Epilepsy and psychosis

Forouzan Elyasi

Psychiatrist .,Associate Professor of Mazandaran university of Medical sciences

1401

Box 2 Clinical case

Presentation and diagnosis

A 54-year-old right-handed man, previously fit and well, presented with a generalised tonic–clonic seizure on awakening. En route to hospital, he had a further convulsion and two more in the emergency department. On arrival, he was confused, with a mild left hemiparesis, left-sided neglect and dysarthria. He was started on levetiracetam for seizures and started to make a postictal recovery. One day later, his condition changed significantly. He became agitated and disorientated with non-coherent speech, expressing paranoid delusions, grandiose beliefs and somatic delusions (he was fixated on the size of his penis, believing it had been substituted). He absconded from hospital believing that all hospital staff members were corpses. On return to the ward, he was seen by liaison psychiatry team and diagnosed with postictal psychosis.

Investigations

A CT scan and subsequent MR scan of brain showed a right anteromedial frontal lobe infarct. Serum biochemistry, haematology, autoimmune screen and alcohol and toxicology screening on admission were normal or negative. Subsequent cerebrospinal fluid analysis was normal. The first electroencephalogram (EEG) showed normal background dominant posterior rhythm with frequent bursts of bifrontal high amplitude and slow waves. Repeat EEG during the psychotic episode showed no evidence of non-convulsive status epilepticus. Serum antibody screening for voltage-gated potassium channel complex, *N*-methyl-D-aspartate-receptor, -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor and gamma-aminobutyric acid-B receptor autoantibodies were all negative.

Acute management

He received diazepam and quetiapine, with limited effect. After changing the quetiapine to olanzapine, his symptoms began to settle over the next 3 weeks. He had no further clinical seizures during the admission and successfully switched from levetiracetam to sodium valproate due to concerns about psychiatric side effects with levetiracetam.

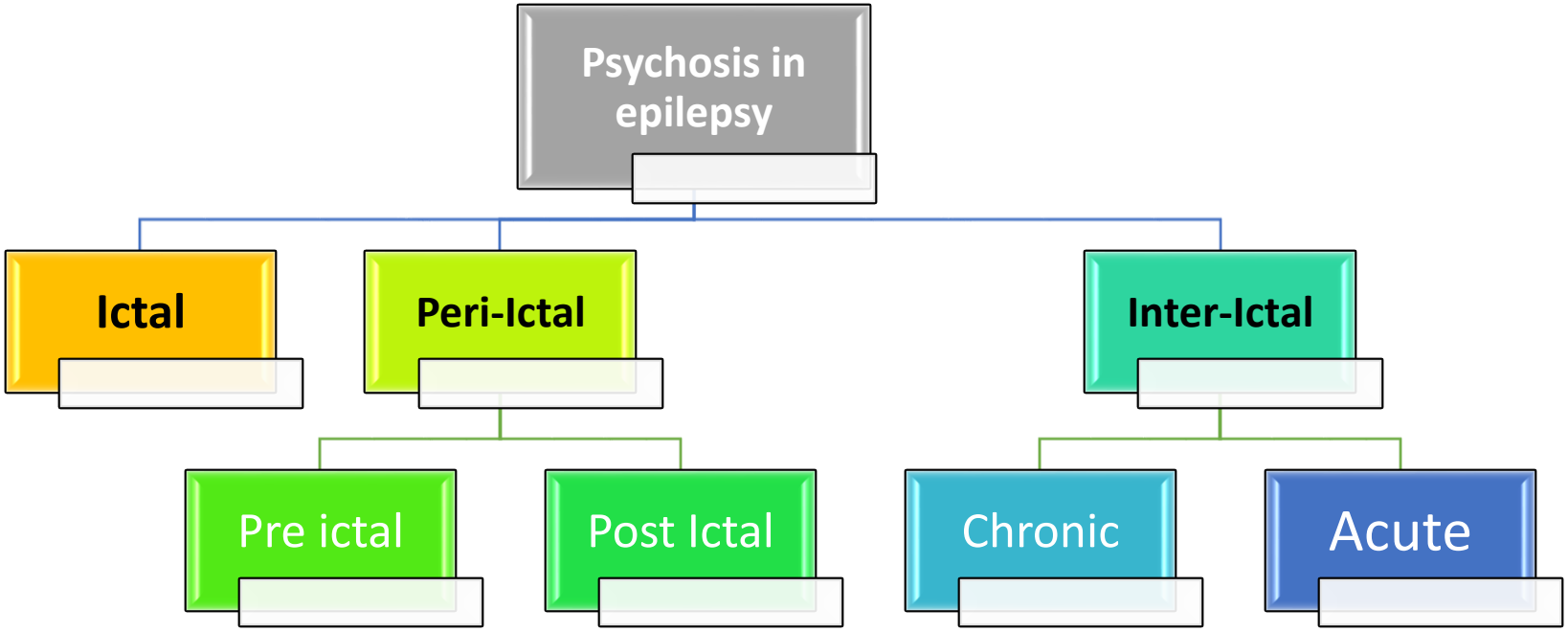
Long-term management

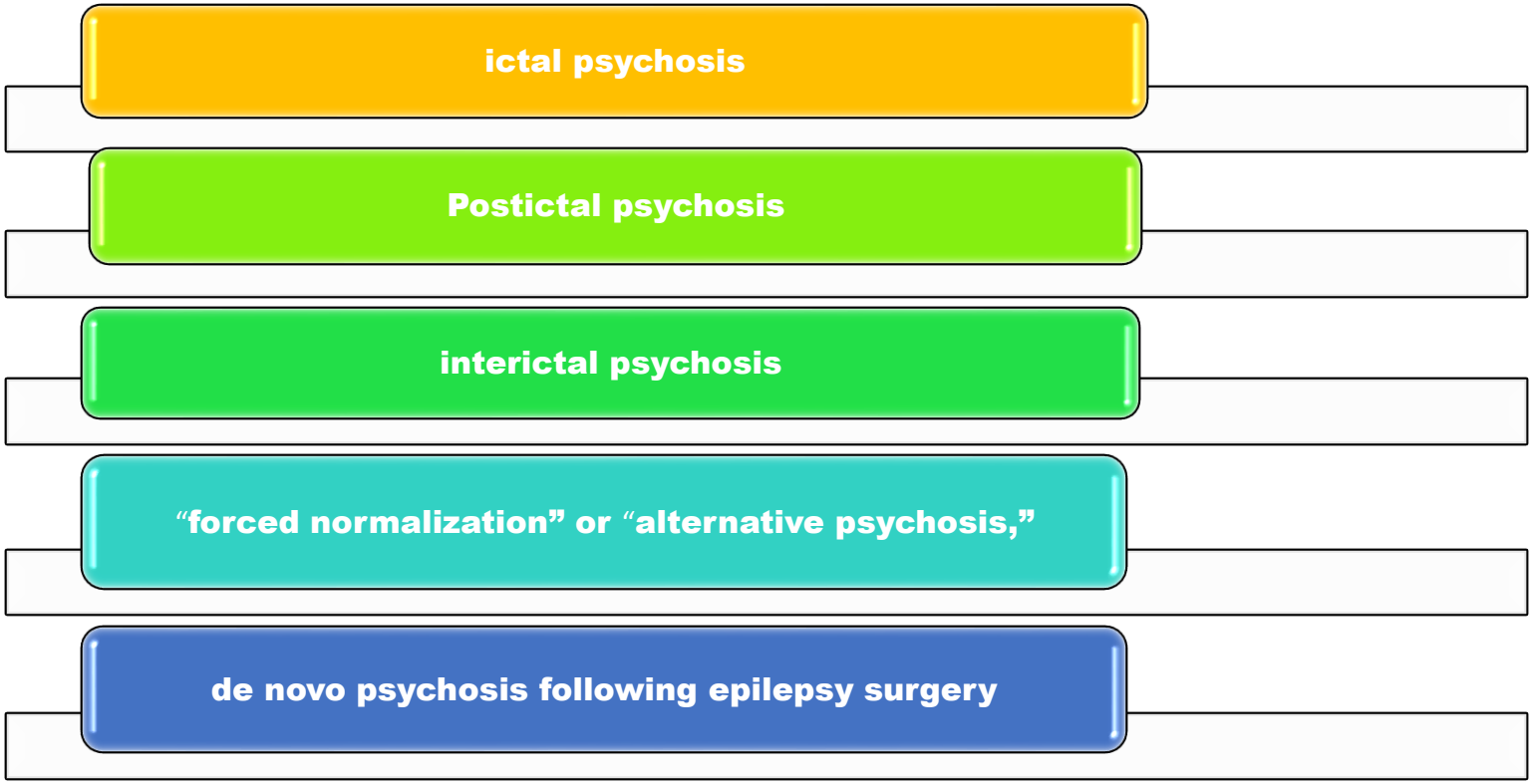
We advised him and his partner about the potential for symptom recurrence after clusters of seizures. He was followed up in outpatient neuropsychiatry and gradually came off antipsychotics over several weeks without any recurrence of psychosis.

Melissa Maguire et al., Epilepsy and psychosis: a practical approach.,2017

Psychosis in patients with epilepsy was recognized in antiquity and described in detail in the mid-nineteenth century by Falret, Hoffman, Morel, and Samt.

Siddhartha Nadkarni, Vanessa Arnedo, and Orrin Devinsky; Epilepsia, 2007


Psychosis in epilepsy
Ictal
Peri-Ictal
Inter-Ictal
Pre ictal
Post Ictal
Chronic
Acute



Psychosis occur during seizure freedom or during or after seizures.

Ictal Psychosis

- Most commonly to visual or auditory illusions and hallucinations combined with affective changes, such as agitation or fear or paranoia.
- Olfactory and gustatory hallucinations
- Visual or auditory hallucinations (often involving poorly defined shapes or sounds
- Paranoid or grandiose thoughts

- ✓ Sachdev PS, Keshavan MS;2010
- ✓ Siddhartha Nadkarni, Vanessa Arnedo, and Orrin Devinsky; Epilepsia, 2007

Ictal psychosis

Most partial seizures last under 3 min, and the psychic symptoms evoked during such transient spells rarely cause symptoms that would be considered psychotic.

Nonconvulsive partial status epilepticus can manifest as prolonged states of fear, mood changes, automatisms, or psychosis that resemble an acute schizophrenic or manic episode.

- ✓ Marsh, L., & Rao, V. (2002). Psychiatric complications in patients with epilepsy: A review. Epilepsy Research, 49, 11-33.
- ✓ Siddhartha Nadkarni, Vanessa Arnedo, and Orrin Devinsky; Epilepsia, 2007

Psychic phenomena of partial epilepsy

- Depersonalization
- Derealization
- Autoscopy
- out of body experience
- sense of “someone behind.”

.

Siddhartha Nadkarni, Vanessa Arnedo, and Orrin Devinsky; Epilepsia, 2007

Management of Ictal Psychosis

Adequate seizure control with antiepileptic drugs or surgical procedures represents the optimal management of ictal psychosis.

A careful review and verification of an epilepsy diagnosis as well as a thorough history of psychiatric disturbance can be of some help in distinguishing this ictal state from a pure psychiatric disturbance.

Confirmation by EEG recording is the most definitive way to confirm that this state is an ictal event .

Postictal psychosis

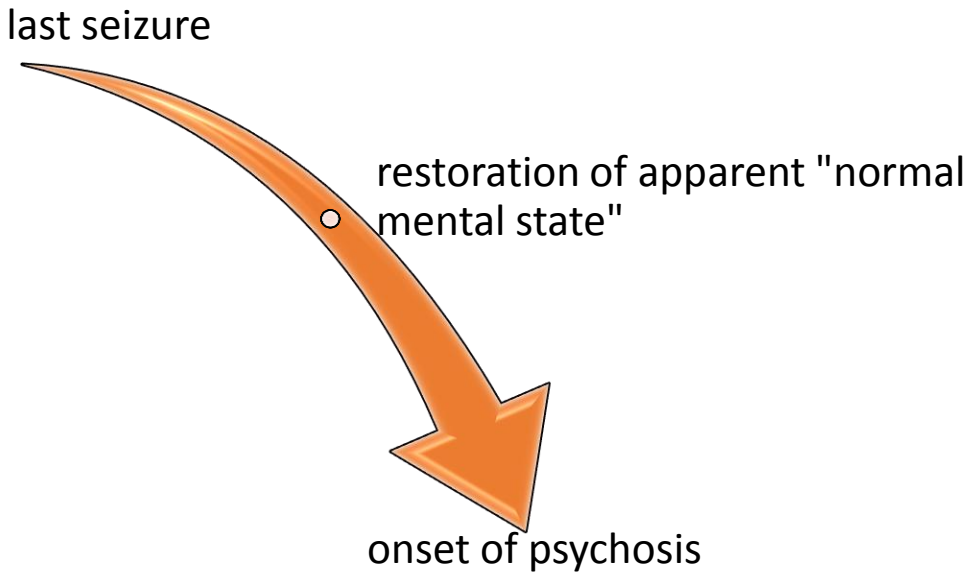
- Postictal psychosis (PIP) is a rare and severe psychiatric complication of epilepsy, occurring in roughly 2% of patients with epilepsy (PWE)
- Its incidence is probably underestimated
- This disorder typically consists of a brief delusional episode with hallucinations occurring after a lucid interval following a cluster of focal seizures with or without secondary generalization
- The most serious consequences of PIP are self- and other-directed aggressive behaviors

A survey study in France demonstrated that psychiatrists and neurologists had an imprecise knowledge about psychosis in epilepsy. Notably, distinction between postictal confusion and psychosis was not clear .

- ✓ Clancy MJ, Clarke MC, Connor DJ, Cannon M, Cotter DR.,2014
- ✓ Trimble M, Kanner A, Schmitz B. 2010
- ✓ Mendez MF.1988
- ✓ Tarrada A, et al.,2019

Postictal psychosis

lucid interval of 2.5–48-72 h



Michael Trimble a, Andy Kanner b, Bettina Schmitz; Epilepsy & Behavior 19 (2010) 159–161

Criteria for the diagnosis of PIP

Logsdail and Toone set down operational criteria for the diagnosis of PIP, which have been widely accepted:

1. Onset of confusion or psychosis within 1 week of the return of apparently normal mental function
2. Duration of 1 day to 3 months
3. Mental state characterized by:
    a. Clouding of consciousness, disorientation, or delirium
    b. Delusions or hallucinations, in clear consciousness
    c. A mixture of (a) and (b)
4. No evidence of factors, which may have contributed to the abnormal mental state:
    a. Anticonvulsant toxicity
    b. A previous history of interictal psychosis
    c. EEG evidence of status epilepticus
    d. Recent history of head injury or alcohol/drug intoxication

Logsdail SJ, Toone BK. Post-ictal psychosis;1988

Postictal Psychosis

Postictal psychosis (PIP) occurs in 2–7.8% of epilepsy patients

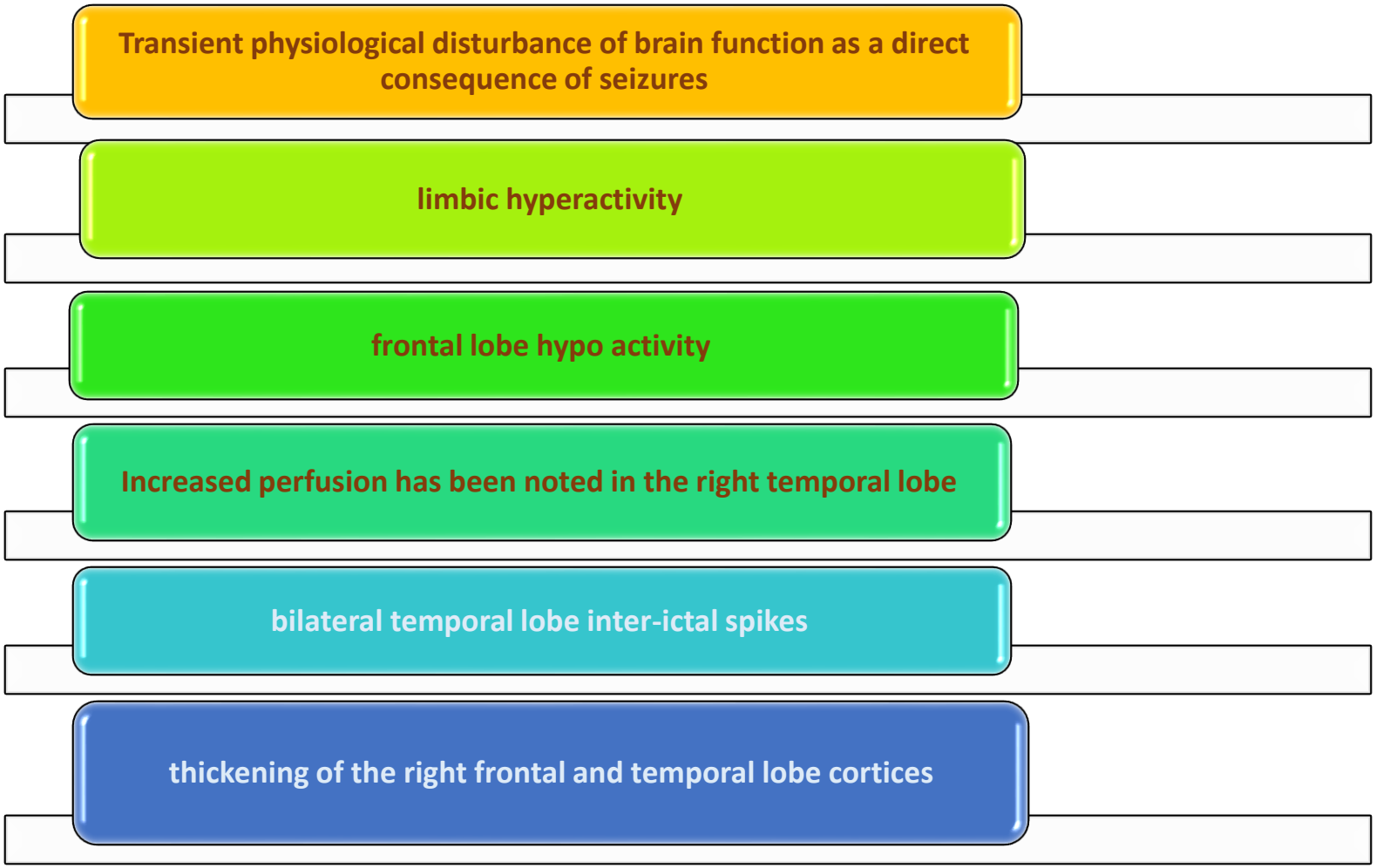
brief psychotic episodes that typically occur hours to days following a seizure cluster, consist of delusions, hallucinations, and affective symptoms

The patient may appear normal, perhaps more subdued and perhaps a bit perplexed or even mildly confused

They usually begin within 72 h of seizure termination, and while usually terminating within one to two weeks, they may last months in some individuals

M.R. Sperling, Thomas Jefferson University, Philadelphia, PA, USA, doi:10.1016/j.yebeh.2012.04.065

Pathophysiology of POSTICTAL PSYCHOSIS



.

Siddhartha Nadkarni, Vanessa Arnedo, and Orrin Devinsky; Epilepsia, 2007

Management and treatment of postictal psychosis

- Self-limiting condition
- In many cases, can be managed by observation and nursing
- Most patients returned to their premorbid state within 1 week regardless of intervention.
- with any deterioration or florid psychosis, intervention is required.
- Some patients respond well to mild sedation (with benzodiazepines or choral hydrate) given in a supportive environment
- Few studies of comparative treatments, but benzodiazepines may be the first choice of therapy.
- Controversy: It is important to avoid giving neuroleptic medications, which may provoke another seizure and, hence, a worsening of the psychosis ??
- Atypical neuroleptics are preferred

Michael Trimble a, Andy Kanner b, Bettina Schmitz; Epilepsy & Behavior 19 (2010) 159–161

Epilepsy & Behavior 127 (2022) 108553

Contents lists available at ScienceDirect

Epilepsy & Behavior

journal homepage: www.elsevier.com/locate/yebeh

Postictal psychosis, a cause of secondary affective psychosis: A clinical description study of 77 patients

Alexis Tarrada [a,b], Coraline Hingray [a,c,*], Olivier Aron [a], Sophie Dupont [d,e,f], Louis Maillard [a,g], Bertrand de Toffol [h,i,j,k]

[a] Unité de monitoring video-EEG, service de neurologie, explorations fonctionnelles, hôpital central, CHU de Nancy, 29, avenue du Maréchal-de-Lattre-de-Tassigny, 54000 Nancy, France
[b] Université Paris Descartes, Faculté de Médecine, 75006 Paris, France
[c] Pôle Universitaire du Grand Nancy, Centre Psychothérapique de Nancy, 54000 Laxou, France
[d] Unité d'Epileptologieet Unité de réadaptation, Hôpital de la Pitié-Salpêtrière, AP-HP, Centre de recherche de l'Institut du cerveau et de la moelle épinière (ICM), UMPC-UMR 7225 CNRS-UMRS 975 Inserm, Paris, France
[e] Université Paris Sorbonne, Paris, France
[f] CRHU de Nancy, Département de Neurologie, Nancy, France
[g] Université de Lorraine, CNRS, CRAN, UMR 7039, Nancy, France
[h] UMR 1253, iBrain, Université de Tours, Inserm, France
[i] Service de Neurologie & Neurophysiologie Clinique, CHU Bretonneau, Tours, France
[j] Service de Neurologie, Centre Hospitalier de Cayenne, France
[k] CIC INSERM, 1424 CH Cayenne, France

ARTICLE INFO

Article history:
Received 5 September 2021
Revised 28 December 2021
Accepted 1 January 2022
Available online 21 January 2022

Keywords:
Postictal psychosis
Epileptic psychosis
Case study
Semiology
Clinical neurology

ABSTRACT

Objective: Postictal psychosis (PIP) is a severe complication occurring at least in 2% of patients with epilepsy. Since the 19th century, psychiatrists have reported the specificity of PIP presentation, but descriptions did not clearly distinguish PIP from after-seizure delirium. This study aimed to provide a precise description of psychiatric signs occurring during PIP, and improve recognition of PIP.
Methods: We performed a review of clinical descriptions available in literature (48 patients), that we gathered with a retrospective multicentric case series of patients from three French epilepsy units (29 patients). For each patient, we collected retrospectively the psychiatric signs, and epilepsy features.
Results: We found a high prevalence of persecutory (67.5%) and religious (55.8%) delusions, with almost systematic hallucinations (83.1%) and frequent mood disturbances (76.6%), especially euphoria. Severe consequences were not negligible (other-directed assault in 20.8%, self-directed in 13.0%). The type of delusion was associated with mood symptoms ($p = 0.017$). Episode onset was mainly sudden/rapid (90.9%), its duration was mostly between one and 14 days (64.9%) and the response to antipsychotic medication was good. Disorder was recurrent in more than a half of the sample (57.1% of patients with at least 2 episodes).
Conclusion: Considering our findings, PIP resembles more an affective psychosis, than a purely psychotic disorder. The presence of affective signs differentiates PIP from other psychotic comorbidities in epilepsy. Additionally, resemblance between PIP and psychotic manic episode might help to discuss links between epilepsy and bipolar disorder.

Postictal psychosis, a cause of secondary affective psychosis: A clinical description study of 77 patients.,2022

- Postictal psychosis (PIP)
- A review of clinical descriptions available in literature (48 patients)
- A retrospective multicentric case series of patients
- three French epilepsy units (29 patients)

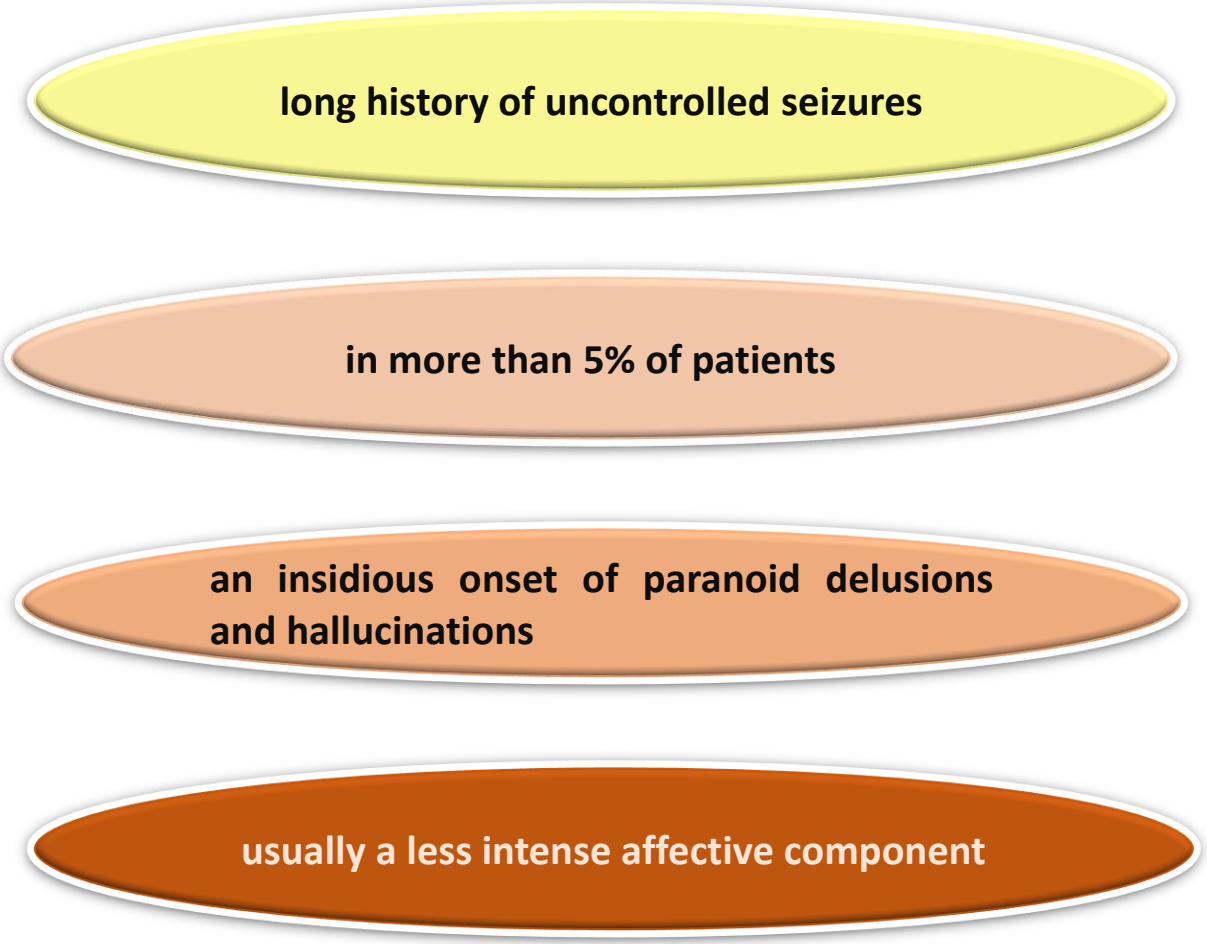
- **a high prevalence of persecutory (67.5%) and religious (55.8%) delusions**
- **with almost systematic hallucinations (83.1%)**
- **frequent mood disturbances (76.6%), especially euphoria**
- **Other-directed assault in 20.8%, self-directed in 13.0%**

Postictal psychosis, a cause of secondary affective psychosis: A clinical description study of 77 patients.,2022

- The type of delusion was associated with mood symptoms (p = 0.017)
- Episode onset was mainly sudden/rapid (90.9%)
- its duration was mostly between one and 14 days (64.9%)
- the response to antipsychotic medication was good
- Disorder was recurrent in more than a half of the sample (57.1% of patients with at least 2 episodes)

PIP resembles more an affective psychosis, than a purely psychotic disorder.

Chronic, Interictal Psychosis(CIP)



M.R. Sperling, Thomas Jefferson University, Philadelphia, PA, USA, doi:10.1016/j.yebeh.2012.04.065

Interictal Psychosis of Epilepsy

Psychosis characteristics

- ❑Atypical paranoid psychosis–paranoia with sudden onset
- ❑Psychosis alternating with seizures
- ❑Preserved affective warmth
- ❑Failure of personality deterioration
- ❑Less social withdrawal than schizophrenia
- ❑Less systematized delusions than schizophrenia
- ❑More hallucinations and affective symptoms than schizophrenia
- ❑More religiosity than schizophrenia
- ❑More positive, as opposed to negative, symptoms
- ❑Few schneiderian first-rank symptoms

Proposed Predisposing Factors for the Interictal Psychosis of Epilepsy

Epilepsy characteristics

- Focal dyscognitive seizures with secondary generalized tonic-clonic seizures
- More auras and automatisms than nonpsychotic epilepsy patients
- Epilepsy present for 11 to 15 years before psychosis
- Long interval of poorly controlled seizures
- Recently diminished seizure frequency, especially generalized tonic–clonic seizures
- Left temporal focus
- Mediobasal temporal lesions, especially tumors

Pharmacotherapy for brief and chronic interictal psychosis (IIP)

- Expert opinion is that antipsychotics and benzodiazepines are the treatment of choice for brief IIP.(Adachi N, et al.2013)

- Evidence on the relative efficacy of antipsychotics in brief IIP is also limited.

- In general, psychotic symptoms are better managed earlier rather than later. (Adachi N, et al.2012)

- When patients have mild psychotic symptoms or do not consent to psychopharmacological treatment, they can be offered psychosocial interventions, or be carefully monitored. One of the basic approaches to IIP episodes is to reduce AED polypharmacy and optimize the regimen . .(Adachi N, et al.2013)

Pharmacotherapy for brief and chronic interictal psychosis (IIP)

- When psychotic symptoms result in serious distress and/or psychosocial disturbance, psychopharmacological treatment is indicated.(B. de Toffol et al..,2018)

- in addition to chronic, episodes of IIP may require longer-term APD treatment similar to that for primary schizophrenia and should be considered long-term following remission.(Kerr MP, et al. 2011)

Table 2 Clinical features distinguishing psychosis of epilepsy from schizophrenia

	Ictal	Postictal	Interictal	Schizophrenia
Prevalence in epilepsy	Unknown	6%	2%–10%	1%
Onset	Unknown History of epilepsy	10–20 years postepilepsy diagnosis	10–15 years postepilepsy diagnosis	Insidious usually in late teens early 20s
Symptoms	▶ Fear or anxiety aura. ▶ Mood disturbance (15%). ▶ Depersonalisation and derealisation. ▶ Fluctuating consciousness. ▶ Delusions and hallucinations uncommon.	▶ Lucid interval (8–72 hours). ▶ Delusions: commonly ones are grandiose, religious and somatic. ▶ Visual or auditory hallucinations. ▶ Preserved insight. ▶ Strong affective component. ▶ Clouding of consciousness may occur. ▶ Amnesia for events in some cases.	▶ Delusions: (referential, perceptual, persecutory common). ▶ Mystical experiences. ▶ Visual or auditory hallucinations. ▶ Command hallucinations uncommon. ▶ Better preservation of affect. ▶ Preserved premorbid personality. ▶ Negative symptoms less common. ▶ Clear consciousness.	▶ Delusions: (passivity, persecutory). ▶ Auditory hallucinations (third-person or command hallucinations). ▶ Negative symptoms. ▶ Social withdrawal. ▶ Avolition. ▶ Blunted affect. ▶ Prodromal phase with gradual onset. ▶ Younger age. ▶ Lack of insight. ▶ No association with seizures.
Duration	Minutes	Days to weeks	Months to years	Months to years

Clinical classification of psychoses related to epilepsy

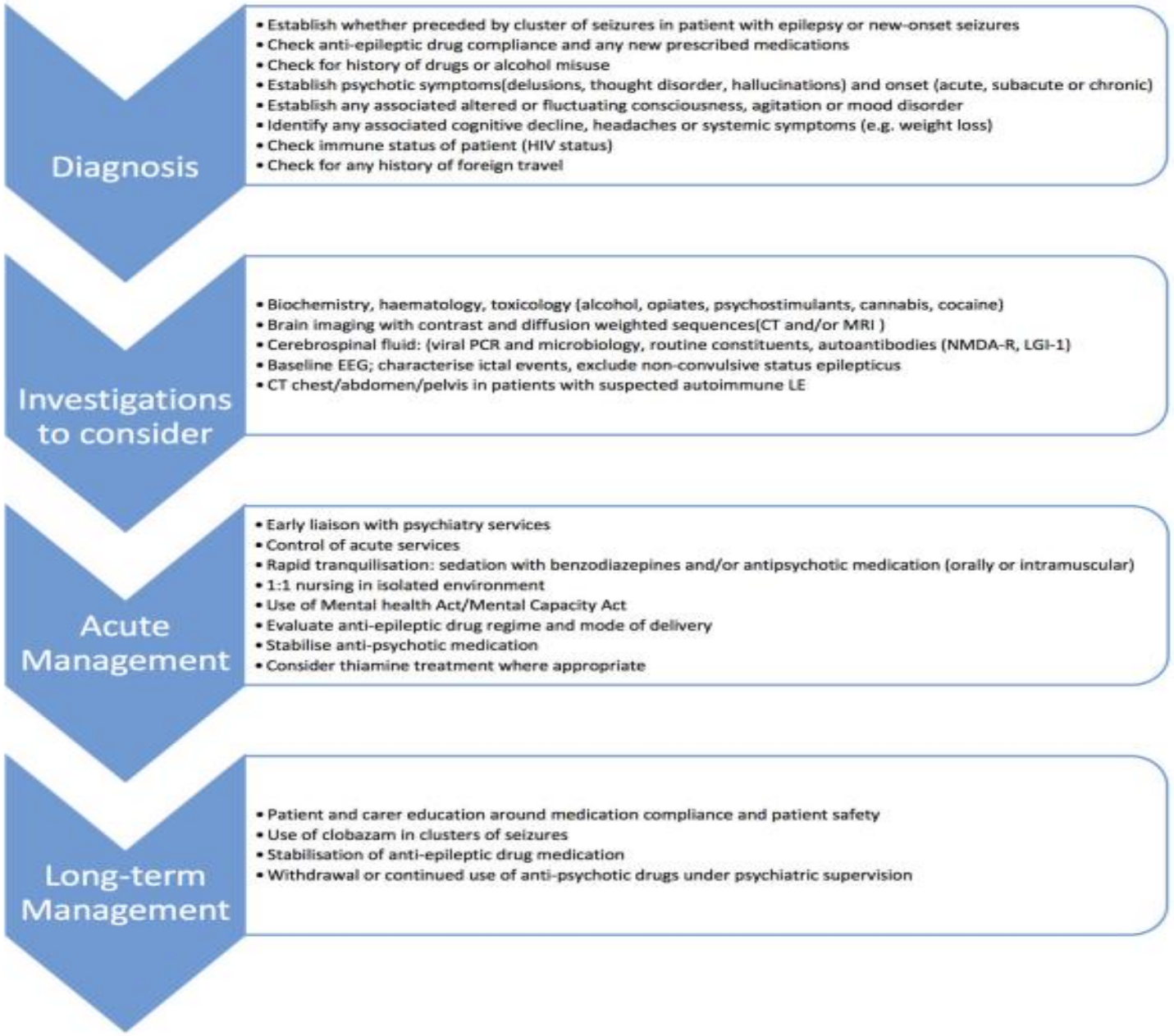
Type of psychosis	Relation to seizures	Duration	EEG	Treatment
"Ictal psychosis"	During status epilepticus	Minutes to hours	Ictal (non convulsive status)	Benzodiazepines Antiepileptic drugs
Postictal psychosis	After a flurry of seizures & a lucid interval	Days to weeks	Postictal slowing to usual	Benzodiazepines Antipsychotics
Alternative psychosis	When seizures are decreased or suppressed	Weeks to months	Better or normalised	Antipsychotics Seizures by lowering AEDs
Chronic schizophrenia-like psychosis	No specific relation to seizures	Years	Mostly abnormal	Antipsychotics

- ✓ Melissa Maguire et al., Epilepsy and psychosis: a practical approach.,2017
- ✓ P. TUGENDHAFT,et al ., Guidelines for recognition and treatment of the psychoses associated with epilepsy.,2005

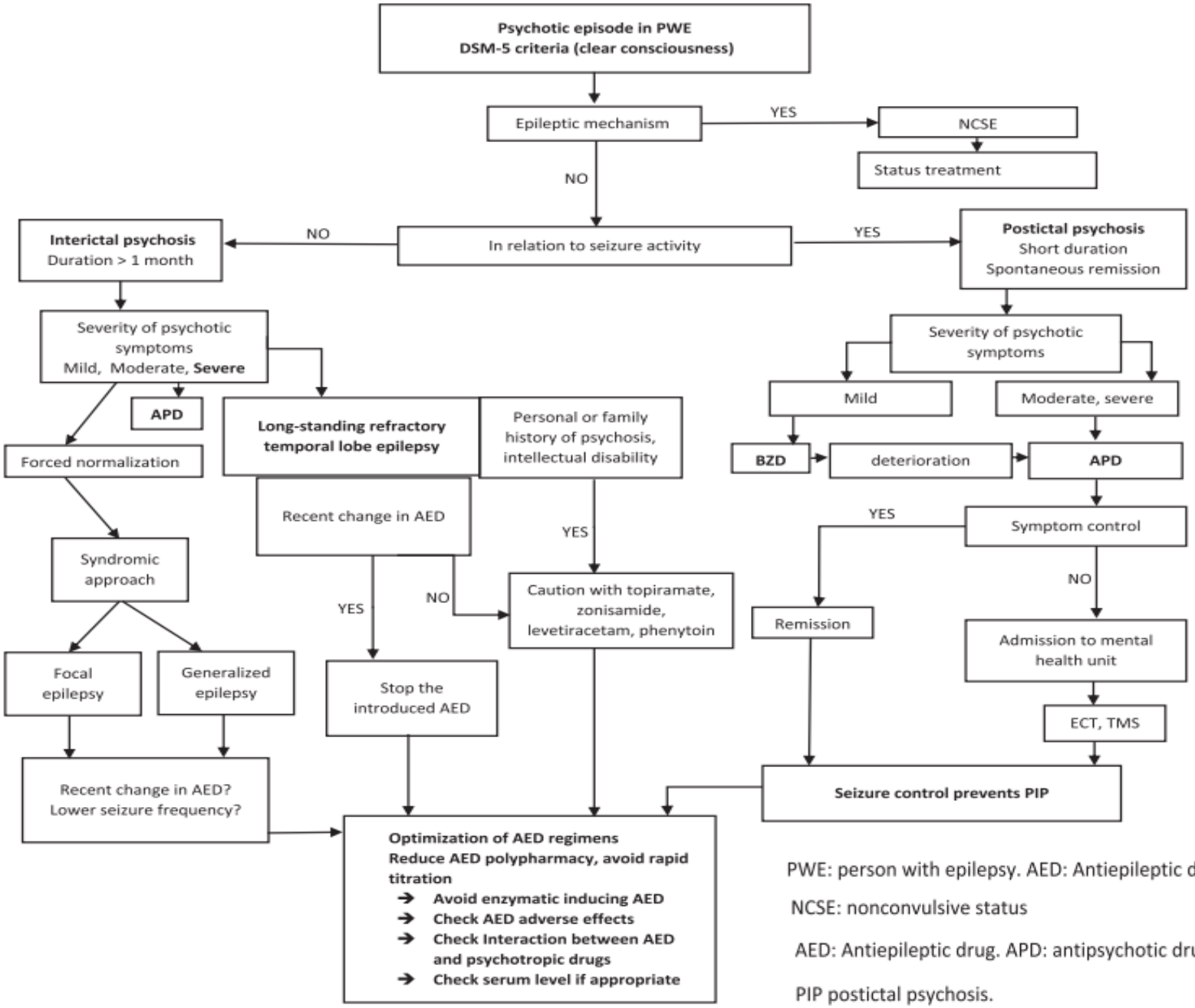
Risk-factors for psychosis in epilepsy

Postictal psychosis	Interictal psychosis	Psychosis in temporal lobe epilepsy (TLE)
Personal history of psychosis	Personal history of psychosis	Early onset of epilepsy
Family history of psychosis	Family history of psychosis	History of status epilepticus (often Nonconvulsive)
Long-standing focal epilepsy N15 years	Intellectual disability	Unilateral or bilateral hippocampal sclerosis
Temporal + extra temporal seizures	The sum of previous seizures	Cell loss in CA1 hippocampal region
Secondary generalization	Seizure frequency	Left hippocampal abnormalities
Bilateral epileptiform activity	Focal epilepsy (TLE) N generalized epilepsy	
Slowing of the EEG background activity	Antiepileptic drug	
History of encephalitis		
Structural abnormalities on brain MRI (including hippocampal sclerosis)		

B. de Toffol et al. / Epilepsy & Behavior 88 (2018)



Melissa Maguire et al., Epilepsy and psychosis: a practical approach.,2017



PWE: person with epilepsy. AED: Antiepileptic drug.

NCSE: nonconvulsive status

AED: Antiepileptic drug. APD: antipsychotic drug

PIP postictal psychosis.

Epilepsy & Behavior 88 (2018) 54–60

Contents lists available at ScienceDirect

Epilepsy & Behavior

journal homepage: www.elsevier.com/locate/yebeh

Review

Pharmacotherapy in patients with epilepsy and psychosis☆

Bertrand de Toffol [a,*], Michael Trimble [b], Dale C. Hesdorffer [c], Lauren Taylor [d,e], Perminder Sachdev [d,e], Maurice Clancy [f], Naoto Adachi [g], José Augusto Bragatti [h], Marco Mula [i], Kousuke Kanemoto [j]

ARTICLE INFO

Article history:
Received 14 July 2018
Revised 28 August 2018
Accepted 1 September 2018
Available online xxxx

Keywords:
Psychosis
Epilepsy
Seizures
Antiepileptics
Anticonvulsants
Antipsychotics
Postictal psychosis
Interictal psychosis
Alternating psychosis

ABSTRACT

The recognition and treatment of psychosis in persons with epilepsy (PWE) is recommended with the apparent dilemma between treating psychosis and opening the possibility of exacerbating seizures. The pooled prevalence estimate of psychosis in PWE is 5.6%. It has been proposed that a 'two hit' model, requiring both aberrant limbic activity and impaired frontal control, may account for the wide range of clinical phenotypes. The role of antiepileptic drugs in psychosis in PWE remains unclear. Alternating psychosis, the clinical phenomenon of a reciprocal relationship between psychosis and seizures, is unlikely to be an exclusively antiepileptic drug-specific phenomenon but rather, linked to the neurobiological mechanisms underlying seizure control. Reevaluation of antiepileptic treatment, including the agent/s being used and degree of epileptic seizure control is recommended. The authors found very few controlled studies to inform evidence-based treatment of psychosis in PWE. However, antipsychotics and benzodiazepines are recommended as the symptomatic clinical treatments of choice for postictal and brief interictal psychoses. The general principle of early symptomatic treatment of psychotic symptoms applies in epilepsy-related psychoses, as for primary psychotic disorders. In the authors' experience, low doses of antipsychotic medications do not significantly increase clinical risk of seizures in PWE being concurrently treated with an efficacious antiepileptic regimen.

Dilemma between treating psychosis and opening the possibility of exacerbating seizures

The general principle of early symptomatic treatment of psychotic symptoms applies in epilepsy-related psychoses, as for primary psychotic disorders

Antipsychotics and benzodiazepines are recommended as the symptomatic clinical treatments of choice for postictal and brief interictal psychoses.

In the authors' experience, low doses of antipsychotic medications do not significantly increase clinical risk of seizures in PWE(psychosis in persons with epilepsy) being concurrently treated with an efficacious antiepileptic regimen.

B. de Toffol et al. / Epilepsy & Behavior 88 (2018)

ELSEVIER

www.elsevier.com/locate/euroneuro

Do antipsychotic drugs increase seizure frequency in epilepsy patients?

Mitsutoshi Okazaki[a], Naoto Adachi[a,b,*], Nozomi Akanuma[c], Koichiro Hara[d], Masumi Ito[a,e], Masaaki Kato[a,f], Teiichi Onuma[a,f]

Abstract

To investigate whether addition of antipsychotic drugs (APD) would increase seizure frequency in epilepsy patients who were already treated with anti-epileptic drugs (AED), we compared a one-year seizure control outcome in 150 epilepsy patients with APD treatment for psychiatric conditions and 309 epilepsy patients without APD treatment matched for ages at epilepsy onset and the baseline evaluation and types of epilepsy. The seizure frequency was recorded at the baseline (immediately before the start of APD) and after the 1st, 3rd, 6th and 12th months. The seizure outcome at each of the four follow-up points was compared with the baseline. The seizure outcome was compared between the two groups as a whole and according to the types of epilepsy (idiopathic generalized and partial epilepsies). In the APD group, the seizure outcome was also analyzed according to the types of APD (first and second generation APD and combination of first and second generation APD) and the types of psychiatric conditions (psychosis and non-psychosis). The seizure outcome was significantly better in the APD group than control group at all the four follow-up points. According to the epilepsy types, the improvement in the seizure outcome was only observed in the patients with partial epilepsy. Of the APD group, there was no significant difference in the seizure outcome according to the types of APD or the psychiatric conditions. In epilepsy patients who are already treated with AED, APD treatment seems safe in seizure control outcome for treatment of psychiatric conditions.

Mitsutoshi Okazaki et al.,2014

- Compared a one-year seizure control outcome
- 150 epilepsy patients with antipsychotic drugs for psychiatric conditions
- 309 epilepsy patients without antipsychotic drugs
- matched for ages at epilepsy onset and the baseline evaluation and types of epilepsy
- The seizure frequency was recorded at the baseline (immediately before the start of APD) and after the 1st, 3rd, 6th and 12th months.
- The seizure outcome was significantly better in the antipsychotic drugs group than control group at all the four follow-up points.
- According to the epilepsy types, the improvement in the seizure outcome was only observed in the patients with partial epilepsy.

Do antipsychotic drugs increase seizure frequency in epilepsy patients? 2014

The current study showed that the large proportion of IIP episodes was treated with APDs

the severity and response to APDs varied

The duration of the episodes was equivalent between the FAPD and SAPD groups

Table 3
Interactions between antiepileptic drugs (AEDs) and antipsychotics (APDs).

Enzyme-inducing AED		APD
Carbamazepine Phenobarbital Oxcarbazepine Phenytoin	→Increase the clearance of	Chlorpromazine Fluphenazine Haloperidol Quetiapine Aripiprazole Ziprazidone Clozapine Olanzapine Risperidone (except phenytoin, which inhibits clearance)
Valproate	→Decrease the clearance of	Clozapine Olanzapine Risperidone

APD		AED
Haloperidol Loxapine Risperidone Quetiapine	→Inhibit the clearance of	Carbamazepine Phenytoin

B. de Toffol et al. /Pharmacotherapy in patients with epilepsy and psychosis- Epilepsy & Behavior 88 (2018)

Antiepileptic–Psychotropic Drug Effects on Blood Levels

Antiepileptic	Type of Seizure	Effects of Psychotropic Drug on Antiepileptic Drug[a]	Effects of Antiepileptic Drug on Psychotropic Drug[a]
Carbamazepine (Tegretol)	Focal, generalized	Potentially decreased	Decreased
Oxcarbazepine (Trileptal)	Focal, generalized	Mild increased, rarely toxic levels	Decreased
Phenytoin (Dilantin)	Focal, generalized	Potentially decreased or increased, rarely toxic levels	Decreased
Phenobarbital (Barbita) and primidone (Myidone)	Focal, generalized	Potentially decreased	Significantly decreased
Valproic acid (Depakene)	Focal, generalized, absence	Potentially increased, rarely toxic levels	Potentially decreased
Ethosuximide (Zarontin)	Absence	None known	None known
Clonazepam (Klonopin)	Generalized	Potentially decreased	Potentially decreased
Gabapentin (Neurontin)	Focal, generalized	No significant interactions known	No significant interactions known
Lamotrigine (Lamictal)	Focal, generalized	No significant interactions known	Decrease quetiapine, increa olanzapine, Increase aripiprazole
Topiramate (Topamax)	Focal, generalized	No significant interactions known	Increase haloperidol, decrea risperidone
Vigabatrin (Sabril)	Focal, generalized	No significant interactions known	No significant interactions known
Tiagabine (Gabitril)	Focal, generalized	No significant interactions known	No significant interactions known

Table 3 First-generation and second-generation antipsychotic drugs

Antipsychotic drug	Dose range	Side effects
Amisulpride	50–800 mg	Hyperprolactinaemia
Aripiprazole	5–30 mg	Insomnia Agitation
Clozapine	12.5–900 mg	Hypotension Myocarditis Agranulocytosis Hypersalivation
Haloperidol	0.5–20 mg	Extrapyramidal QT interval prolongation
Olanzapine	2.5–20 mg	Weight gain Hyperglycaemia
Quetiapine	25–750 mg	Hypotension Hyperglycaemia
Risperidone	0.5–16 mg	Extrapyramidal Hyperprolactinaemia

Melissa Maguire et al., Epilepsy and psychosis: a practical approach.,2017

Seizure Threshold Lowering Effect of Psychotropic Medications

Potential	Antipsychotic	Antidepressant	Other Psychotropic
High	Chlorpromazine	Bupropion	
	Clozapine	Imipramine	
	Thioridazine	Maprotiline	
	Perphenazine	Amitriptyline	
	Olanzapine	Amoxapine	
	Quetiapine	Nortriptyline	
Moderate	Most piperazines	Protriptyline	Lithium
	Thiothixene	Clomipramine	
	Ziprasidone		
Low	Fluphenazine	Doxepin	Ethchlorvynol
	Haloperidol	Desipramine	Glutethimide
	Loxapine	Trazodone	Hydroxyzine
	Molindone	Trimipramine	Meprobamate
	Pimozide	Selective serotonin reuptake inhibitors	Methaqualone
	Risperidone		

Suggested Antidepressants for Patients with Epilepsy

Suggested Level	Drug Name and Classification	Dose Range
First-line	SSRI	
	Fluoxetine	20–60
	Sertraline	50–150
	Escitalopram	10–20
	SNRI	
	Venlafaxine	75–300
	Duloxetine	30–90
Second-line	TCA	
	Amitriptyline	150–300
	Nortriptyline	50–150
	Imipramine	75–150
	Clomipramine	75–150
	TeCA	
	Maprotiline	75–150
	Mirtazapine	7.5–30

Key points for clinicians

- Establishing the correct diagnosis requires thorough systematic history taking and clinical evaluation
- Controlling seizures is paramount, first using medications that are less likely to cause psychosis (eg, carbamazepine).
- Timely involvement of mental health services is crucial in assessing and managing psychotic symptoms
- There is no evidence on which to base a choice among antipsychotic drugs in psychosis of epilepsy, and duration of treatment is gauged by symptom remission.
- Consider clobazam or, where appropriate, buccal midazolam to abort seizure clusters.
- Patient and career education is an important part of successful long-term management.

Key points for carers

- Psychosis can occur in patients with frequent epileptic seizures or clusters of seizures.
- Good adherence to antiepileptic medication is paramount in preventing psychosis
- Psychosis of epilepsy has a better prognosis than schizophrenia.
- Treatment with antipsychotic medication may be required as a short-term course.
- Psychosis of epilepsy can recur, and carers need to be vigilant to any changes in behaviour, thought patterns,

Conclusion

The association between psychotic disorders and epilepsy remains incompletely understood.

Clinical experience and the limited systematic evidence available can be drawn upon to develop a strategic framework for patient management


Thank You
For Your
Attention