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Focal Temporal Lobe Seizures with Preserved Consciousness Revealed by Psychiatric Manifestations: A Case Study

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Abstract

Temporal lobe epilepsy is the most common form of focal epilepsy, which can primarily present through psychiatric manifestations. We present the case of a 49-year-old female patient who developed psychosensory symptoms, with a history of left lateral sinus venous thrombosis leading to temporal infarction and intermittent tinnitus as a sequela. One year ago, she began experiencing paroxysmal, elaborate visual and auditory hallucinations associated with mood disturbances. The patient initially consulted a psychiatrist with no clinical improvement. The diagnosis of lateral temporal epilepsy was only established after the patient progressed from simple auditory hallucinations to ictal aphasia with complex auditory and visual auras, confirmed in a second EEG. This case highlights that paroxysmal psychiatric manifestations should raise suspicion of temporal lobe epilepsy, especially when the patient's age does not fit the typical presentation pattern observed in the classical nosology of psychotic disorders.

Subject Areas

Neurology

Keywords

Temporal Epilepsy, Hallucination, Psychiatric Manifestations, ILAE 2025, Focal Seizures

1. Introduction

Temporal lobe epilepsy (TLE) is the most common form of focal epilepsy that arises from one or more anatomical regions within the temporal lobe [1]. Seizures

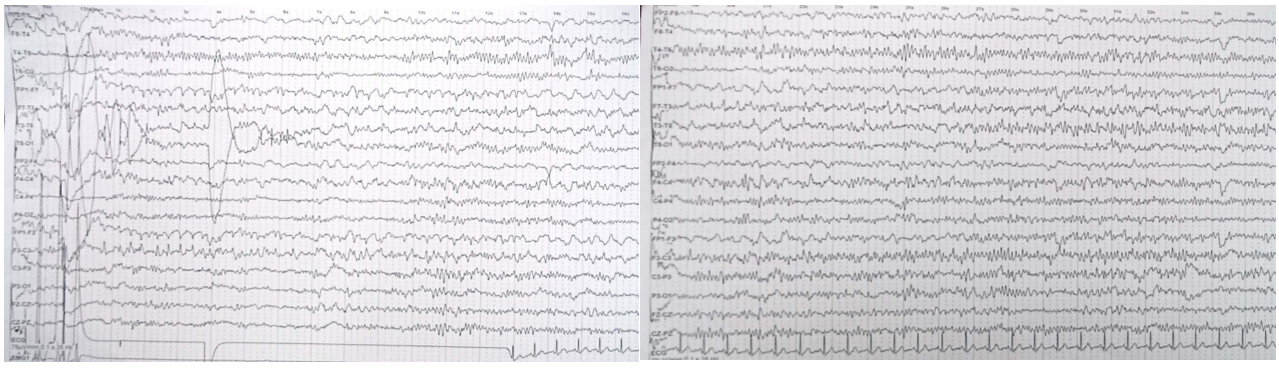
may be associated with impaired or preserved consciousness, which can be presented primarily through psychiatric manifestations. These psychiatric features can include mood disturbances, hallucinations, anxiety, and behavioral changes, which usually lead to delayed diagnosis or misdiagnosis of primary psychotic disorders. Moreover, several studies have documented a high prevalence of psychiatric disorders among individuals with epilepsy [2]. In this report, we present a case of focal temporal lobe seizures with preserved consciousness that has been confused with a psychosensory presentation.

2. Case Presentation

A 49-year-old female presented to the emergency department with persistent psychiatric manifestations, including paroxysmal, complex visual and auditory hallucinations, and mood disturbances. She had a medical history of left lateral sinus venous thrombosis with temporal infarction five years ago, which left her with intermittent tinnitus as a sequela.

One year ago, the patient began experiencing episodes of hallucinations, which were initially attributed to psychiatric causes by a psychiatrist. An electroencephalogram (EEG) performed at that time was reported as normal. The patient was prescribed olanzapine, but no clinical improvement was observed. Over time, the psychiatric symptoms worsened, becoming nearly constant, with intermittent episodes of mutism in the last month.

Given the progression of symptoms, a follow-up EEG was requested. During the second EEG, the patient experienced five stereotyped electroclinical events. These episodes were characterized by word-finding difficulty, preceded by auras consisting of complex auditory and visual hallucinations, such as seeing faces of unknown people and hearing incomprehensible conversations. The ictal EEG initially showed rhythmic angular theta slow waves (4 - 5 Hz) in the left temporo-frontal region, followed by the spread of slow and sharp wave abnormalities into the temporo-occipital region. The postictal EEG showed mild left lateralized slowing (**Figure 1**).



(A) (B)

Figure 1. The EEGs in both (a) and (b) are displayed in a longitudinal bipolar display montage: (A) The ictal EEG initially shows rhythmic angular theta slow waves (4 to 5 Hz) in the left temporo-frontal region, followed by spread of slow and sharp waves abnormalities to the temporo-occipital region. (B) The postictal EEG indicates slight left lateralized slowing.

Cerebral MRI revealed temporal sequelae consistent with prior infarction (Figure 2). Follow-up EEG demonstrated persistent left temporal spike-and-wave activity, confirming the presence of a temporal focus (Figure 3).

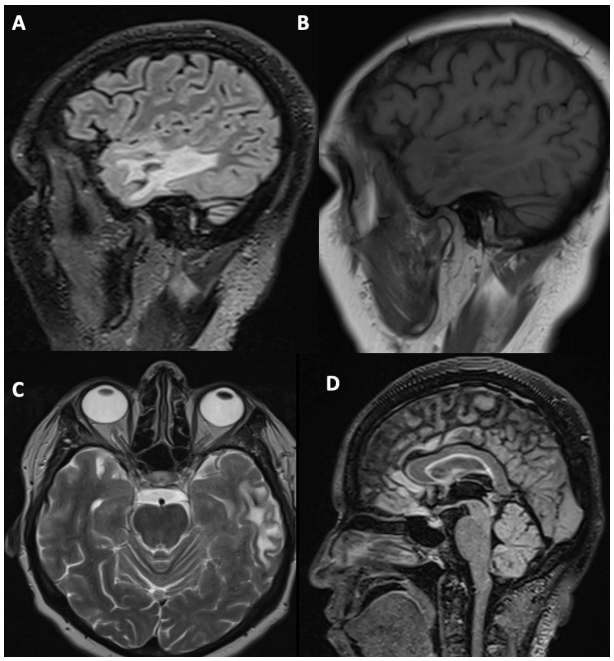


Figure 2. (A) Brain MRI, FLAIR weighted images shwoing a temporal lobe white matter hyperintensity; (B) Sagittal T1-weighted brain MRI showing a focal hypointense signal in the white matter of the temporal lobe; (C) Axial brain MRI on T2 weighted image showing the hyperintensity on the white matter of the left temporal lobe surrounded by gliosis; (D) Sagittal brain MRI on FLAIR weighted image showing no signs of residual veinus thrombosis.

Figure 3. Interictal EEG displayed in a longitudinal bipolar montage showing burst of spikes and slow waves in the left temporal.

All other plausible differential diagnoses were excluded following appropriate clinical, imaging, and laboratory evaluation. There were no metabolic disturbances (normal electrolytes, glucose, renal and liver function), no signs of systemic

or autoimmune disease, and no evidence of active infection.

The patient was subsequently initiated on carbamazepine, with titration to an effective dose of 400 mg administered twice daily, which led to a positive clinical response, and no further seizures have been reported.

3. Discussion

Our patient presented with psychiatric symptoms that ultimately revealed focal temporal lobe seizures, associated with a sequela from left lateral venous thrombosis. Psychiatric symptoms in epilepsy can often be challenging to differentiate from primary psychiatric disorders, and accurate diagnostic workup is crucial to avoid mismanagement. Visual hallucinations are the most common type of hallucination in temporal lobe epilepsy, affecting up to 20% of patients [1]. Moreover, 11% of patients with cerebral venous thrombosis developed epileptic seizures over an average period of 24 months [3].

The diagnosis in this case was complicated by the patient's prior history of intermittent tinnitus, a symptom commonly associated with temporal lobe epilepsy. Although tinnitus can be perceived as a peripheral symptom, it is, in fact, frequently a sign of temporal lobe involvement in focal seizures. This highlights the complexity of diagnosis when symptoms appear isolated or nonspecific.

According to the current classification of epileptic seizures by the International League Against Epilepsy (ILAE), focal seizures are categorized into three main subtypes: focal seizures with preserved consciousness (FPC), focal seizures with impaired consciousness (FIC), and focal-to-bilateral tonic-clonic seizures (FBTC) [4]. Our patient evolved from simple auditory hallucinations to more complex auditory and visual hallucinations, associated with language disturbances, occurring in the absence of altered responsiveness or level of consciousness. However, these symptoms were initially interpreted as psychiatric, and an EEG performed at that time did not show abnormalities.

It is important to note that interictal EEG abnormalities are present in only 20% - 35% of patients with focal manifestations without impaired consciousness [5], making diagnosis particularly difficult in cases like ours. The challenge in detecting epileptic activity between seizures, when the EEG is often normal, further complicates early identification of focal seizures. This absence of interictal epileptic activity represents a major barrier in differentiating psychiatric manifestations from epileptic symptoms.

As the patient's symptoms progressed from simple auditory hallucinations to ictal aphasia, the diagnosis of temporal lobe epilepsy became clearer. The shift from simple auditory hallucinations to more complex language disturbances underscored the importance of clinical monitoring to identify signs of epilepsy progression.

Patients presenting with psychiatric symptoms related to epilepsy often have a more complex prognosis. If these symptoms are not recognized as epileptic in origin, they may be misdirected toward psychiatric treatments, delaying the initi-

ation of appropriate antiepileptic therapy. Such delays can lead to worsening of the clinical condition, and it is recognized that patients with frequent, untreated temporal lobe seizures can develop chronic psychiatric disorders and treatment resistance [6].

Moreover, these manifestations can progress to status epilepticus, particularly when repeated focal seizures are left untreated. Although status epilepticus is more commonly associated with generalized seizures, it can also occur in focal seizures, increasing the risk of severe complications, including cognitive decline and functional impairment. In this context, it is crucial to recognize these symptoms early and initiate appropriate treatment to prevent long-term consequences on prognosis.

The value of reporting this observation is multifold. It highlights the diagnostic challenges encountered when a patient presents with initial psychiatric symptoms, which could lead to a delay in the diagnosis of epilepsy, especially in the absence of interictal EEG abnormalities. This case also emphasizes the importance of thorough clinical investigation and good history-taking to differentiate clearly between epileptic seizures and psychiatric symptoms. A detailed history can reveal subtle clues, such as the stereotypy of episodes (the regular repetition of symptoms) and their evolution, which are key characteristics of focal seizures. These details must be carefully noted to guide diagnostic and therapeutic decisions.

It is worth mentioning that psychosis is the third most common comorbidity in epilepsy, after depressive and anxiety disorders, with a prevalence of 5.6% [6]. Psychosis in epilepsy is classified into three types: ictal psychosis, where psychotic symptoms directly express epileptic discharge; postictal psychosis, occurring up to 120 hours after seizure [7]; and interictal psychotic episodes, encompassing all psychotic disorders evolving with preserved consciousness in previously diagnosed epileptic patients [8]. The latter includes brief interictal psychosis, alternating psychosis, and chronic epileptic psychosis, which can be induced by antiepileptic treatment. The highest-risk medications inducing psychosis are topiramate, zonisamide, phenytoin, levetiracetam, and vigabatrin [6]. The positive response to carbamazepine treatment, chosen for its lower risk of psychosis induction [9], led to a significant improvement in the patient's symptoms. This observation reinforces the need to consider temporal lobe seizures in the differential diagnosis of complex psychiatric disorders, and to not overlook the possibility of an epileptic etiology, even when the interictal EEG appears normal.

Our patient has been classified as ictal psychosis with good outcome after antiepileptics drugs. Carbamazepine was the antiepileptic drug chosen based on its low risk of inducing psychosis. The improvement can be delayed as long as 30 days of treatment in 73.3% [10]. Fortunately, it wasn't the case of our patient.

4. Conclusion

Paroxysmal psychiatric manifestations, particularly when of auditory or visual nature, should raise suspicion of an underlying epileptic disorder, especially tem-

poral lobe epilepsy. This is particularly important when the age of onset deviates from typical patterns seen in primary psychiatric conditions, suggesting the need for a thorough neurological evaluation. Early recognition and appropriate treatment can prevent misdiagnosis, avoid unnecessary psychiatric interventions, and significantly improve patient outcomes.

Conflicts of Interest

The authors declare no conflicts of interest.

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