

# GAD65-Ab encephalitis and subtle focal status epilepticus

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# Limbic encephalitis

- Clinical subacute onset of:
  - epilepsy
  - cognitive impairment
  - psychiatric involvement
- Evidence of CNS inflammation
- Positivity of specific antibody
  - Against cell surface membrane antigen
  - Against intracellular antigen

→ Specific phenotype spectrums are progressively defined for each autoantibody

# GAD65-Ab encephalitis

- GAD65-Ab are implicated in:
  - diabetes
  - neurological disorders: 

{	stiff man syndrome
	cerebellar ataxia
	encephalitis
- **Quantitative data from the literature** suggest that epilepsy is the most common feature of GAD65-Ab encephalitis.
- To provide **qualitative data of epilepsy associated with GAD65-Ab encephalitis**, we describe the semiology of three patients followed in our neurological department (CHU Nancy, France).

# Case Report

- All three women (33, 30 and 63 yo) presented a **recurrent temporal lobe status epilepticus**.
- Semiology was subtle and at first difficult to correlate with epilepsy diagnosis (n=2):
  - **Prolonged dysmnesic experience** (several hours), without clear paroxystic events.
  - Anxiety and mood disorders appeared at the same time.
  - **Initial EEG was normal** → Only long-term video-EEG showed paroxystic temporal activity during sleep
- The third patient clearly presented with **lateral temporal and frontal seizures** arguing for non-limbic encephalitis. EEG showed direct arguments for epilepsy. Hyperintensity of neocortical and deep grey structures on MRI was in agreement with this **encephalitic pattern**.

# Positive diagnosis of anti-GAD encephalitis

- For all, **positivity of GAD65-Ab in CSF** confirmed the diagnosis.
- Other **paraclinical examinations were non-specific:**
  - inflammatory brain MRI (n=2)
  - hypermetabolism on  $^{18}\text{F}$ -FDG PET Brain (n=1)
  - inflammatory CSF (n=1)
- All received **immunosuppressive therapy**, but temporal lobe **epilepsy** remains **pharmacoresistant**.
- Specific treatment could improve cognitive and psychiatric prognosis.

# Conclusion

Our observation and data from the literature suggest that:

- **Limbic** or **non-limbic** encephalitis can be associated with GAD65-Ab.
- **Epilepsy is the most frequent** feature of GAD65-Ab encephalitis.
- **New-onset focal status epilepticus with predominant subjective semiology** should suggest this diagnosis
- Careful anamnesis and paraclinical examination with a **long-term video-EEG** remain essential in cases of subtle epileptic semiology.
- Even under optimized immunosuppressive therapy, **epilepsy remains intractable**