

# AUTOIMMUNE PSYCHOSIS

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# INTRODUCTION

- ▶ **Autoimmune psychosis** reflects the presence of diverse immunological and inflammatory abnormalities in subgroups of individuals who have been diagnosed with new-onset atypical psychosis.
- ▶ These subgroups include the proportion of patients who have not responded adequately to conventional anti-psychotics.

# ETIOLOGY

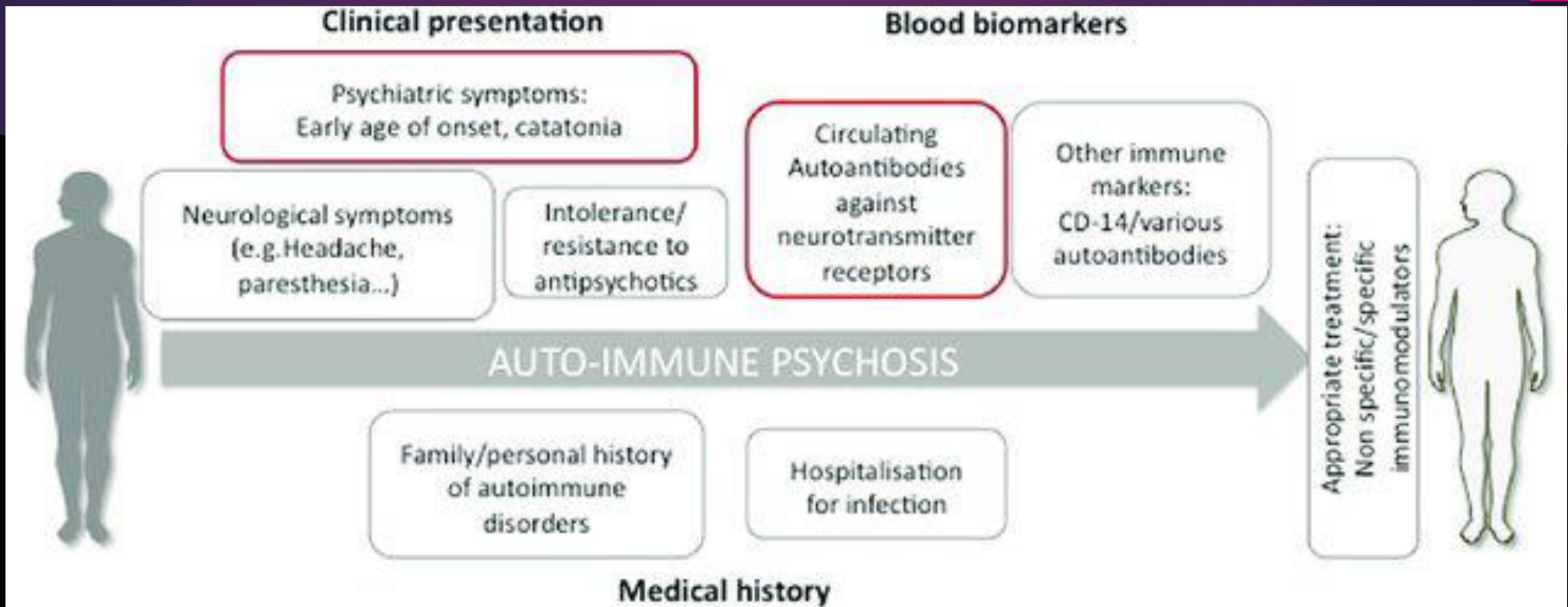
**GENETICS** : INCREASED FREQUENCY OF AUTOIMMUNITY IN FAMILY MEMBERS

**IMMUNOLOGY**: MHC LOCUS, B-LYMPHOCYTE LINEAGES(CD19 AND CD20)

**INFECTIONS**: E.G HSV1 , CMV PROTOZOAL INFECTIONS.

# AUTO- ANTIBODIES ASSOCIATED

- ❖ NMDAR  
(SPECIFICALLY NR1  
SUBUNIT) (*STRONGEST  
ASSOCIATION*)
- ❖ (VGKC)-COMPLEX  
PROTEINS
- ❖ LGI1
- ❖ GABA-R (A & B)
- ❖ AMPAR
- ❖ CASPR2



Interaction between different risk factors

# PATHOGENESIS

- ▶ Upregulation of inflammatory markers in the brain: eg raised CRP, IL-6, TGF- $\alpha$  and IL-1
- ▶ Elevated neopterin levels. (non-specific marker of T helper cell 1 activation-dependent immune response)
- ▶ Main inflammatory abnormalities are **microglial activation** and proliferation in brain regions of functional relevance to psychosis (e.g., dorsolateral prefrontal, superior temporal, and anterior cingulate cortices)
- ▶ Neurobiologically leading to blood-CSF barrier hyperpermeability

# PRESENTATION

- ▶ Patient will present with s/s of Psychosis, affective changes, delusions, agitation (rapid progression of <3 months).
- ▶ **Red Flags** to look for are:
- ▶ Catatonia
- ▶ Infectious Prodrome
- ▶ Autonomic disturbances
- ▶ Decreased consciousness
- ▶ Seizures
- ▶ Cognitive dysfunction
- ▶ History may reveal : recent diagnosis of tumor, other AI diseases (eg SLE, Graves disease)
- ▶ Patient may develop adverse response to anti-psychotics or develop NMS

# DIAGNOSIS

- ▶ *Clinical evaluation* includes obtaining detailed medical and neurological history, performing thorough general and neurological examinations
- ▶ **MRI** : may highlight neuroinflammation.
- ▶ **FDG-PET** : focal areas of hypo/hypermetabolism.
- ▶ **EEG** : epileptiform discharges, extreme delta brush wave in NMDAR antibody positive patients.
- ▶ **CSF analysis**: May show pleocytosis of >5 WBC per uL, CSF oligoclonal bands.
- ▶ **CSF biomarkers**: Ratio of CSF to serum albumin, CSF to serum IgG, CSF protein and IL-6 and IL-8 can be increased
- ▶ Serum and CSF-neuronal surface autoantibodies(IgG)



# TREATMENT

- ▶ Establish secure neuropsychiatric unit with adequate & trained nursing staff.
- ▶ Acute Phase – Antipsychotics
- ▶ Catatonia – Benzodiazepines
- ▶ ECT – Refractory cases
- ▶ Immunotherapy and Steroids: Requires High index of clinical suspicion

# DIFFERENTIAL DIAGNOSIS

- ENCEPHALITIS
- SCHIZOPHRENIA
- MULTIPLE SCLEROSIS
- HASHIMOTO'S ENCEPHALOPATHY
- GRAVES DISEASE
- SLE
- CELIAC DISEASE
- NEUROSARCOIDOSIS



THANK YOU!

# REFERENCES

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- ▶ Pollak TA, Lennox BR, Müller S, et al. Autoimmune psychosis: an international consensus on an approach to the diagnosis and management of psychosis of suspected autoimmune origin. *Lancet Psychiatry*. 2020;7(1):93-108.