Bujanov Moscow City Clinical Hospital
Institute of Higher Nervous Activity and Neurophysiology

ГКБ им. В.М. БУЯНОВА
профессионализм и милосердие

Autoimmune encephalitis: between autoimmune neurology and immunoneuropsychiatry

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NORMENT – MIPT, Moscow, 2019

Our team and communication chart

Bujanov Moscow City Clinical Hospital

- Autoimmune CNS and PNS disorders
- Epilepsy
- ALS

Live Now Charity Foundation for people with ALS

Institute of Higher Nervous Activity and Neurophysiology

- Lab work
- Translational and basic research in epilepsy and neuroinflammation

Moscow Research and Clinical Center for Neuropsychiatry

- Major depressive disorders

Project MinE: «grounbreaking research in ALS»

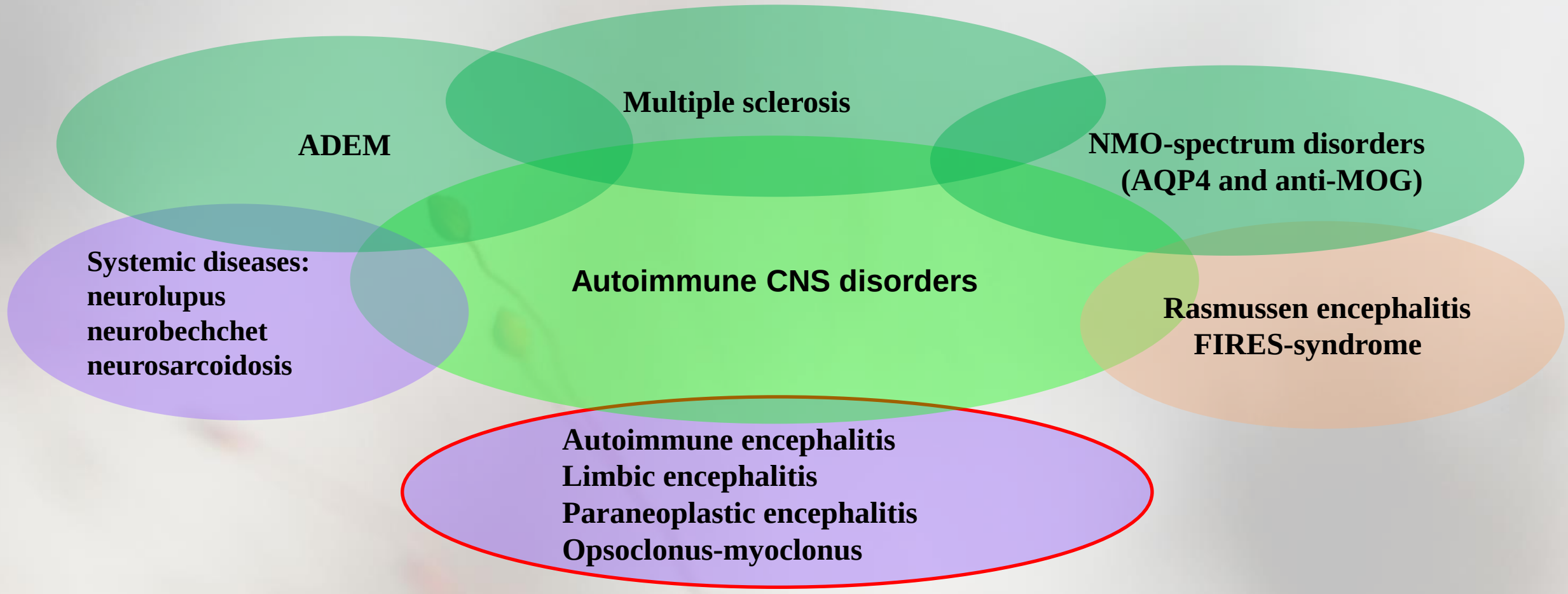
- **Goal:**
- 15000 ALS patients worldwide
- 7500 controls

Russia: 100 ALS patients and 50 controls

6 years

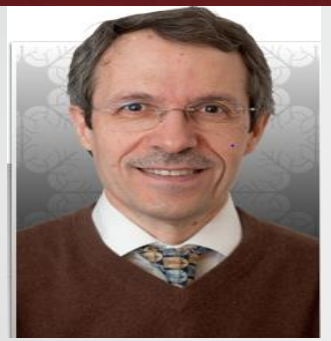
20 countries

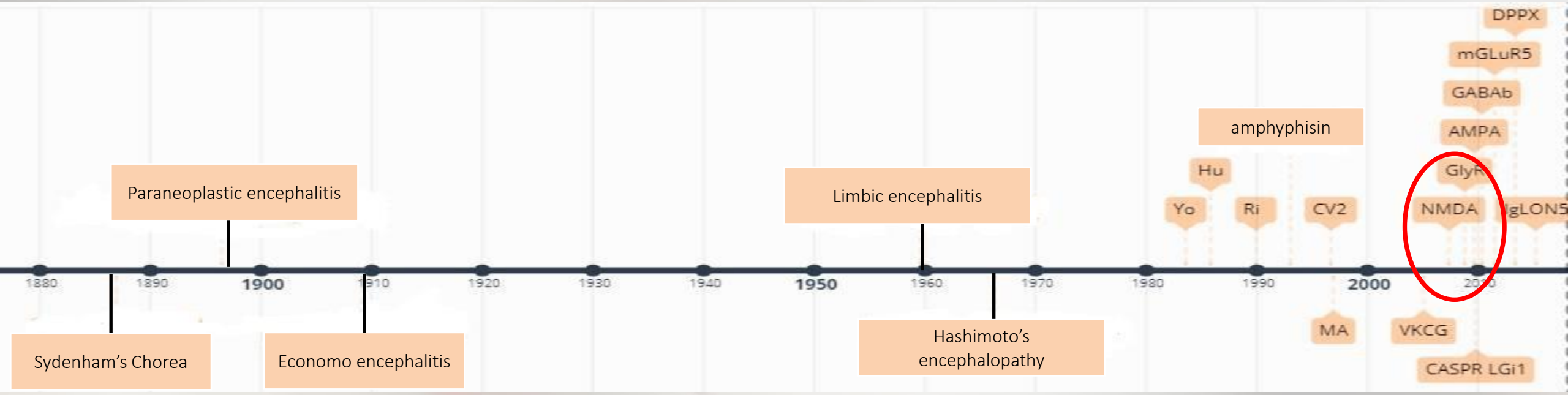
Autoimmune (or immune-mediated) disorders of the central nervous system



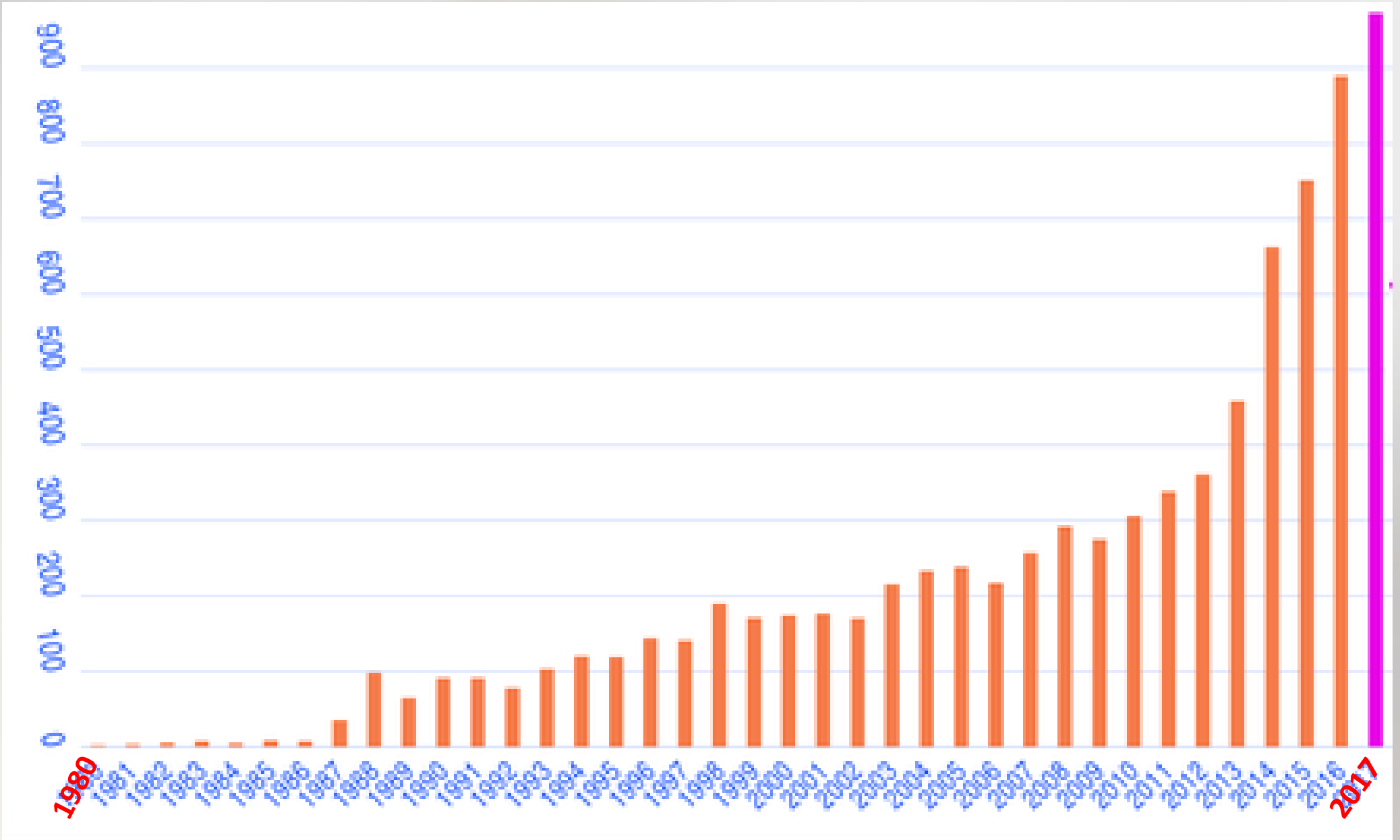
Autoimmune encephalitis: NMDA

IDIBAPS Neuroimmunology Program





Autoimmune encephalitis



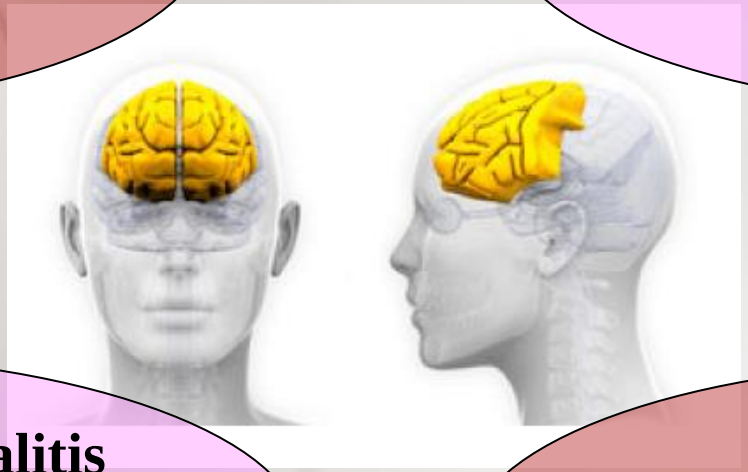
nature REVIEWS NEUROLOGY

Immunoneuropsychiatry — novel perspectives on brain disorders

Katrin Pape, Ryad Tamouza, Marion Leboyer & Frauke Zipp

Autoimmune neurology

Immunoneuropsychiatry



Autoimmune encephalitis with antibodies to NMDA-receptors

NMDA-receptor hypofunction hypothesis in schizophrenia

Annals of NEUROLOGY
An Official Journal of the American Neurological Association and the Child Neurology Society

Research Article

Autoimmune encephalitis epidemiology and a comparison to infectious encephalitis

Divyanshu Dubey MD, Sean J. Pittock MD, Cecilia R. Kelly MD, Andrew McKeon MD, Alfonso Sebastian Lopez-Chiriboga MD, Vanda A. Lennon MD, PhD, Avi Gadoth MD, ... See all authors

Prevalence 13.7/100000
Incidence rate 0.8/ 100000 per year

18.5 miles
1.5 hours
12.000.000 habitants

In Moscow
1640 AE patients

Clinical spectrum of autoimmune encephalitis

The psychopathology of NMDAR-antibody encephalitis in adults: a systematic review and phenotypic analysis of individual patient data

Adam Al-Diwani, Adam Handel, Leigh Townsend, Thomas Pollak, M Isabel Leite, Paul J Harrison, Belinda R Lennox, David Okai, Sanjay G Manohar, Sarosh R Irani

Red Flags: Clinical Signs for Identifying Autoimmune Encephalitis in Psychiatric Patients

Julia Herken[1,2] and Harald Prüss[1,2]*

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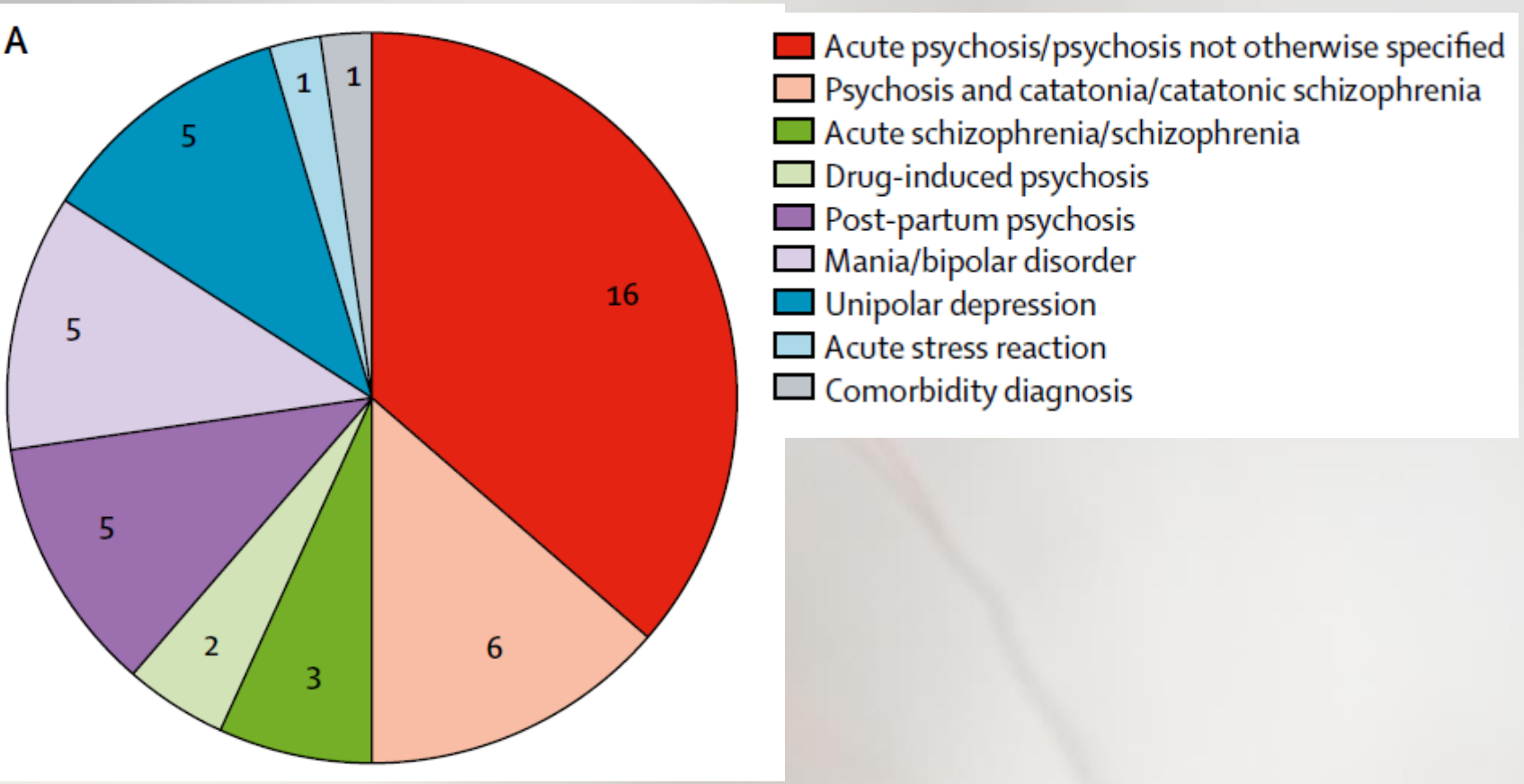


100 AE patients

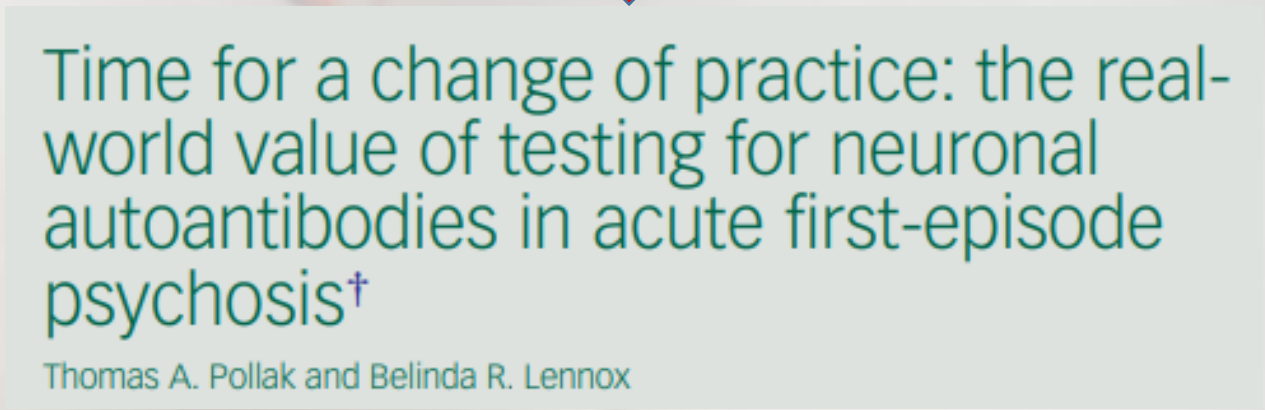
- 60 % psychiatric symptoms
- 1/3 patients were admitted to psychiatric hospital
- **Before diagnosis:**
- 2007-2012 – 483 days
- 2013-2016 – 74 days

Antineuronal antibodies in acute psychiatric care settings

- **serum: 107 of 925 (11.6%)** were positive for one or more anti-neuronal serum autoantibodies (NMDAR 7.6%, CASPR2 2.5%, GAD65 1.9% or AMPAR 0.1

(St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway, Schou B. et al., 2018)

- **CSF: 1 of 125 (0.8%)** of patients with psychosis were positive for NMDAR IgG antibodies (Endres et al. 2015, Germany)



Screening CSF and serum of all patients with acute psychosis for antineuronal antibodies !

ИНСТИТУТ ВЫСШЕЙ НЕРВНОЙ ДЕЯТЕЛЬНОСТИ И НЕЙРОФИЗИОЛОГИИ РАН

ГКБ им. В.М. БУЯНОВА
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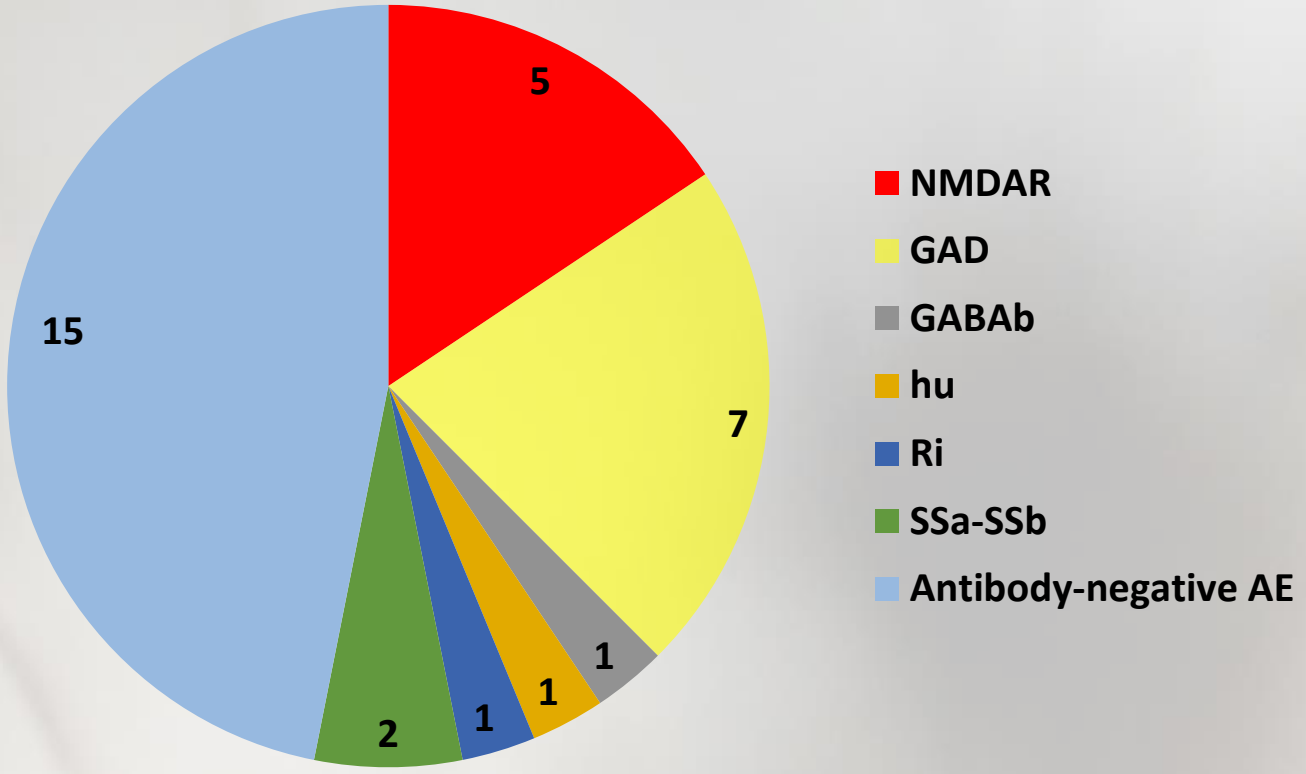
Autoimmune encephalitis

2015-2019:

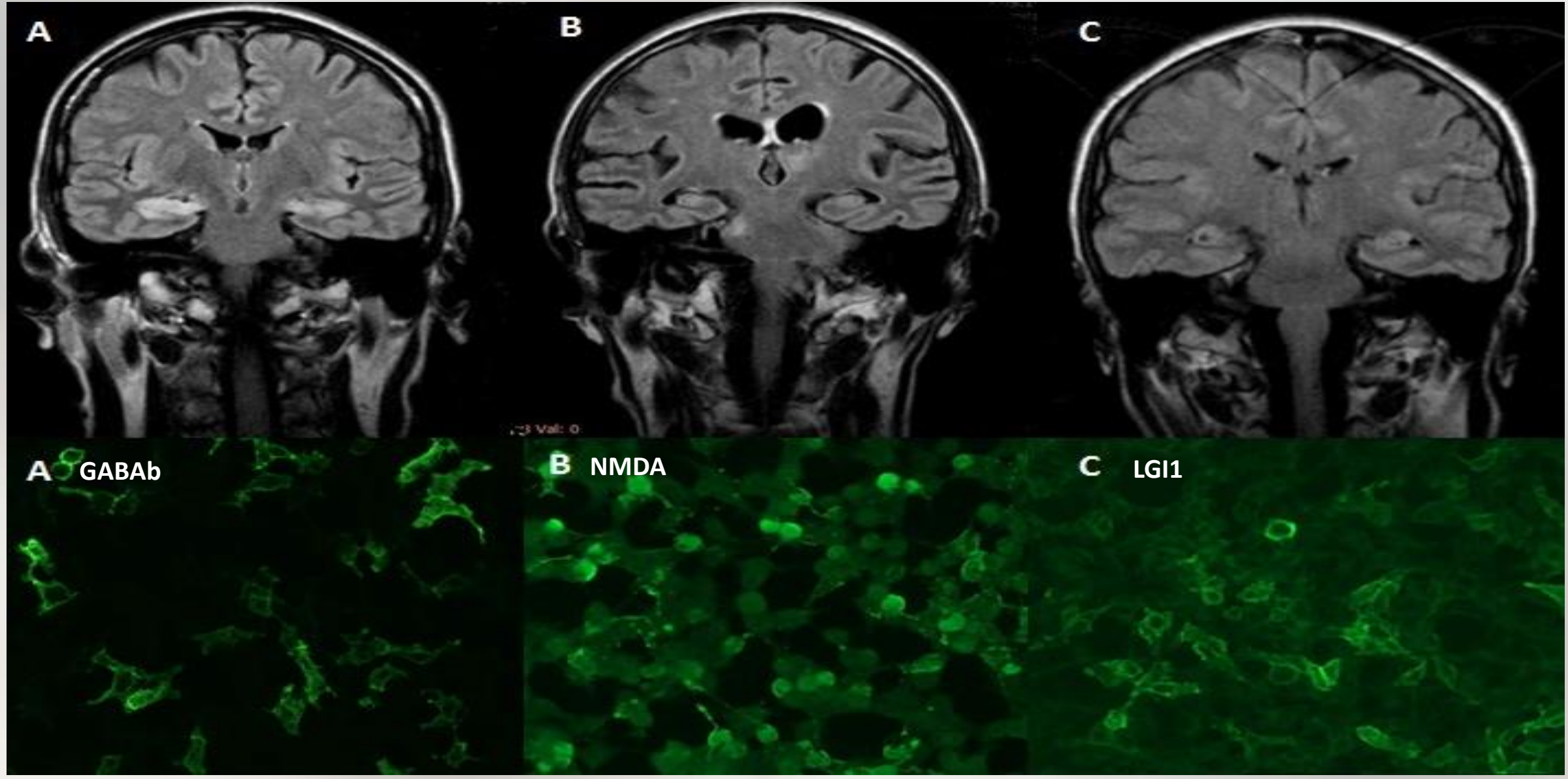
32 autoimmune encephalitis
17 with known antigens

5 NMDAR-encephalitis patients

3 of 5 were from psychiatric department



Antibodies characteristics in AE patients



- **17 % of patients with first symptoms were admitted to psychiatric department!**

- **epileptic seizures– 48 % patients**

- no «extreme delta brush» pattern
- EEG diffuse slowing in all patients with epileptic seizures (7 have epileptiform discharge, 4 have seizures during video-EEG monitoring)

- MRI-positivity **– 58 %**

- **Oncology – 21 %**
- All patients with oncology has oligoclonal antibodies ($p < 0,05$, Fisher test)

- **25 % of patients died during 1 year**

(6 patients, 3 with oncology, longevity of life from 2 week to 8 months)

First acute psychosis: study design and limitation

Previous study:

- retrospective
- only serum screening
- missing of EEG and MRI data and no possibility to discuss AE using current criteria

New study:

- prospective
- serum, MRI, EEG , «red and yellow flags» analysis
- CSF analysis for «possible AE» or serum positive patients
- clinical evaluation
- treatment effects evaluation

Basic research

DNA storage and analysis?
CSF proteomics?

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