



Sabrina Al Qudsi¹ MD, Tommaso Siroto¹ MD, Nicola Cavalli¹ MD, Caterina Lapucci² MD, PhD, Vincenzo Daniele Boccia¹ MD, Elisabetta Capello² MD, Alice Laroni^{1,2} MD, PhD, Antonio Uccelli^{1,2} MD, Maria Cellerino¹ MD, PhD, Giacomo Boffa^{1,2} MD, PhD, Matilde Inglese^{1,2} MD, PhD

¹Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, and Mother-Child Health (DINOGMI), University of Genoa, Genoa, Italy; ²IRCCS Ospedale Policlinico San Martino, Genoa, Italy.

BACKGROUND AND AIMS

- Cladribine (CLAD) is an **oral effective pulse selective immune reconstitution therapy**, approved for relapsing and active secondary progressive multiple sclerosis (MS);
- Mechanism of action involves transitory selective lymphocyte depletion**;
- Randomized controlled trials demonstrated its efficacy and safety, largely deriving from younger populations, but real-world studies are essential to confirm these findings in routine clinical practice, especially about its use in **older patients**.

This study aims to provide a descriptive analysis of the effectiveness and safety of Cladribine in a real-world MS cohort starting CLAD at ≥ 50 years (n=36) versus < 50 years (n=70)

METHODS

- Retrospective, single-centre study** including consecutive MS patients treated with CLAD between 2020 and 2025 at the MS Centre of Clinica Neurologica (IRCCS Ospedale Policlinico San Martino) in Genoa.
- Patients were stratified by age (< 50 vs ≥ 50 years)

RESULTS

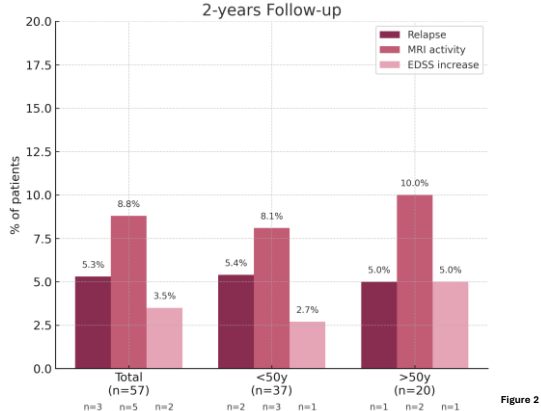
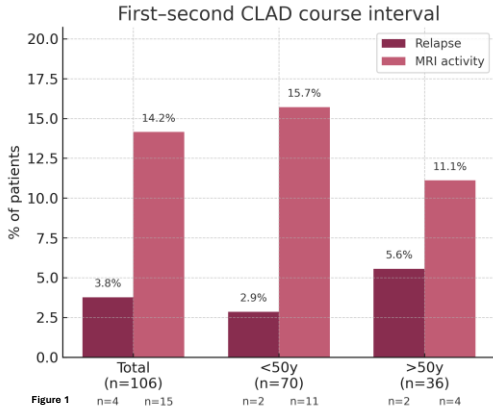
	MS patients (n=106)	MS < 50 y (n=70)	MS > 50 y (n=36)
Age, mean (SD)	41 (± 11.3)	/	/
Sex, Females, n (%)	73 (69%)	47 (67%)	26 (72%)
RRMS, n (%)	102 (96%)	70 (100%)	34 (94%)
Disease duration, mean (SD), years	9.8 (± 9.4)	6.8 (± 7.3)	13.4 (± 11.4)
Naive patients, n (%)	41 (39%)	28 (40%)	11 (31%)
Previously treated, n (%)	65 (61%)	42 (60%)	25 (69%)
Dimethyl fumarate	21	16	6
Interferons	12	7	7
Teriflunomide	9	3	4
Fingolimod	9	6	1
Natalizumab	5	5	1
AntiCD20	5	0	1
Glatirameracetato	4	1	3
Active MRI at baseline, n (%)	60 (57%)	39 (56%)	23 (64%)
Clinical relapse prev. year, n (%)	41 (39%)	27 (39%)	14 (39%)
EDSS, median (IQR)	2.0 (0-3)	1.0 (0-4.5)	2.0 (0-5.5)
Both cladribine cycles completed, n (%)	70 (66%)	46 (66%)	24 (67%)

Table1: demographic and clinical characteristics of MS patients

Adverse events were infrequent, with mild infections occurring in 5% of patients.

Six patients developed **VZV infection**: 3 < 50 years (n=70, 4.8%) and 3 > 50 years (n=36, 9.7%).

No cases of severe infections requiring hospitalization or neoplasms were observed.



At 2 years of follow-up, **NEDA-3 status** was sustained in **84.2%** of the total cohort (n=57), including **83.8%** of patients < 50 years (n=37) and **85.0%** of patients > 50 years (n=20).

CONCLUSIONS

No differences in terms of efficacy outcomes were found between younger and older patients treated with CLAD. **No significance safety concerns** were detected despite higher incidence of VZV infections in older MS patients, supporting the use of CLAD also in this population, both in naive and previously treated. **In older MS population, the use of CLAD as first and last therapeutic approach may be suggested.** Larger and prospective studies are needed to confirm our findings.