in the pre-pandemic period had no DMT within the first 3 months, 39% a mDMT, and 15% a hDMT (7.5% BCD). During the later periods the proportion of PwMS treated with hDMT increased ("early" 19%, "late" 29%, "post" 41%), shifting towards BCD (9.5%, 13%, 29%, p<0.001, respectively). Among PwMS who discontinued DMT (B; n=4,246, Table 2, Figures 4-5), 47% in the pre-pandemic period paused DMT for ≥3 months, 19% switched to mDMT, and 34% to hDMT (17% BCD). During later periods more PwMS switched to hDMT ("early" 37%, "late" 47%, "post" 48%), with a lagged increase in BCD rates (14%, 17%, 23%, p<0.001, respectively).

Conclusion

Despite widespread concerns among clinicians and PwMS that particular he-DMT may increase the risk of severe COVID-19 disease course, our study observed no significant delays in DMT initiation or resumption. An increase in the use of first-line BCD was observed, particularly during the later phase/post-pandemic period. This delay may be attributed to concerns about their potential impact on vaccine efficacy. The growing preference for BCDs was likely further influenced by the approval of subcutaneous formulations such as ofatumumab.

Impact of COVID-19 pandemic on therapeutic choice/medical care in multiple sclerosis in Germany

%	no therapy	me-DMT	he-DMT	BCD
Pre-pandemic	46.2	39.2	14.6	7.5
Early pandemic	47.5	33.3	19.3	9.5
Late pandemic	41.9	29.1	29.1	12.8
Post pandemic	37.8	20.8	41.4	28.7

Table 1. Cohort A (n=1,810); therapy initiation during the pandemic amongst newly diagnosed pwMS

%	discontinuation> 3M	switch to me-DMT	switch to he-DMT	switch to BCD
Pre-pandemic	47.2	18.8	34.0	16.8
Early pandemic	46.3	16.4	37.3	14.0
Late pandemic	39.0	14.3	46.6	17.2
Post pandemic	33.7	18.6	47.7	22.8

Table 2. Cohort B (n=4,246); DMT discontinuation and switch during the pandemic

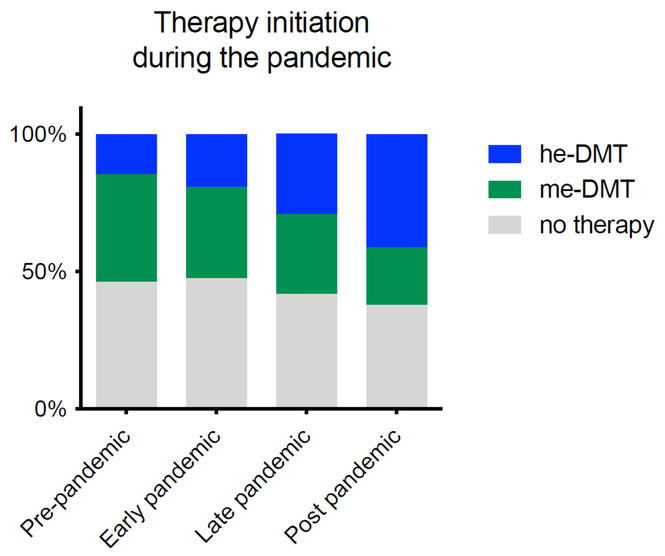

Figure 2. Therapy initiation amongst newly diagnosed pwMS (Cohort A)

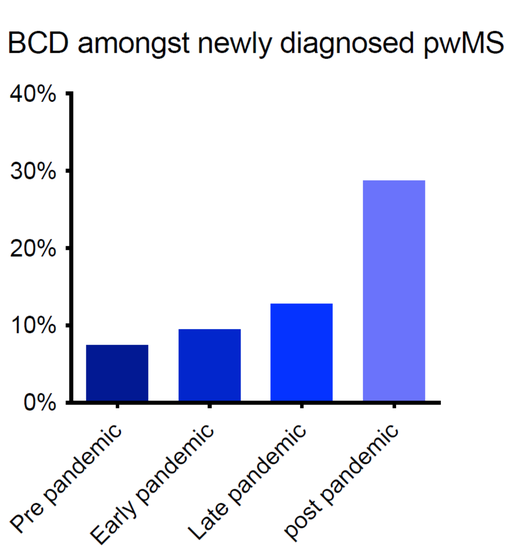

Figure 3. B cell-depleting initiation amongst newly diagnosed pwMS (Cohort A)

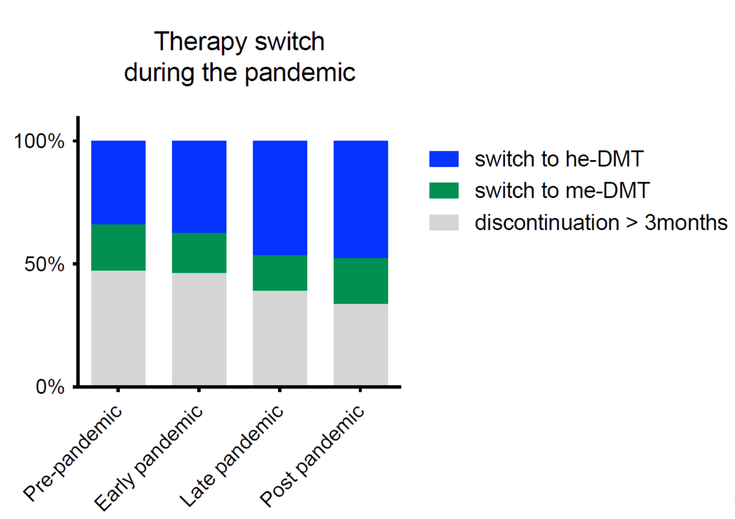

Figure 4. DMT discontinuation and therapy switch during the pandemic (Cohort B)

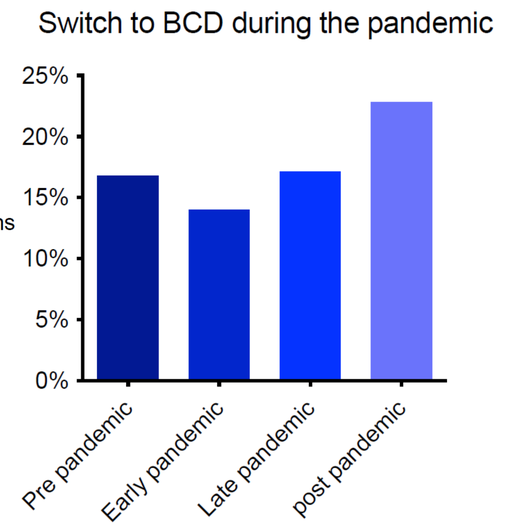

Figure 5. Switch to B cell-therapy during the pandemic (Cohort B)

Disclosures

SL, DE have nothing to disclose.
AK has received a study grant from Novartis.
AS has no personal pecuniary interests to disclose, other than being the lead of the German MS Registry, which receives (project) funding from a range of public and corporate sponsors, recently including The German Innovation Fund (G-BA), The German Retirement Insurance, The German MS Trust, The German MS Society, Biogen GmbH, BristolMyersSquibb, Merck Healthcare Germany GmbH, Novartis Pharma GmbH, Roche Pharma AG and TG Therapeutics.
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