Treatment patterns of patients with aggressive MS in a cohort of early retirees

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Background

Differences between (non-) aggressive/highly active multiple sclerosis (agMS) patients regarding demographic and clinical data were previously shown. Treatment patterns in people with MS are well studied. However, research in terms of appropriate treatment patterns in people with agMS (PwagMS) is still limited.

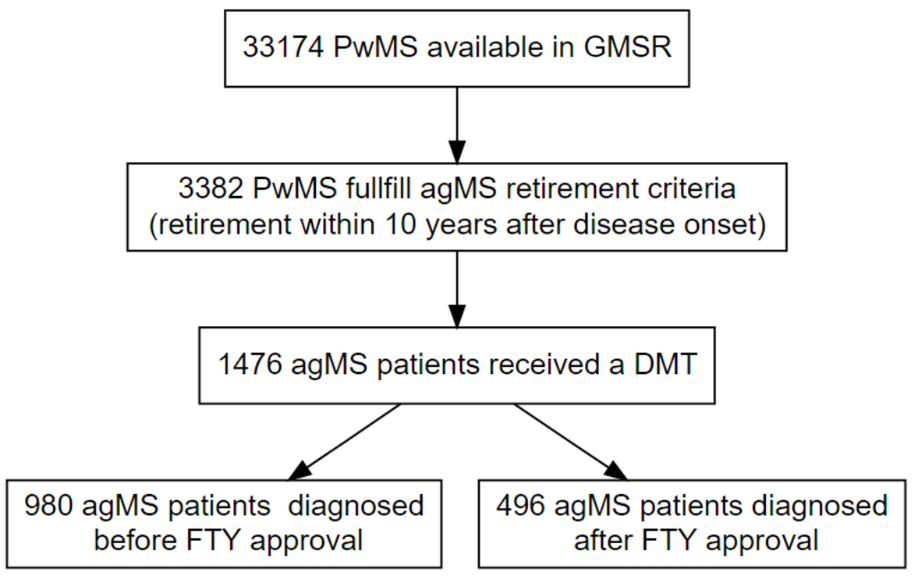
Objective

This analysis aims to identify treatment patterns in PwagMS.

Methods

The study included PwagMS from the German MS Registry (GMSR) who were prematurely retired due to MS within 10 years of onset and received disease modifying treatment (DMT). Patients were grouped into two subgroups: (1) patients diagnosed before and (2) after the approval of fingolimod (FTY) as the 1st perorally administered DMT for agMS (EMA: 17/3/2011). Percentages, means and standard deviations are reported.

Results



	N=1476	Diagnosed before approval date of FTY N=980	Diagnosed after approval date of FTY N=496	p-value
Sex [female]	1066 (72.2%)	724 (73.9%)	342 (69.0%)	0.053
Age onset (y)	37.2 (±9.8)	35.3 (±8.9)	41.0 (±10.3)	**<0.001**
Age diagnosis (y)	38.5 (±10.0)	36.4 (±9.0)	42.6 (±10.5)	**<0.001**
Age DMT start (y)	42.0 (±10.3)	41.2 (±10.0)	43.4 (±10.6)	**<0.001**
Retirement age (y)	41.5 (±9.5)	40.2 (±8.9)	44.0 (±10.1)	**<0.001**
Time to 1st DMT since disease onset (y)	4.73 (±5.94)	5.89 (±6.72)	2.42 (±2.79)	**<0.001**
Time to 1st DMT since disease diagnosis (y)	3.48 (±5.83)	4.86 (±6.60)	0.75 (±2.00)	**<0.001**
Time on 1st DMT (y)	5.43 (±5.27)	6.69 (±5.85)	2.94 (±2.38)	**<0.001**
Patients with ongoing 1st DMT	709 (48.0%)	459 (46.8%)	250 (50.4%)	0.398
Follow-up time ‚ongoing' (y) (N=709)	7.28 (±6.04)	9.20 (±6.52)	3.74 (±2.48)	**<0.001**
Patients not continuing DMT after end of 1st DMT [yes]	98 (6.64%)	71 (7.24%)	27 (5.44%)	0.229
Follow-up time ‚not continuing' (y) (N=98)	4.17 (±4.41)	5.11 (±4.78)	1.69 (±1.45)	**<0.001**
Patients >1 year on 1st DMT	603/761 (79.2%)	440/518 (84.9%)	163/243 (67.1%)	**<0.001**
Patients >2 years on 1st DMT	447/746 (59.9%)	348/513 (67.8%)	99/233 (42.5%)	**<0.001**
Patients >3 years on 1st DMT	328/727 (45.1%)	270/509 (53.0%)	58/218 (26.6%)	**<0.001**

Table 1: Characteristics of PwagMS within the population of the GMSR, stratified by criteria.

1st DMT administered to PwagMS

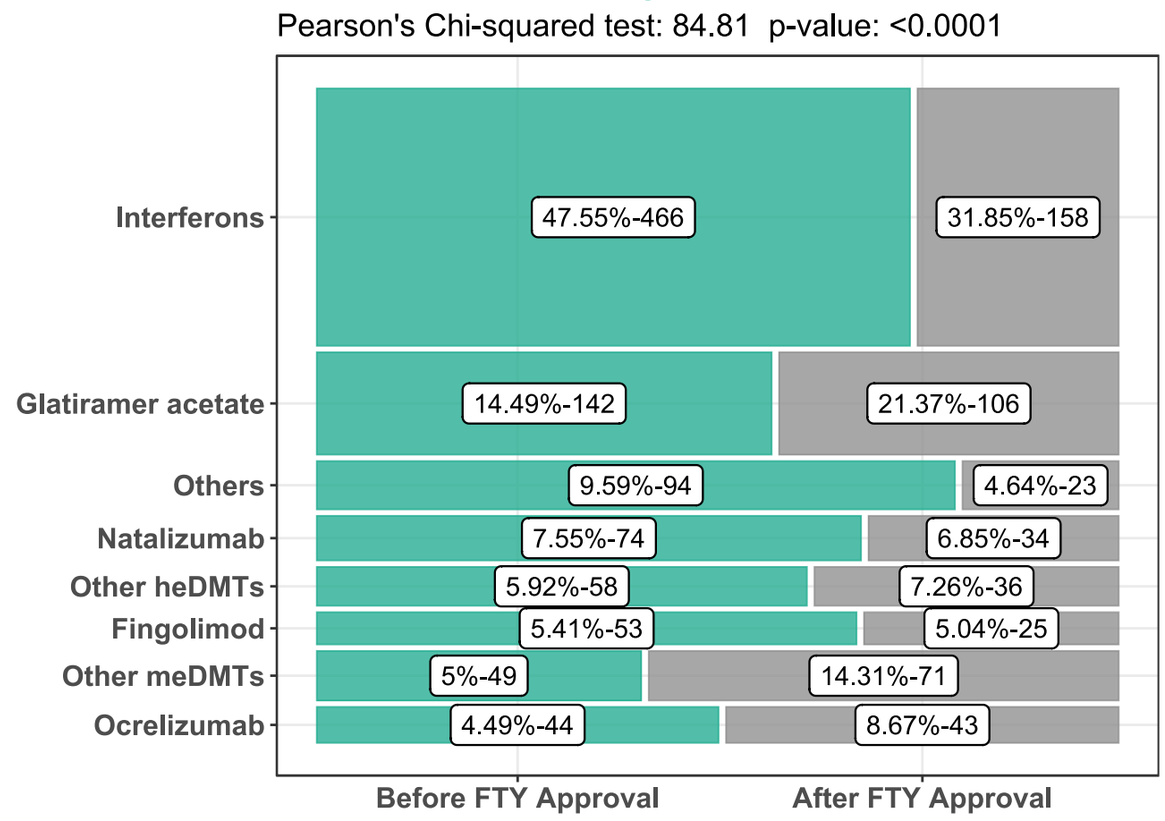


Figure: Mosaic plot of initial DMT by both subgroups. meDMT: moderate efficacy DMT (dimethyl fumarate, teriflunomide), heDMT: high efficacy (alemtuzumab, cladribine, daclizumab, mitoxantrone, rituximab). Others: azathioprine, cyclophosphamide, immunoglobulin, methotrexate, steroids, study medication, other, siponimod, ozanimod.

2nd DMT administered to PwagMS

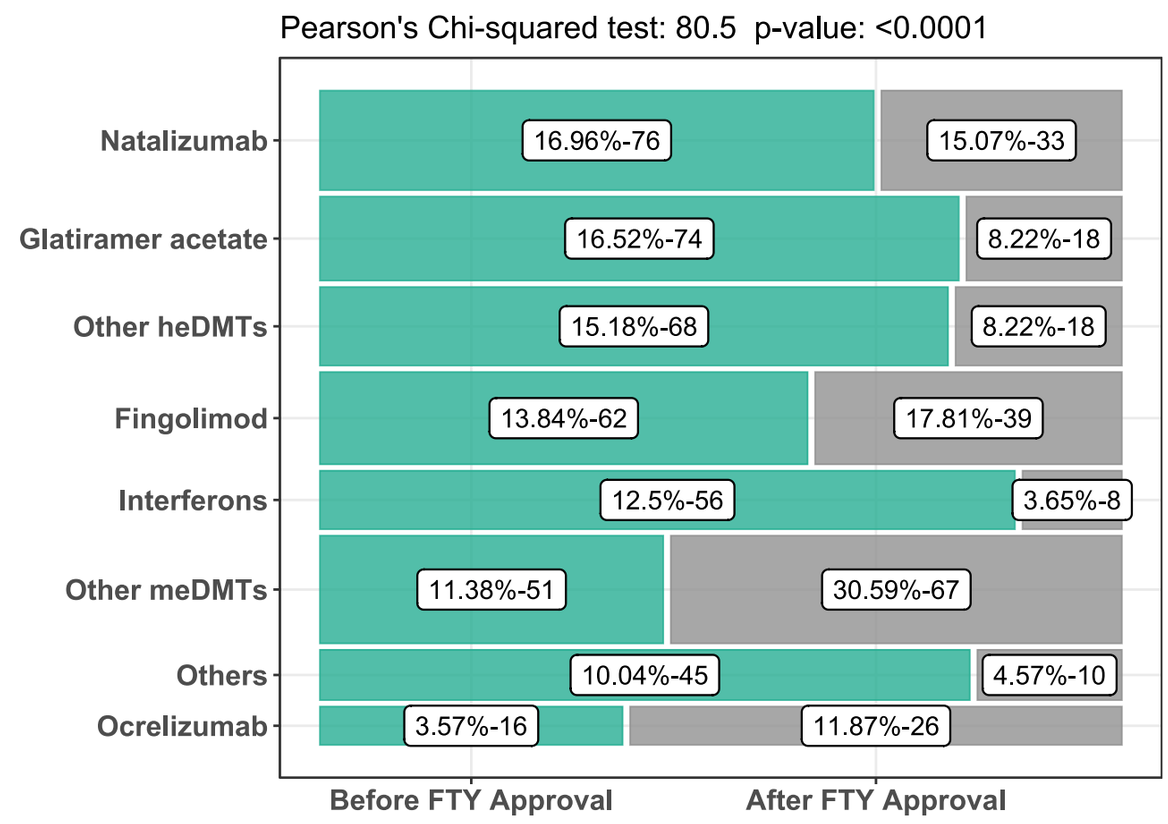


Figure: Mosaic plot of switch treatment by both subgroups.

Conclusions:

PwagMS diagnosed before the FTY approval switched from their 1st DMT significantly more often to highly efficient DMTs, glatiramer acetate and interferons, while for later-diagnosed PwagMS, DMT switch patterns shifted to other moderate efficient DMTs and ocrelizumab. An appropriate definition of agMS is still a matter of ongoing debate.

References:

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Disclosures - Declaration of interest:

FF, DE and DK have nothing to disclose. PF has received speaker's fees and honoraria for advisory boards from Almirall, Bayer, Biogen, Celgene, Genzyme, Novartis, Merck, Roche, and Teva. None resulted in a conflict of interest. NF received travel funds for research meetings from Novartis. None resulted in a conflict of interest.TF has received personal fees for consultancies (including data monitoring committees) in the past three years from Bayer, BiosenseWebster, Boehringer Ingelheim, Cardialysis, CSL Behring, DaiichiSankyo, Enanta, Feldmann Patent Attorneys, Fresenius Kabi, Galapagos, IQVIA, Janssen, Mediconomics, Novartis, Penumbra, Roche, SGS, Vifor; all outside the submitted work. CK hereby con rms to have had business, personal or material relationships with the following industrial companies, consulting companies or payers or carriers of medical facilities since 11/01/2019: Alexion, Almirall, Amgen, Amicus, Bayer, Biogen, Biotronik, Boehringer Ingelheim, Bristol Myers-Squibb, Celgene, CSL Behring, Daiichi Sankyo, Desitin, Eisai, Ever Pharma, GE Healthcare, MedDay Pharmaceuticals, Merck Serono, Mylan, Novartis, Pfizer, Roche, Sanofi-Genzyme, Siemens, Stago, Teva. None resulted in a conflict of interest. UKZ has received speaking fees, travel support and /or financial support for research activities from Alexion, Almirall, Bayer, Biogen, Janssen, Merck Serono, Novartis, Octapharm, Roche, Sano Genzyme,Teva as well as EU, BMBF, BMWi and DFG. None resulted in a conflict of interest. AS has no personal pecuniary interests to disclose, other than being the lead of the German MS Registry, which receives funding from a range of public and corporate sponsors, recently including The German Innovation Fund (G-BA), The German MS Trust, German MS Society, Biogen, Celgene (BristolMyersSquibb), Merck, Novartis, Roche, and Sano . None resulted in a conflict of interest.