



International ME/CFS Conference 2026

Understand, Diagnose, Treat

7–8 May 2026

Harnack House of the Max Planck Society
Berlin, Germany

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

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ME CFS
Research Foundation

CD19 B Cell Depletion in ME/CFS

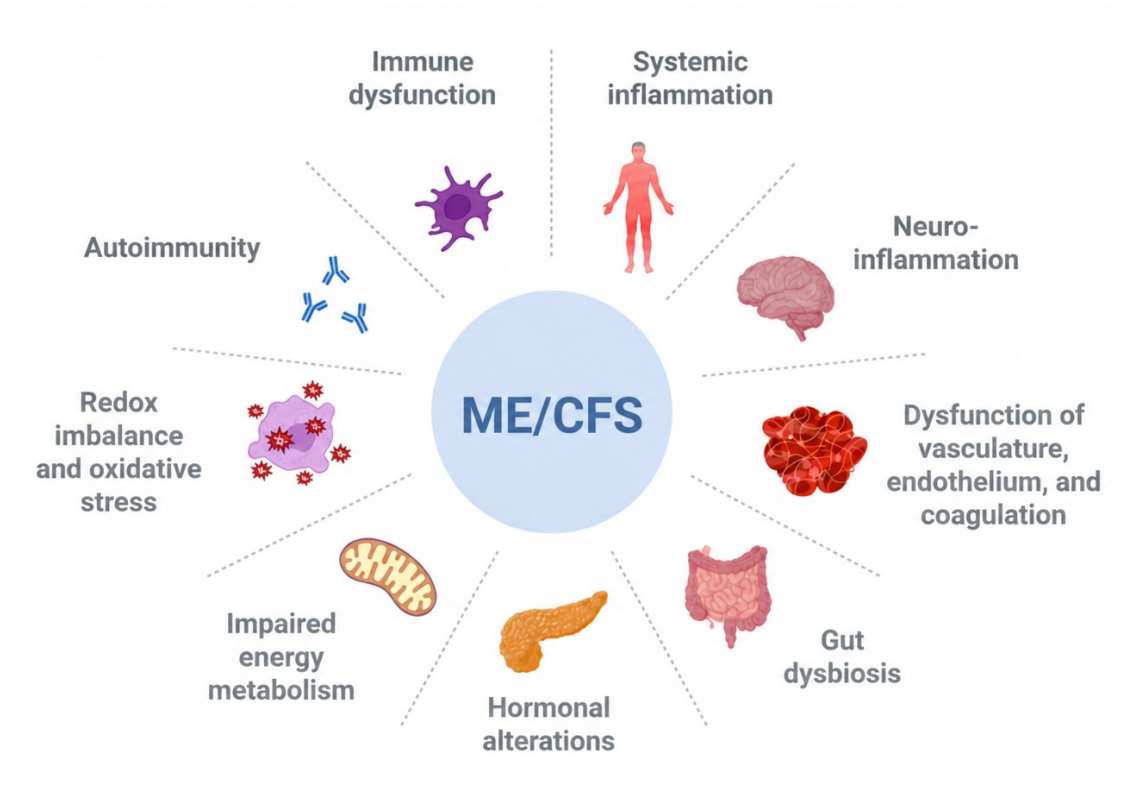
Judith Bellmann-Strobl | 08.05.2025

Disclosures

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There is no conflict of interest regarding the content of the presentation.

Mechanism of disease



adapted from Arron et al., Front. Immunol., 2024

What supports autoimmunity?

- frequent post-infectious onset
- female predominance
- functional autoantibodies against G-protein-coupled receptors (GPCR-AAbs) in 20 – 30%
=> may contribute to:
 - autonomic dysfunction
 - endothelial dysfunction
 - impaired microcirculation
 - exercise intolerance and PEM

Cabral-Marques et al., Autoimmunity Reviews 2025,
Batham et al., BMC Immunol. 2024

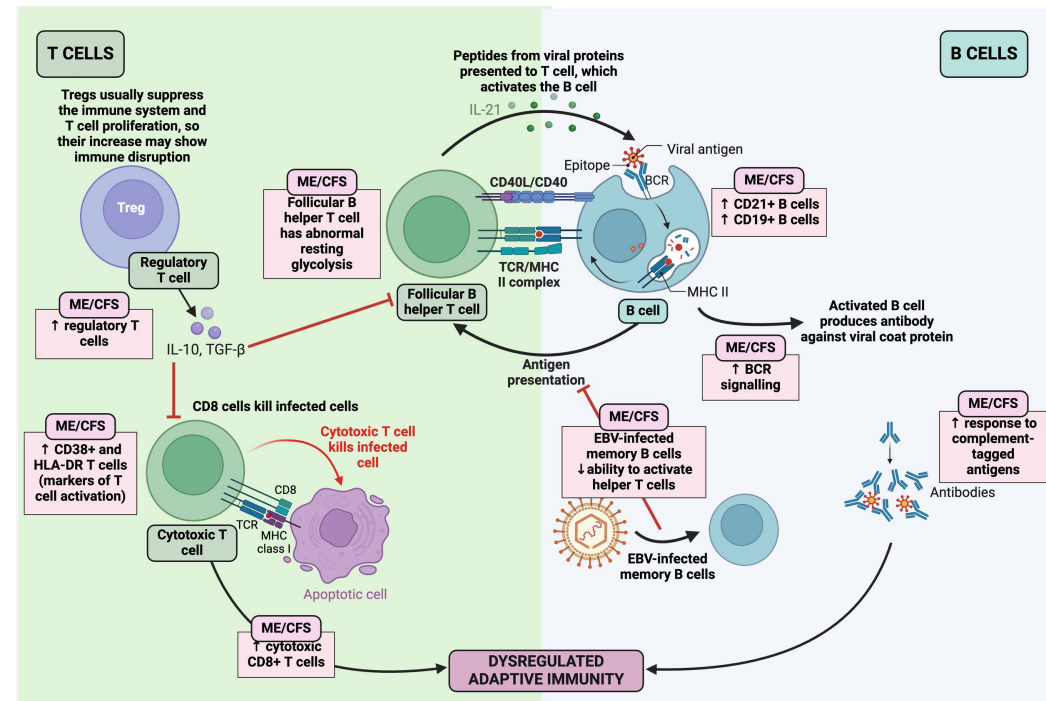
Immun Dysregulation and Autoimmunity

Evidence of immune dysregulation

- altered cytokine profiles
- B-cell abnormalities: activated memory and double-negative B-cell populations

Translational evidence

- Immunoabsorption studies
 - symptom improvement in subsets
 - reduction of circulating immunoglobulins and GPCR-AAbs



Sawitzkiy 2026, Stein et al., Lancet Reg Health Eur 2025

Arron et al., Front. Immunol., 2024

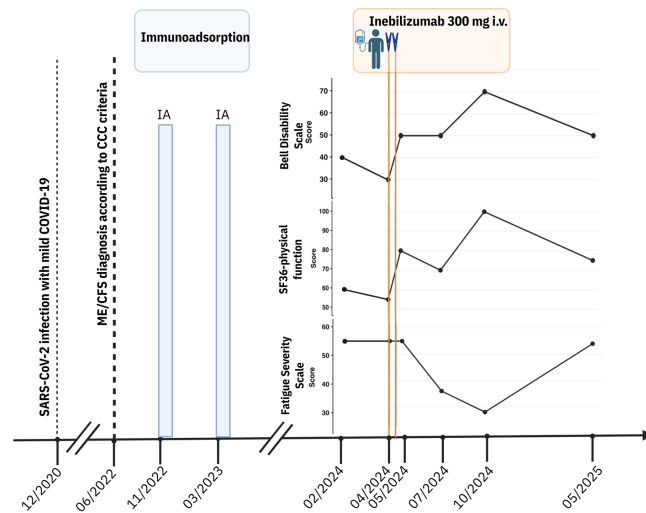
Case Series: CD 19 Depletion with Inebilizumab in post infectious ME/CFS

Case 1

female, 54 years, psychologist

GPCR-AAbs pos.

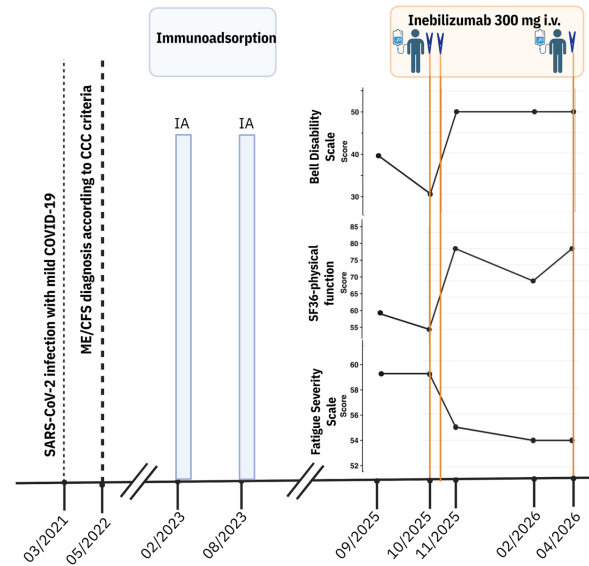
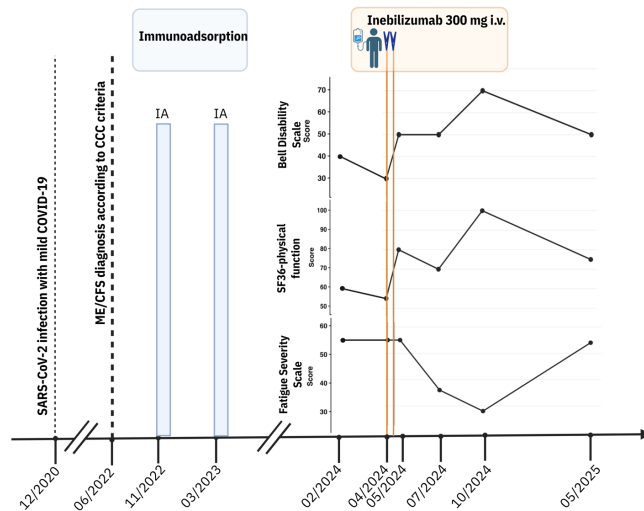
arterial hypertension



Case Series: CD 19 Depletion with Inebilizumab in post infectious ME/CFS

Case 1

female, 54 years, psychologist
GPCR-AAbs pos.
arterial hypertension



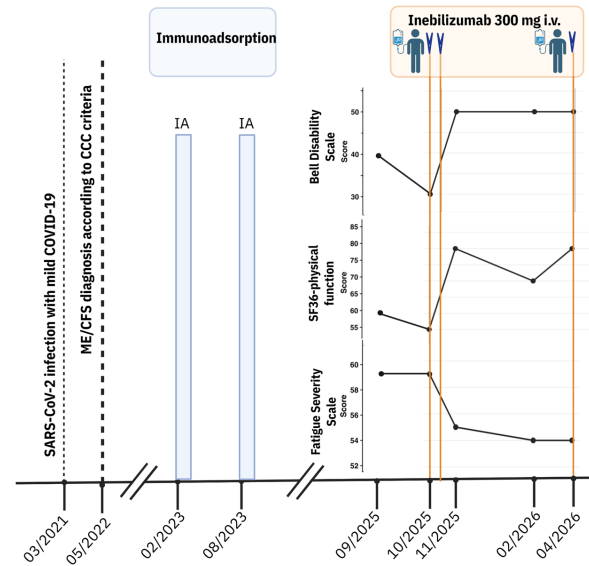
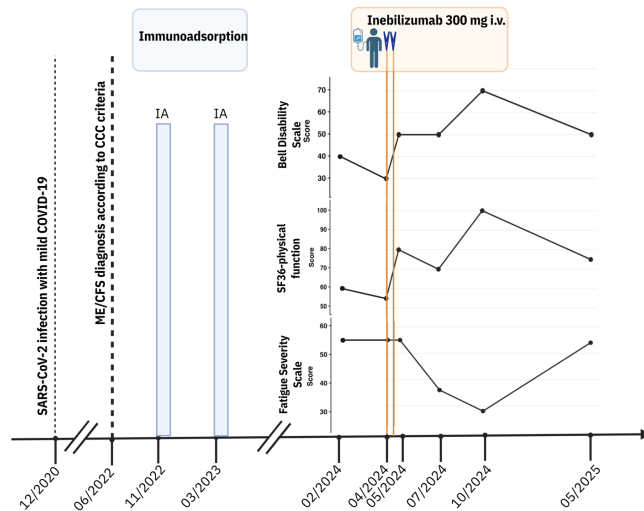
Case 2

female, 58 years, physician
GPCR-AAbs pos.
fracture left ankle 01/2026

Case Series: CD 19 Depletion with Inebilizumab in post infectious ME/CFS

Case 1

female, 54 years, psychologist
GPCR-AAbs pos.
arterial hypertension

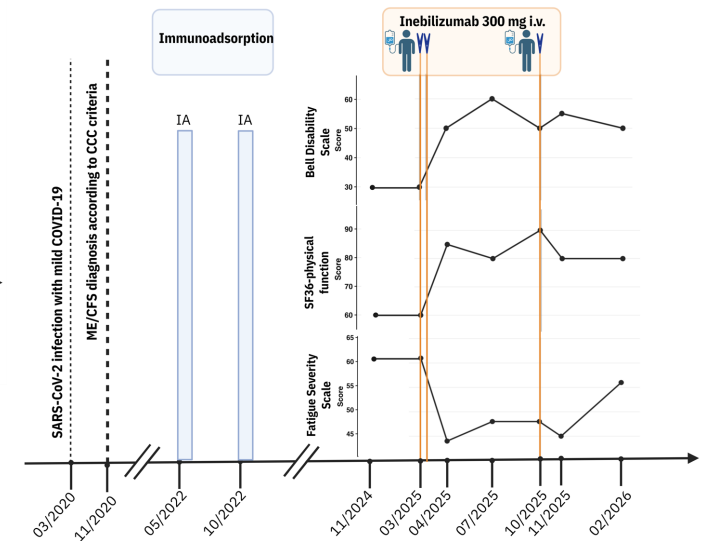


Case 2

female, 58 years, physician
GPCR-AAbs pos.
fracture left ankle 01/2026

Case 3

male, 62 years, journalist
GPCR-AAbs pos
arterial hypertension, osteoporosis

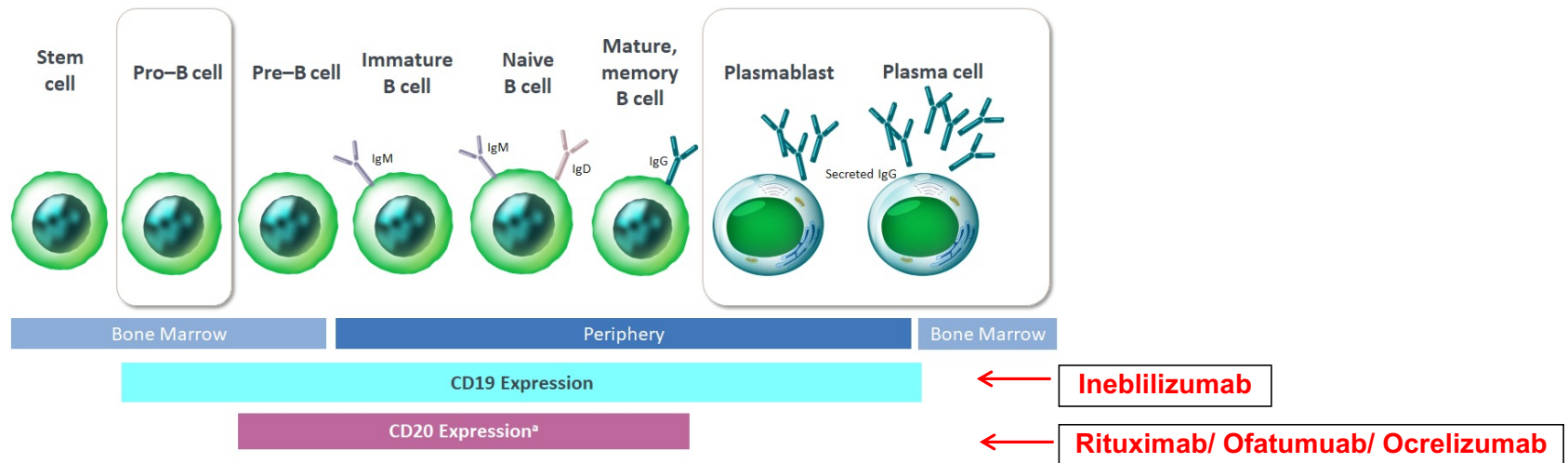


Case Series: What have we learnt?

- All three patients demonstrated clinical improvement
- Inebilizumab was well tolerated, with no infusion-related adverse events or severe infections observed
- Treatment effects persists for at least six months after induction dose
- Perceived fatigue severity did not necessarily correlate with functional status or physical functioning



CD19 versus CD20 Depletion



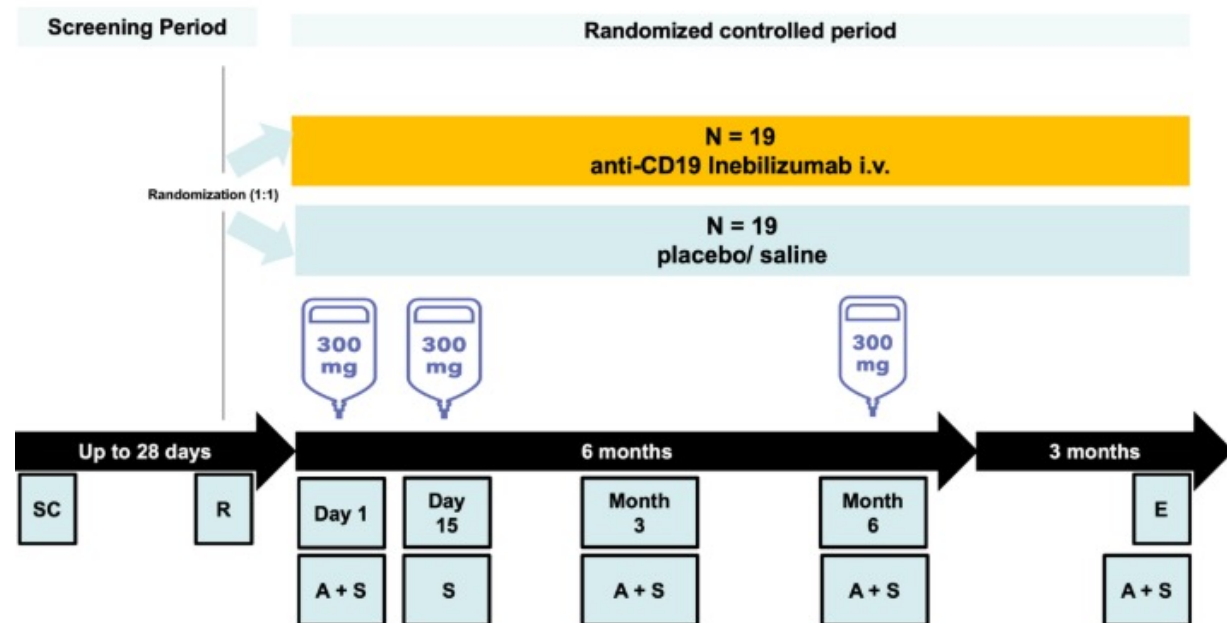
- ◆ CD19 is expressed on B cells and plasmablasts
- ◆ Broader depletion of B cell subsets
- ◆ Direct depletion of Ab-secreting cells

Forsthuber et al., Ther Adv Neurol Disord. 2018

Prospective, randomized, double-blind, placebo-controlled phase 2b trial evaluating the efficacy and safety of the anti-CD19 monoclonal antibody Inebilizumab compared with placebo in patients with post-acute infection syndromes fulfilling ME/CFS criteria (PIONEER)

Main inclusion criteria:

- Age 18-65 years
- ME/CFS according to Canadian Consensus Criteria (CCC)
- Medical history of infectious trigger
- Bell score between 30 and 60
- Pre-treatment with immunoadsorption and evidence for clinical response
- Presence of autoantibodies (β2R adrenergic AAB)



Summary



Strong rationale for B-cell depletion in post infectious ME/CFS with autoimmune phenotype



CD19 monoclonal antibody therapy -> Promising results of individual treatment attempts



Pilot study on the way: Prospective, randomized, double-blind, placebo-controlled phase 2b trial evaluating efficacy and safety of the anti-CD19 monoclonal antibody Inebilizumab compared with placebo in patients with post infectious ME/CFS - PIONEER

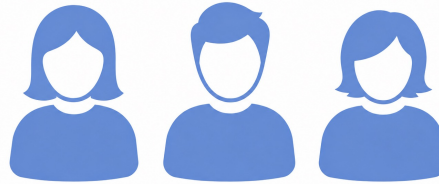
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