PERSISTENCE EVALUATION OF SECOND-LINE TREATMENT FOR MULTIPLE SCLEROSIS

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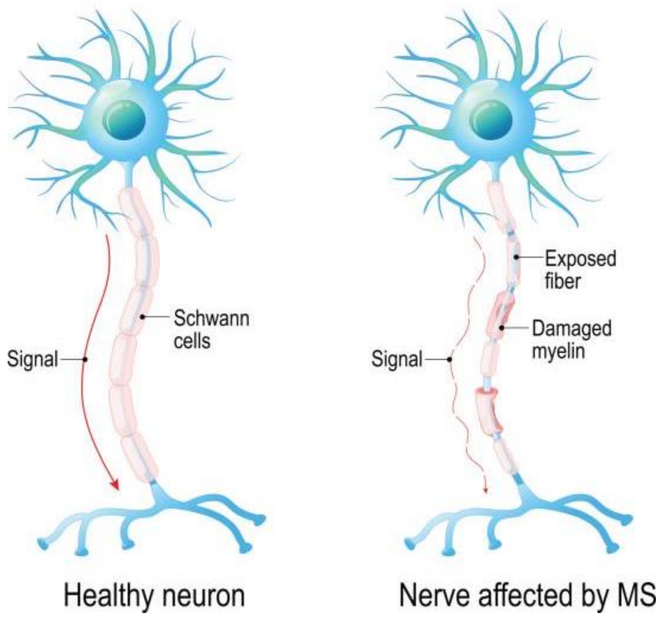
BACKGROUND AND IMPORTANCE

Second-line treatments manage active relapsing-remitting multiple sclerosis (RRMS) when it persists despite prior disease-modifying therapy or worsens rapidly.



AIM AND OBJECTIVES

To evaluate and compare treatment persistence with Fingolimod, Natalizumab, and Ocrelizumab in patients diagnosed with RRMS.

MATERIAL AND METHODS

Retrospective observational study was conducted at a referral hospital.

November-2007 to December-2023

Patients diagnosed with RRMS with:

Fingolimod — **Natalizumab** — **Ocrelizumab**

- **Variables collect:** demographics (age, sex) and pharmacotherapeutics (previous treatment, start date, discontinuation date, and reasons for withdrawal).
- **Data collect:** electronic prescription system (SAVAC®) and medical record system (Selene®).
- **Statistical analyses** were performed using SPSS. Drug persistence was analyzed with the Kaplan–Meier method, and survival across treatments was compared using log-rank test.

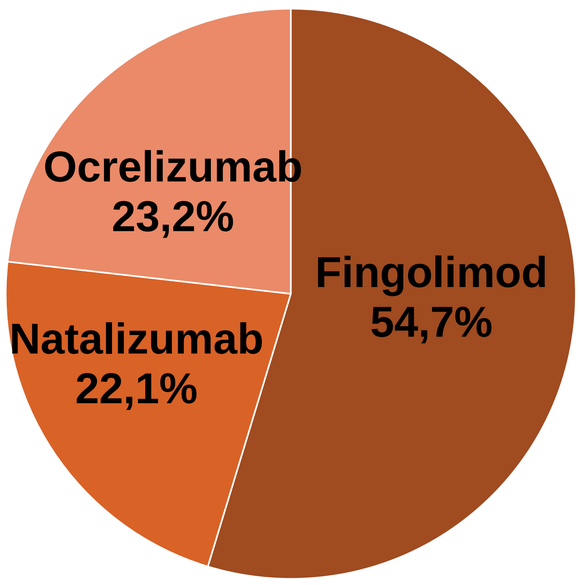
RESULTS

Total patients: **95**

65.3%

Previous treatments:

- Glatiramer acetate: 32.6%
- Interferon β-1: 16.8%
- Natalizumab: 14.7%
- Teriflunomide: 13.6%
- Fingolimod: 11.5%
- Dimethyl fumarate: 5.2%
- Interferon β-1b: 3.1%
- Alemtuzumab: 2.1%



Discontinued therapy → 52.6%

Fingolimod	Natalizumab	Ocrelizumab
68% (n=34)	**28% (n=14)**	**4% (n=2)**
16 adverse effects	2 adverse effects	2 adverse effects
15 inefficacy	2 inefficacy	
3 unknown	10 anti-JCV +	

Median persistence → Fingolimod: 97.1 months (95% CI:90.5-103.8)

Natalizumab: 131.5 months (95% CI:77.8-185.2)

p<0.017 (log-rank)

Ocrelizumab had a mean persistence of 39.7 months (95% CI:34.8-41.5), with the median time to discontinuation not reached. Comparing all three drugs revealed significant differences in persistence (**p<0.004**).

CONCLUSION AND RELEVANCE

About 50% of patients continued treatment, with natalizumab showing greater persistence than fingolimod, which had high discontinuation rates due to adverse effects and inefficacy. Ocrelizumab's median persistence is undetermined, emphasizing the need for long-term studies. With new RRMS therapies emerging, real-world comparisons of effectiveness and persistence are crucial for clinical decision-making.

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