Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Estimated RRMS Incidence in Västerbotten and Stockholm Counties

Population		
	Västerbotten	**Stockholm**
2012	260 217	2 127 006
2013	261 112	2 163 042
2014	262 362	2 198 044
2015	263 378	2 231 439
Incident MS cases		
2012	17	111
2013	19	122
2014	12	156
2015 (10 months)	4	96
MS incidence region (per 100 000)		
2012	6.53	5.21
2013	7.27	5.64
2014	4.57	7.09
2015 (10 months)	1.51	4.30

eTable 2. Patient Baseline Characteristics

Characteristic	Treatment group				
	RTX, n = 120	INJ, n = 215	DMF, n = 86	FGL, n = 17	NTZ, n = 50
Age, yr, median (IQR)	37.8 (28.7–48.8)	35.1 (28.6–43.5)	33.1 (28.2–39.1)	31.7 (23.6–39.6)	29.4 (22.6–35.6)
Sex, Male, No [%]	41 [34.2]	71 [33.0]	24 [27.9]	6 [35.3]	16 [32.0]
Baseline EDSS, median (IQR)	2.0 (1.0–2.5)	1.5 (1.0–2.0)	1.5 (1.0–2.0)	1.8 (1.0–2.5)	1.5 (1.0–2.5)
MS duration, mo, median (IQR)					
Since debut	15.1 (3.1–53.9)	12.2 (4.3–41.2)	11.6 (5.1–36.3)	4.4 (3.5–23.5)	8.9 (2.5–15.7)
Since diagnosis	1.0 (0.3–1.9)	1.2 (0.5–2.8)	0.9 (0.5–1.5)	1.2 (0.6–2.5)	1.0 (0.5–1.9)
Relapse 12 mo before treatment, No [%]	93 [77.5]	161 [74.9]	160 [74.4]	16 [94.0]	47 [94.0]
Follow-up time, mo, median (IQR)					
Primary outcome	18.8 (12.3–28.0)	15.3 (8.6–26.3)	14.2 (8.6–18.9)	12.1 (7.9–22.3)	19.0 (11.4–27.5)
Secondary outcomes	15.8 (9.5–25.8)	14.3 (6.8–24.1)	11.3 (7.0–16.1)	12.1 (8.6–20.4)	16.8 (9.7–25.1)
MRI scans per patient per year	1.0 (0.8–1.4)	0.9 (0.5–1.5)	1.4 (1.0–2.2)	1.4 (0.9–2.0)	1.2 (1.0–1.8)

DMF = dimethyl fumarate; EDSS = Expanded Disability Status Scale; FGL = fingolimod; INJ = interferon beta & glatiramer acetate; IQR = interquartile range; mo = months; NTZ = natalizumab; RTX = rituximab.

eTable 3. Baseline Characteristics for Västerbotten and Stockholm Counties

Characteristic	Region		*p*
	Västerbotten, n = 52	Stockholm, n = 442	
Age, yr, median (IQR)	29.7 (25.1–39.4)	34.7 (28.2–43.6)	0.02
Sex, male, No [%]	14 [26.9]	144 [32.6]	0.44
Baseline EDSS, median (IQR)	2 (1-3)	1.5 (1-2.5)	0.18
MS duration, mo, median (IQR)			
Since debut	5.1 (2.1–23.3)	12.0 (4.1–39.4)	0.01
Since diagnosis	0.3 (0.1–0.8)	1.2 (0.5–2.2)	<0.001
Relapse 12 mo before treatment, No [%]	45 [86.5]	340 [76.9]	0.16
Follow-up time, mo, median (IQR)			
Primary outcome	28.2 (16.4–37.9)	15.3 (9.2–23.5)	<0.001
Secondary outcomes	25.2 (13.4–34.9)	13.3 (7.7–21.0)	<0.001
MRI scans per patient per year	1.1 (0.9–1.6)	1.1 (0.6–1.6)	0.26

EDSS = Expanded Disability Status Scale; IQR = interquartile range; mo = months; MS = multiple sclerosis

eTable 4. Reasons for Drug Dscontinuation

	Treatment group					County	
	RTX	INJ	DMF	FGL	NTZ	Västerbotten	Stockholm
Disease breakthrough	1	82	14	4	2	3	101
Adverse event(s)	1	60	12	3	2	1	76
Other	5	31	6	1	20	5	59
Pregnancy	4	8	2	0	2	1	15
JCV+	0	0	0	0	16	3	13
Administration discomfort	0	6	0	0	0	0	6
Preference	0	2	1	0	1	1	3
Disease stabilization	1	1	0	0	0	0	2
Other	0	1	1	0	1	0	4
Not stated	0	13	2	1	0	0	16

DMF = dimethyl fumarate; FGL = fingolimod; INJ = interferons & glatiramer acetate; JVC+ = positive serum test for JC virus; NTZ = natalizumab; RTX = rituximab.

eTable 5. Outcomes Comparisons Adjusted Through Sequential Addition of Baseline Factors

	HR (95% CI)								OR (95% CI)			
	Discontinuation of therapy				Clinical relapse				Gd+ lesions			
	INJ vs RTX	DMF vs RTX	FGL vs RTX	NTZ vs RTX	INJ vs RTX	DMF vs RTX	FGL vs RTX	NTZ vs RTX	INJ vs RTX	DMF vs RTX	FGL vs RTX	NTZ vs RTX
Crude	16.0 (7.5 – 34.1)	14.5 (5.1 – 41.4)	10.3 (3.7 – 28.6)	8.7 (3.7 – 20.2)	7.1 (3.1 – 16.6)	3.8 (1.3 – 11.2)	5.3 (1.3 – 21.4)	4.9 (1.8 – 13.4)	10.5 (3.0 – 65.8)	9.1 (2.3 – 59.7)	3.7 (0.2– 40.9)	3.8 (0.6 – 30.2)
+ Age, sex	16.6 (7.8 – 35.3)	13.9 (4.8 – 39.9)	10.4 (3.6 – 30.2)	10.0 (3.9 – 25.7)	7.1 (3.1 – 16.4)	4.0 (1.3 – 11.9)	5.4 (1.3 – 22.5)	7.0 (2.1 – 23.6)	10.4 (3.0 – 65.5)	8.5 (2.2 – 56.4)	3.3 (0.1– 40.4)	3.8 (0.0 – 38.8)
+ EDSS, EDSS^2	19.2 (8.4 – 44.0)	18.3 (5.5 – 61.2)	16.1 (4.3 – 60.1)	9.4 (3.3 – 26.3)	7.9 (3.3 – 18.8)	4.6 (1.5 – 13.8)	8.7 (1.6 – 46.6)	6.9 (1.8 – 25.9)	10.0 (2.7 – 66.0)	9.0 (2.2 – 60.5)	3.4 (0.1– 51.7)	4.4 (0.1 – 45.3)
+ MS duration	19.2 (8.4 – 44.0)	18.2 (5.4 – 61.4)	12.9 (3.6 – 46.8)	9.1 (3.3 – 25.5)	7.9 (3.3 – 18.9)	4.8 (1.6 – 14.7)	10.9 (1.8 – 64.9)	6.9 (1.8 – 26.0)	10.0 (2.6 – 66.8)	9.3 (2.3 – 64.2)	3.7 (0.1– 78.8)	4.2 (0.1 – 40.9)
+ Relapse yr before start	19.5 (8.5 – 44.6)	17.0 (5.0 – 57.9)	11.1 (3.1 – 40.1)	8.7 (3.1 – 24.6)	7.7 (3.2 – 18.6)	4.7 (1.5 – 14.8)	11.6 (1.9 – 73.1)	7.7 (1.9 – 31.1)	10.3 (2.7 – 69.2)	9.2 (2.2 – 63.1)	3.3 (0.1– 69.6)	4.0 (0.1 – 38.6)
+ Region	14.4 (4.9 – 42.3)	12.4 (3.1 – 49.4)	8.7 (2.0 – 38.0)	13.9 (3.8 – 50.6)	4.3 (1.6 – 11.2)	3.2 (0.9 – 10.6)	6.0 (0.8 – 44.1)	5.1 (1.2 – 22.2)	9.0 (1.8 – 97.7)	9.4 (1.6 – 180.8)	3.1 (0.1 – 121.5)	3.9 (0.0 – 54.7)
+ Follow-up time	-	-	-	-	-	-	-	-	9.3 (2.0 – 87.0)	8.8 (1.5 – 168.2)	2.7 (0.1 – 116.3)	6.6 (0.1 – 94.7)

DMF = dimethyl fumarate; EDSS = Expanded Disability Status Scale; FGL = fingolimod; Gd+ = gadolinium enhancing MRI scan; HR = hazard ratio; INJ = interferon beta & glatiramer acetate; MS = multiple sclerosis; NTZ = natalizumab; OR = odds ratio; RTX = rituximab.

eTable 6. Adverse Events Separated After Treatment Group and County

Adverse events	Treatment group					County	
CTCAE grade, No [%]	RTX	INJ	DMF	FGL	NTZ	Västerbotten	Stockholm
1	29 [24.2]	131 [60.9]	65 [75.6]	5 [29.4]	12 [24.0]	6 [11.5]	238 [54.1]
2	12 [10.0]	45 [20.9]	18 [20.9]	3 [17.6]	8 [16.0]	2 [3.9]	86 [19.6]
3	4 [3.3]	8 [3.7]	1 [1.2]	0 [0]	3 [6.0]	0 [0]	16 [3.6]
4	0 [0]	0 [0]	0 [0]	0	1 [2.0]	0 [0]	1 [0.2]
5	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]

DMF = dimethyl fumarate; FGL = fingolimod; INJ = interferon beta & glatiramer acetate; NTZ = natalizumab; RTX = rituximab.