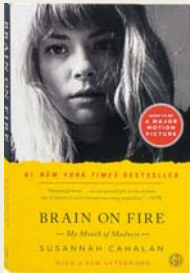


Objectives

- Describe what is brain on fire
- Discuss encephalitis
- Discuss NMDA encephalitis
- Illustrate the research behind NMDA encephalitis
- Discuss the clinical course of NMDA encephalitis and prognosis
- Show an example of brain on fire

Brain on Fire



Brain on Fire

What do these patients present with?

- Manic behavior
- Disinhibition
- Tired
- Headache
- Psychosis
- Delusional
- Hallucinations

What triggers a second look?

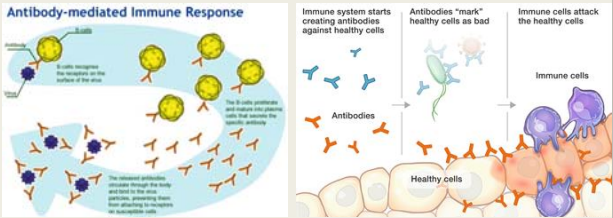
- Memory loss
- Ataxia
- Speech disturbances
- Rhythmic movements
- Autonomic storming
- LOC
- Seizures

Brain on Fire

The brain is under fire....by the person's own immune system!



Basis of antibody mediated autoimmune diseases



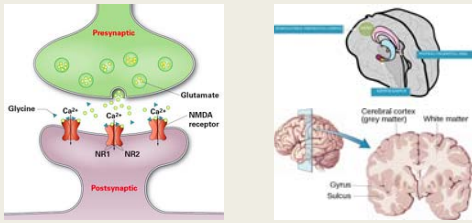
Antibodies associated with encephalitis

- ACMR (Muscle) Binding Ab
- NMDA-R Ab CBA
- VGKC Ab
- IGG1-igg CBA
- CASPR2-igg CBA
- GAD65 Ab Assay
- GABA_A R Ab CBA
- AMPA R Ab
- AMPA-1
- AMPA-2
- AMPA-3
- AGRA-1
- PCA-1
- PCA-2
- PCA-3i
- Amphiphysin Ab
- N-Type Calcium Channel Ab
- P/Q-Type Calcium Channel Ab
- ACMR (Somatic Neuronal) Ab
- CRMP-5-igg



What is brain on fire?

Anti N-Methyl-D-Aspartate Receptor Encephalitis (Anti NMDA encephalitis)



Anti NMDA encephalitis

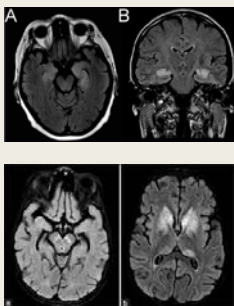
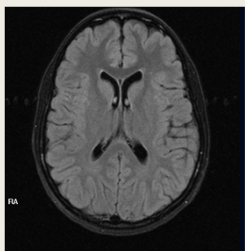
- Discovered in 2007
- Occurs in women more than men
- Can be associated with cancer
- Usually occurs in the young
- Quick decline until treated, can be deadly

Diagnosis

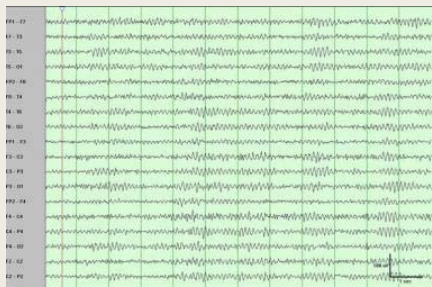
- Clinical picture
- MRI
- EEG
- Blood work
- Lumbar Puncture

***A high level of suspicion

MRI



EEG



Lab



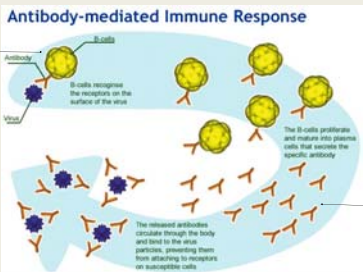
High level of suspicion



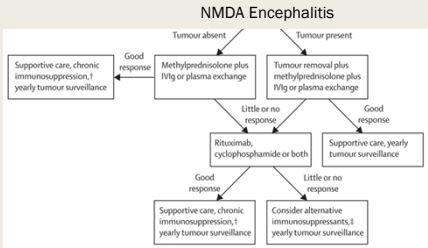
Treatment

- ICU supportive cares
 - Autonomic storming
 - Agitation
 - Coma
 - Respiratory arrest
 - Dysphagia/aspiration
 - Seizure, status epilepticus
- Prolonged hospitalization
- Hydration and nutrition

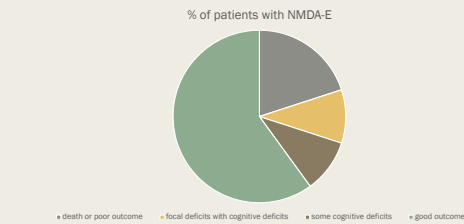
Treatment



Treatment algorithm



Prognosis



NEOS score

- 1-5 point score
- 0-1= 3% bad outcome
- 4-5= 70% bad outcome
- Based on the following:
 - ICU admission
 - Treatment delay
 - Lack of clinical improvement
 - Abnormal MRI
 - CSF Pleocytosis of > 20

JE