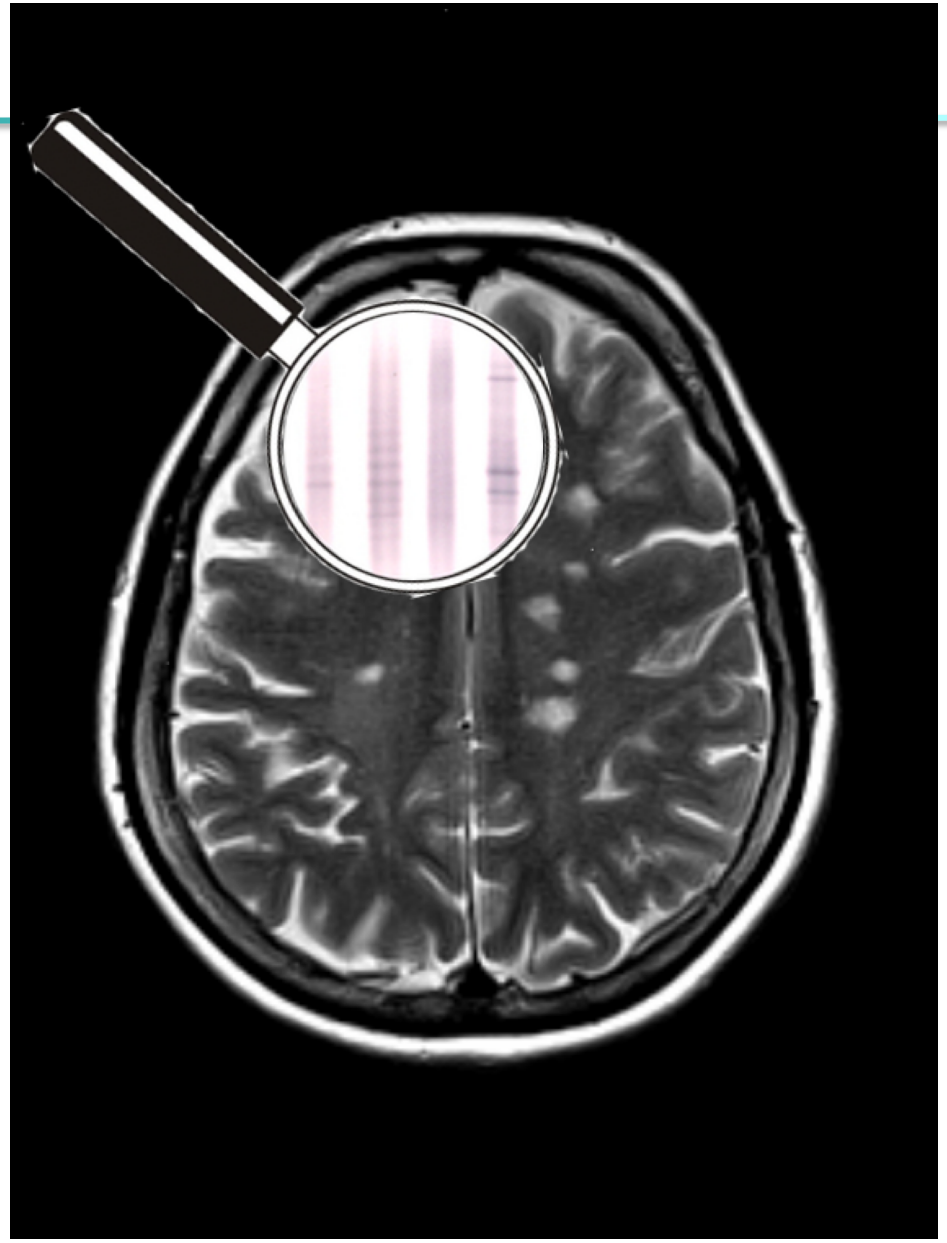
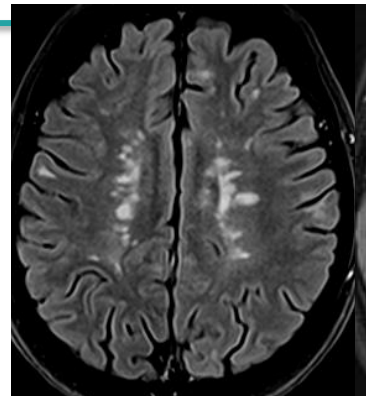
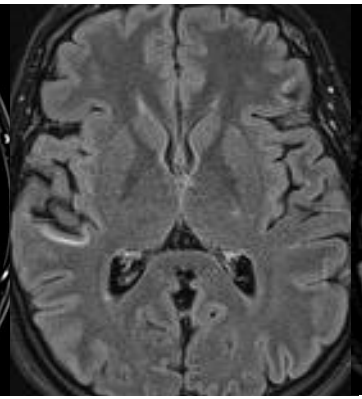
Cemcat



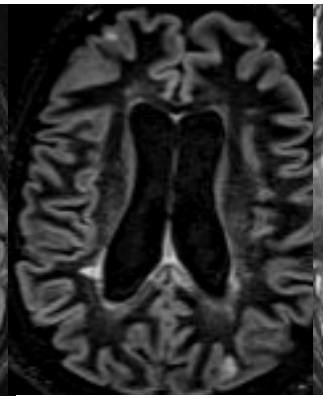
Typical imaging features



Periventricular /ovoid

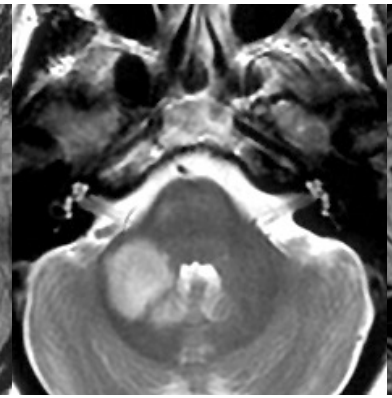


Juxtacortical

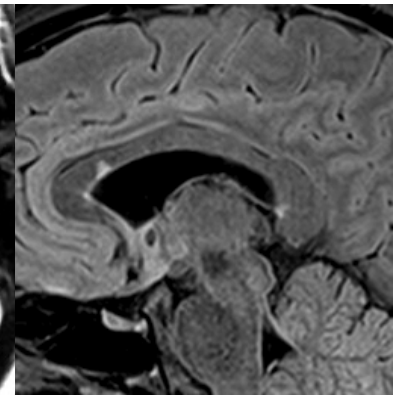


Cortical

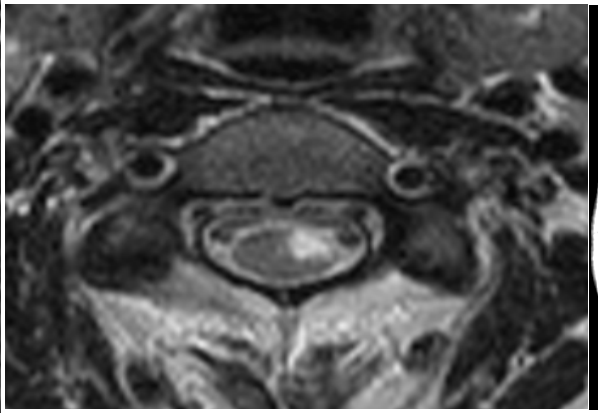
Pons (periphery)



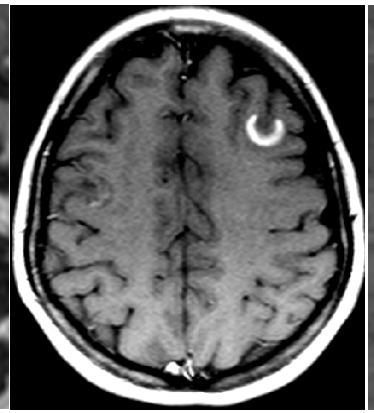
Middle cerebellar peduncles



Inferior margin corpus callosum

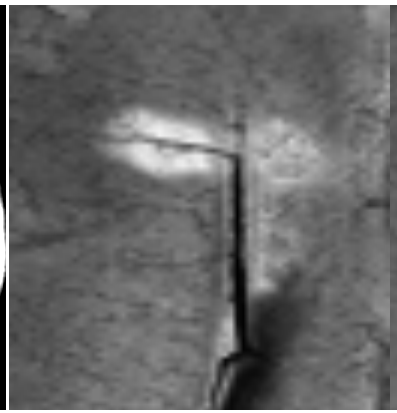


Spinal cord
Short segment
<50% cord transverse area
Lateral/posterior

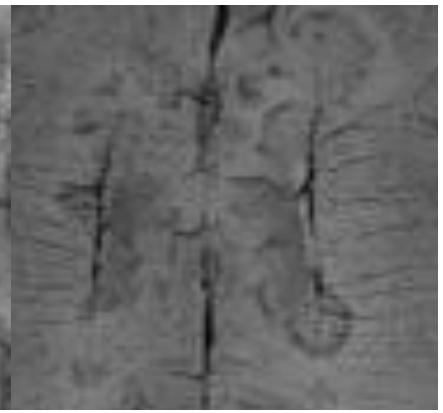


Open-ring enhancement

Susceptibility-weighted imaging



Central vein sign



Hipointense rims (iron)

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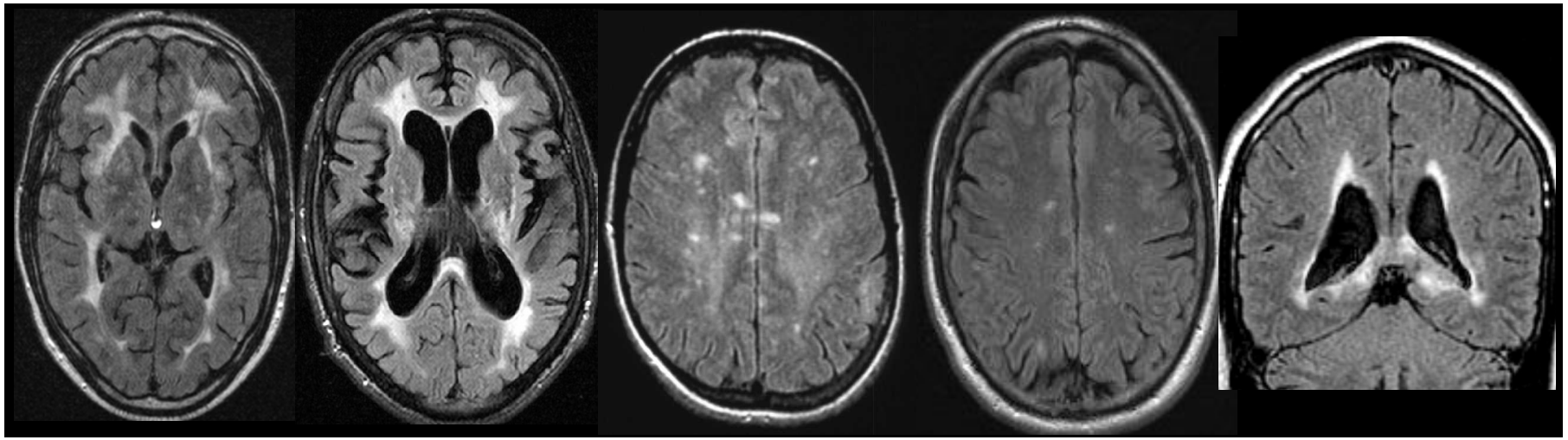
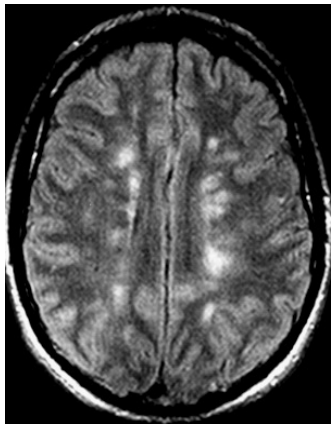
Images Alex Rovira. Hospital Vall d'Hebron

MRI focal white matter lesions

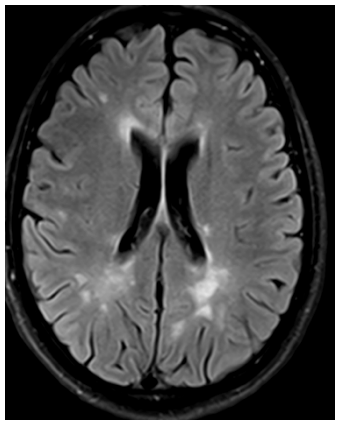


CADASIL Fabry SUSAC PACNS Neurosarcoidosis



Fat embolism

Lyme disease



Multiple sclerosis

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Prognosis is impossible to stablished

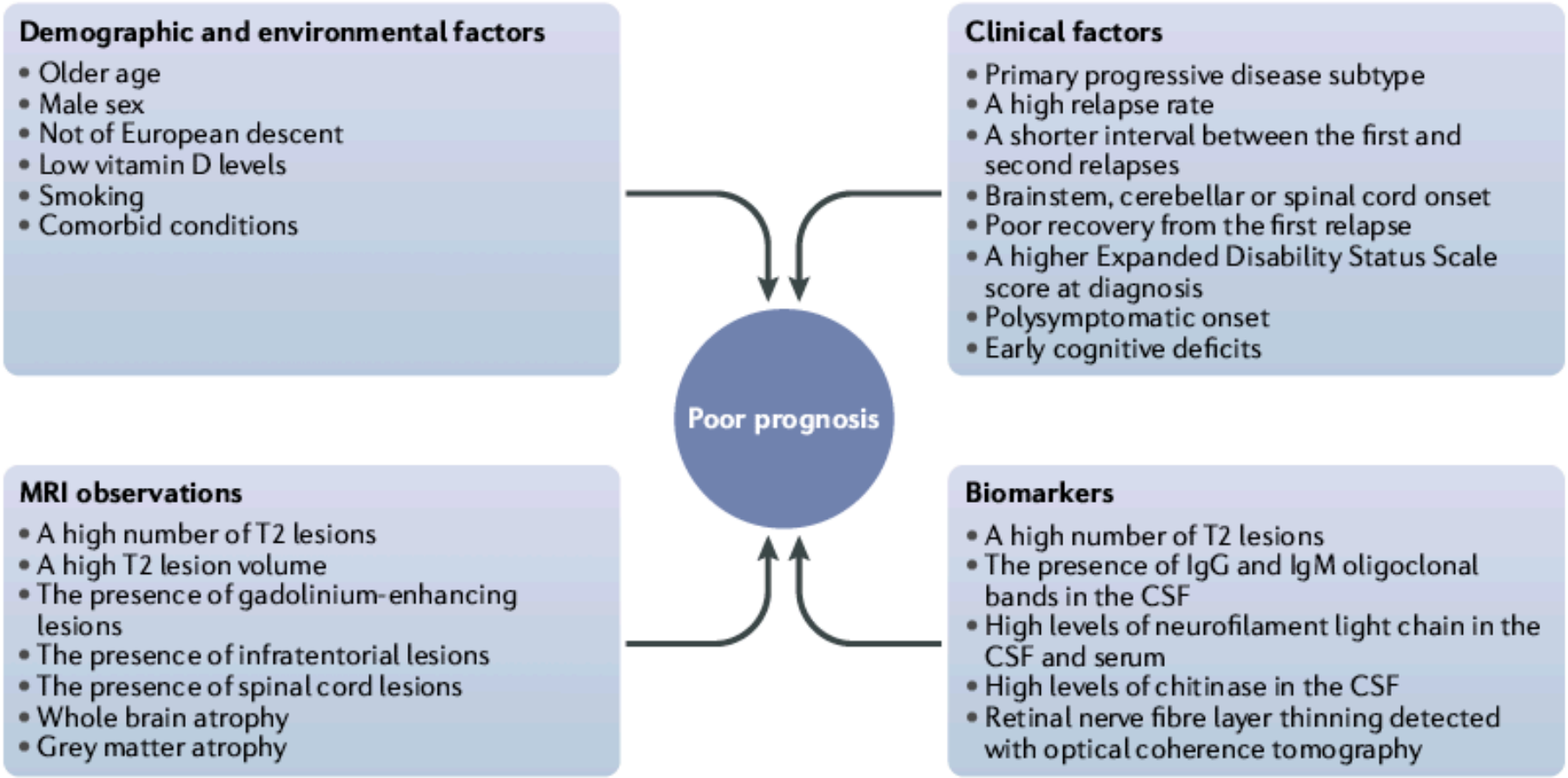


Fig. 1 | **Predictors of a poor prognosis in multiple sclerosis.** The demographic and environmental factors, clinical factors, MRI observations and biomarkers that have been associated with a poor prognosis in multiple sclerosis are listed. CSF, cerebrospinal fluid; IgG, immunoglobulin G; IgM, immunoglobulin M.

Rotstein and Montalban. Nat Review Neurol 2019

Flow chart Data as per March 2023

Cemcat
Centre d'Esclerosi Múltiple de Catalunya

Cemcat patients
9,597 patients

- 5,654 patients
Do not belong to any Cemcat protocol

Cemcat patients
3,943 patients

-2,404 patients
Do not belong have available date of the first attack

CIS patients
1,537 patients

-153 patients
Are excluded from the cohort

Reason of stop	N (%)
>50 years	4 (2.6%)
Alternative diagnosis	84 (54.9%)
Does not agree to sign CI	13 (8.5%)
Exceeds inclusion window	27 (17.6%)
Previous relapse	25 (16.3%)

Deeply phenotyped Barcelona inception cohort
1,384 patients

-2 patients
Inaccurate demographic information

Deeply phenotyped Barcelona inception cohort
1,382 patients

- 190 patients
With less than three EDSS assessments

Deeply phenotyped Barcelona inception cohort
1,192 patients

-12 patients
Still have some relapse expressed as interval

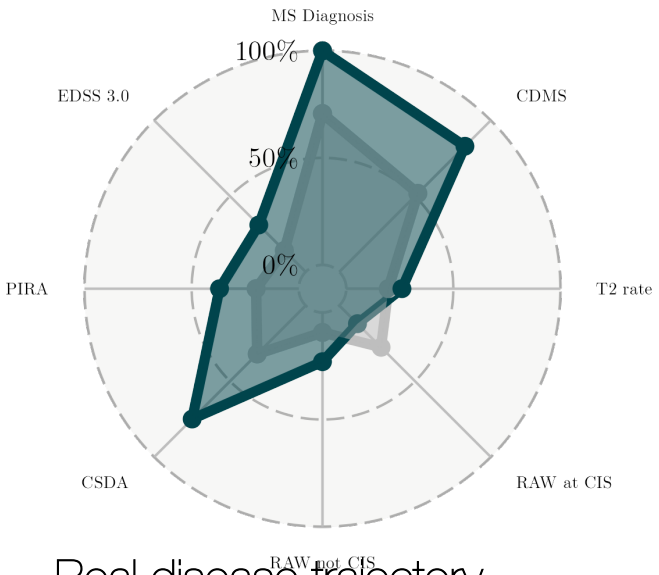
Deeply phenotyped Barcelona inception cohort
1,180 patients

Median follow-up (IQR)
10.8 (5.1, 18.0) years

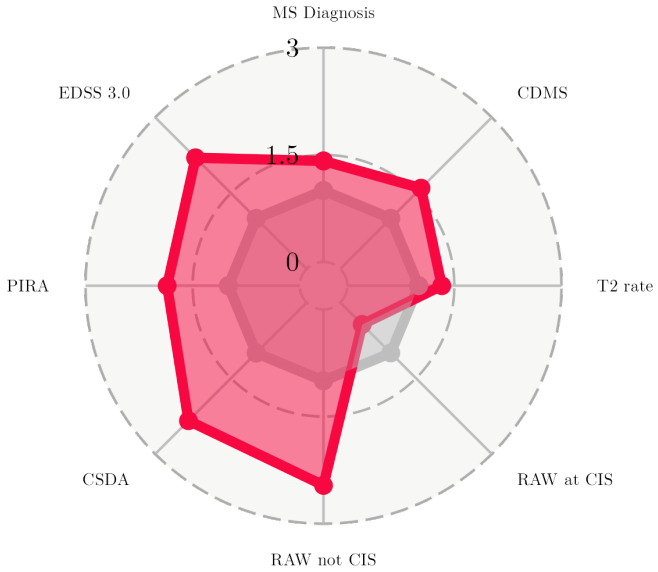
Results Individual visualizations

Cemcat
Centre d'Esclerosi Múltiple de Catalunya

Predicted risks at 10 years



Predicted risk ratios at 10 years



Male | 28.4 years of age

First attack in 2009

CIS Topography: Optic Nerve

Oligoclonal Bands +

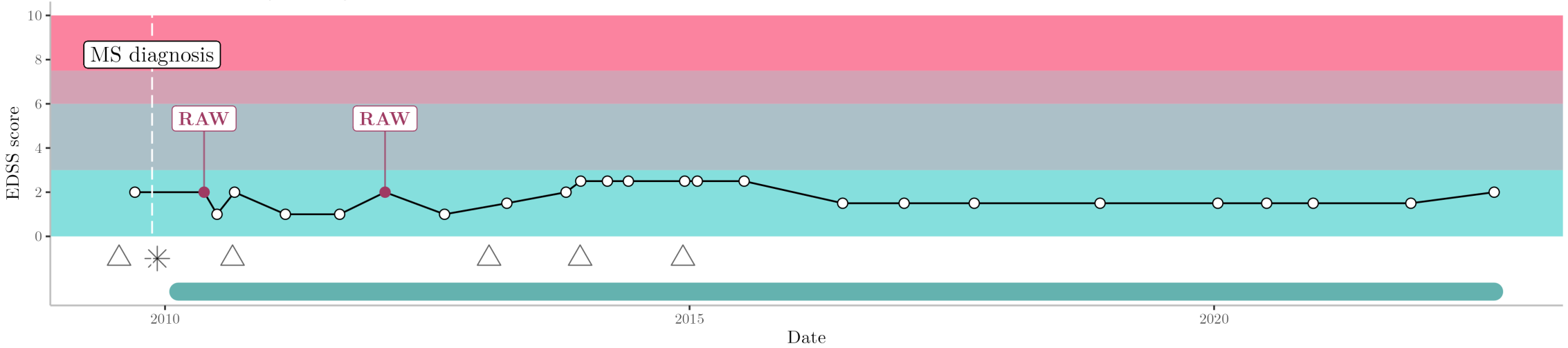
Brain

>8T2 lesions (10 T2) with 0 CEL

Spinal Cord

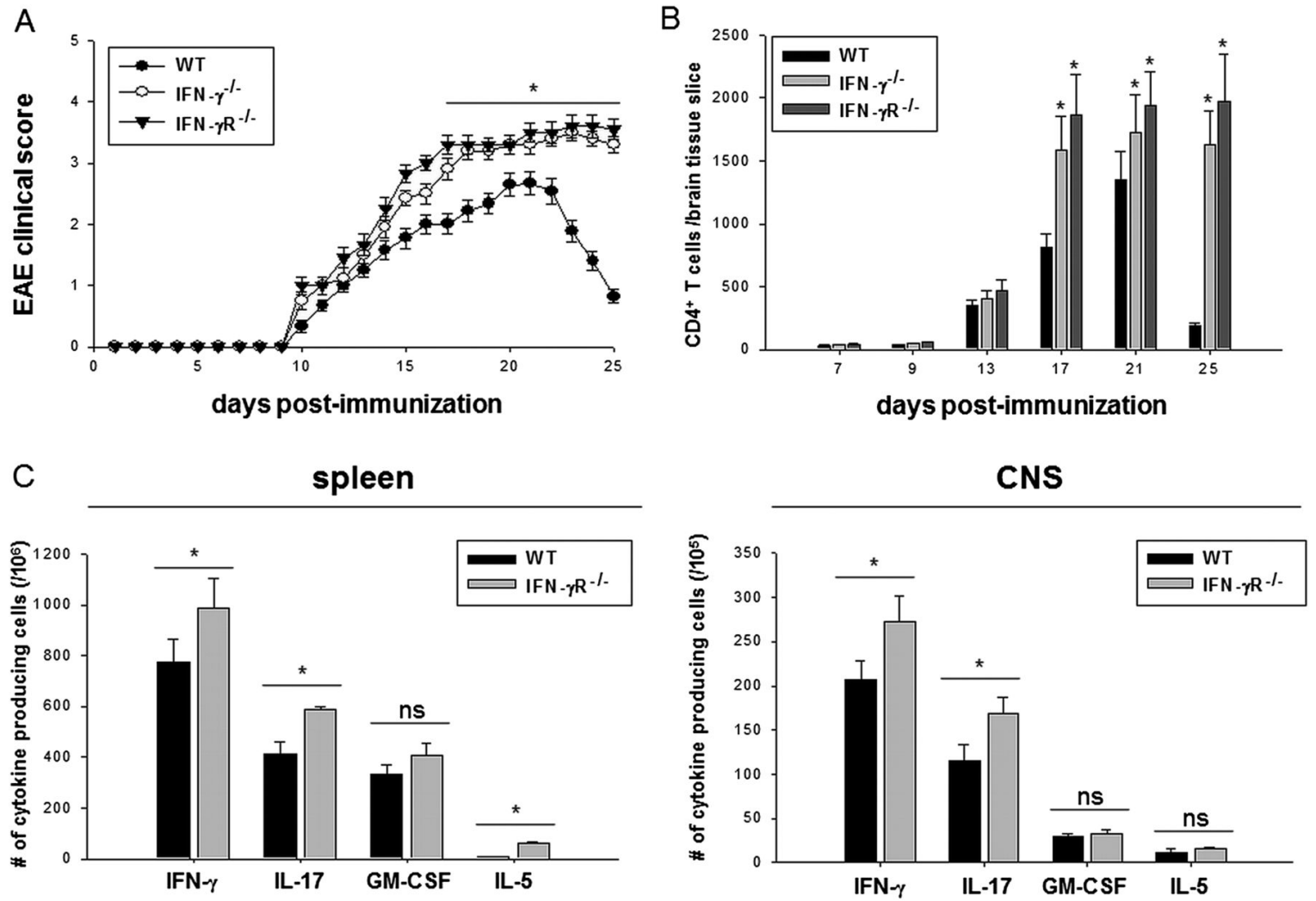
2-3 T2 lesions with >0 CEL

Real disease trajectory



There are no effective treatments for multiple sclerosis

IFN-γ ameliorates autoimmune encephalomyelitis



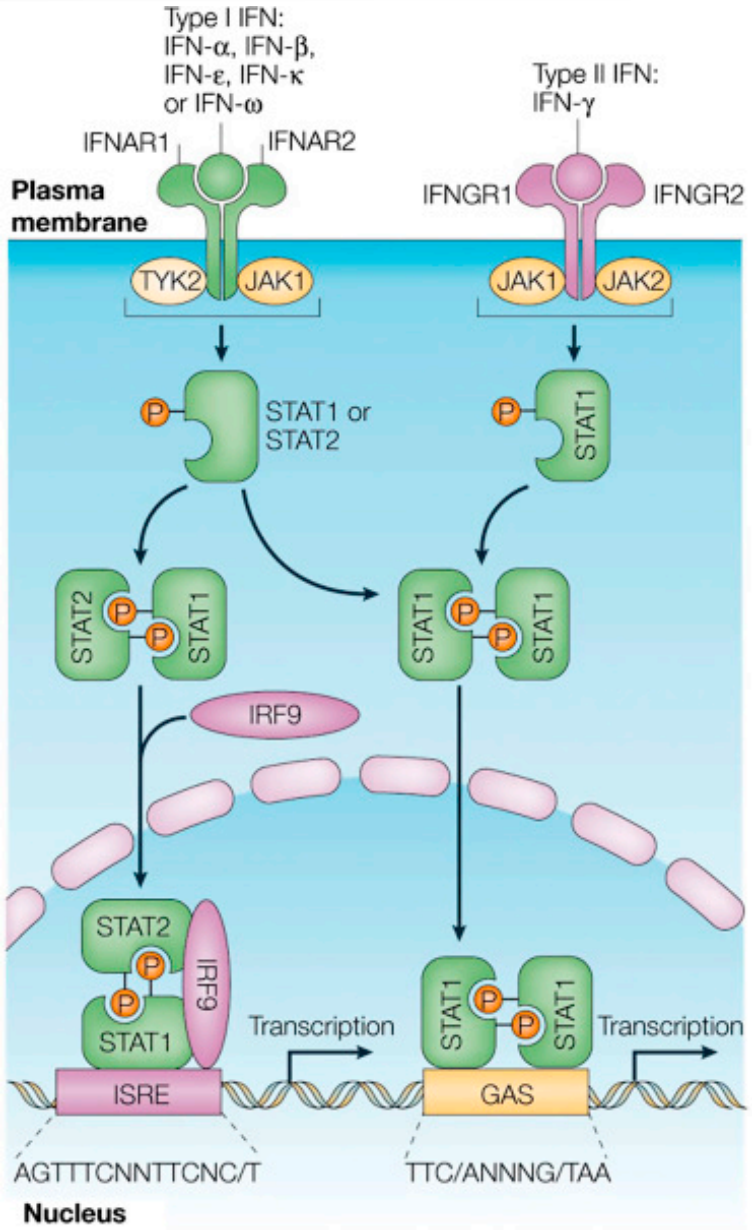
The Lancet
Volume 329, Issue 8538, 18 April 1987, Pages 893-895

Preliminary Communications

EXACERBATIONS OF MULTIPLE SCLEROSIS IN PATIENTS TREATED WITH GAMMA INTERFERON

HillelS. Panitch [a, b], AndreaS. Haley [a, b], RobertL. Hirsch [a, b], KennethP. Johnson [a, b]

Interferon Gamma Versus Beta-Interferon in Pathogenesis of Multiple Sclerosis: Battle of Two Interferons



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April 01, 1993; 43 (4) ARTICLES

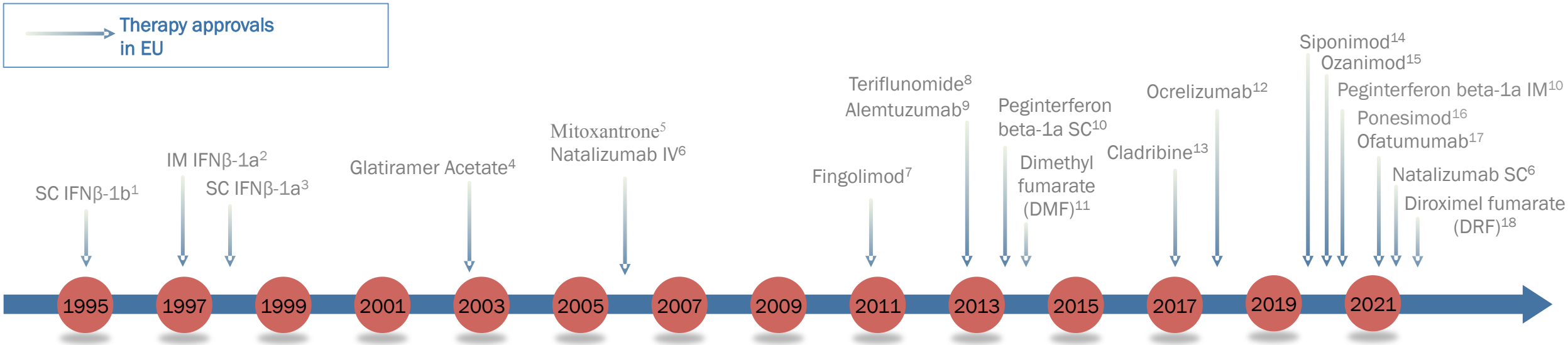
Interferon beta–1b is effective in relapsing–remitting multiple sclerosis

I. Clinical results of a multicenter, randomized, double–blind, placebo-controlled trial

The IFNB Multiple Sclerosis Study Group

First published April 1, 1993, DOI: https://doi.org/10.1212/WNL.43.4.655

Evolving therapeutic landscape



***BTK**, Bruton's tyrosine kinase; **GA**, glatiramer acetate; **IFNβ**, interferon beta; **IM**, intramuscular; **MS**, multiple sclerosis; **SC**, subcutaneous. **1.** Betaferon (interferon beta-1b). EU Summary of Product Characteristics (SmPC); Dec 2020; **2**. Avonex (interferon beta-1a). EU SmPC; Mar 2021; **3**. Rebif (interferon beta-1a). EU SmPC; Jan 2021; **4**. Copaxone (glatiramer acetate). UK SmPC; Aug 2021; **5**. Novantrone (mitoxantrone). UK SmPC. Feb 2021; **6**. Tysabri (natalizumab). EU SmPC; Aug 2021; **7**. Gilenya (fingolimod). EU SmPC; Aug 2021; **8**. Aubagio (teriflunomide). EU SmPC; Aug 2021; **9**. Lemtrada (alemtuzumab). EU SmPC; Aug 2021; **10**. Plegridy (peginterferon beta-1a). EU SmPC; Mar 2021; **11**. Tecfidera (dimethyl fumarate). EU SmPC; Apr 2021; **12**. Ocrevus (ocrelizumab). EU SmPC; May 2021; **13**. Mavenclad (cladribine). EU SmPC; Apr 2021; **14**. Mayzent (siponimod). EU SmPC; Jan 2021; **15**. Zeposia (ozanimod). EU SmPC; Oct 2020; **16.** Ponvory (ponesimod). EU SmPC; June 2021; **17**. Kesimpta (ofatumumab). EU SmPC; June 2021; **18.** Vumerity (diroximel fumarate) EU SmPC; November 2021; **19**. Dolgin E. Nature Biotechnology. 2021;39:3-5; **20**. Biogen press release. Available at: https://investors.biogen.com/news-releases/news-release-details/biogen-and-innocare-announce-license-and-collaboration-agreement. Accessed: Aug 2021.*

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Start treatment after at least 2 or 3 attacks with incomplete recovery

Two stages disease