

# Epileptic psychosis: a case report

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## *Psicosis epilépticas: a propósito de un caso*

### Summary

*Schizophrenia and epilepsy are two disorders that sometimes concur in the same person. According to the present classifications for the diagnosis of mental disorders, these patients would receive two different diagnoses without contemplating the possibility that they are related disorders. However, in some cases, it is possible to determine a probable relationship between both disorders that can be expressed in both symptoms and evolution. In this text, we present a case of a patient with epilepsy who developed a mystic and religious delusional picture. According to some authors, this theme may be more frequent in patients with epilepsy. In addition, temporal damage is associated in epilepsy and psychotic disorders. In this paper, we review the possible similarity between both disorders. Nevertheless, the relationship between both diseases is not that clear and more research is needed.*

**Key words:** *Psychosis. Epilepsy. Schizophrenia.*

### Resumen

*Esquizofrenia y epilepsia son dos enfermedades que en ocasiones concurren en un mismo individuo. Según las actuales clasificaciones para el diagnóstico de los trastornos psiquiátricos estos pacientes recibirían dos diagnósticos diferentes sin contemplar la posibilidad de que se trate de patologías relacionadas. Sin embargo, es posible determinar en algunos casos una probable relación entre ambos cuadros que se manifestaría tanto en la clínica como en la evolución. En este texto presentamos el caso de un paciente con antecedente de epilepsia que desarrolla un cuadro delirante de contenido místico religioso, contenido que, según algunos autores, podría ser más frecuente en sujetos afectados de epilepsia. También se encuentran asociadas lesiones en estructuras temporales tanto en la epilepsia como en cuadros psicóticos. En este trabajo se realiza una revisión de las posibles similitudes entre estas dos patologías. Sin embargo, la relación entre ambos procesos no está tan clara, siendo necesarias nuevas investigaciones en este sentido.*

**Palabras clave:** *Psicosis. Epilepsia. Esquizofrenia.*

## INTRODUCTION

The psychotic pictures arising in epilepsies occur as episodic, transient psychoses, although also as productive psychoses in flares and even chronic psychoses. There is no international syndromic classification of psychosis in epilepsy. The psychiatric aspects are not considered in the international classification of epilepsies. Even more, the use of diagnostic criteria for psychiatric disorders such as the ICD-10<sup>1</sup> or DSM-IV<sup>2</sup> are restricted, because in the strict sense, a diagnosis of schizophrenia cannot be made within the context of an epilepsy. If this occurs, patients with psychosis and epilepsy receive two different diagnoses.

From the pragmatic point of view, psychoses in epilepsy are classified according to their relationship with seizures as ictal, postictal and interictal<sup>3</sup>.

Productive psychotic episodes rarely appear in relationship with seizures (pre- or postictal), the interictals being the most frequent.

Interictal psychoses occur between seizures and may not be related with their onset. In fact, interictal psychosis may be interpreted as epileptogenic in its origin (epileptic equivalent), antagonic to the seizure (forced or paradoxical normalization) or as a concomitant phenomenon, both events being the product of brain dysfunction<sup>4,5</sup>. Slater et al. (1963)<sup>6</sup> indicated that the psychotic patients in their study group in the absence of epilepsy would have been diagnosed of schizophrenia. However, they indicated some differences in relationship with the affectiveness conserved and the frequency of delusional experiences having a mystic religious content.

Other authors mention the lack of negative symptoms and of formal thought disorders as well as of catatonic pictures (Köhler, 1980)<sup>7</sup>. Tellenbach (1965)<sup>8</sup> reports that the delusions are less structured and Sherwin (1984)<sup>9</sup> that the neuroleptic treatment does not necessarily occur as frequently. However, there are authors who deny psychopathological differences between epileptic psychoses and schizophrenia (Helmchen 1975; Kraft et al., 1984)<sup>10,11</sup>.

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Besides the phenomenology, Slater (1963)<sup>6</sup> argued that the long term prognosis of epileptic psychosis was better than that of schizophrenia. The psychotic symptoms tended to abate and deterioration of the previous personality was rarer.

In relationship to postictal psychosis, a recent study performed with five patients diagnosed of temporal lobe epilepsy showed hyperactivation of both temporal lobe as well as frontal lobe structure by HMPAO-SPECT (hexamethyl-propyleneamine-oxime single photon emission computed tomography)<sup>12</sup>.

## CLINICAL CASE

We present the case of a 22 year old male patient who was hospitalized in the Psychiatric Brief Hospitalization Unit (PBHU) of the University Hospital San Carlos of Madrid due to a picture of delusional ideation having 2 weeks evolution of mystic and religious content.

Among his background, the following stand out: second child of a non-related marriage, born at term after a pregnancy in which the mother was exposed to X-rays in the third month and came into contact with measles in the seventh month. One month before the delivery, she had a peak fever of 39 °C and received antibiotic treatment. There are no significant data of perinatal hypoxia. On the fourth day of life, he had to be admitted for one month in a hospital center due to first degree isotonic dehydration, metabolic acidosis and urinary infection due to *E. coli*. In the second month of life, he suffered a generalized hypotonic episode. At one year of age, coinciding with a febrile condition, he presented a generalized tonic-clonic episode followed by right predominance hypertonia. He received treatment with phenobarbital until June 1984, when the medication was discontinued after which he presented a new episode, and treatment was begun with carbamazepine. In 1993, he presented hepatopathy, so that the anti-epileptic treatment was modified, and he has received gabapentin and clonazepam since then.

In November 1984, he began to present behavior disorders with nocturnal terrors, associated to hyperactivity and disconnection attitude. All the complementary examinations were negative, and only a cranial perimeter above 2 SD for his age in the physical examination and an EEG that showed signs of brain suffering of profound origin and exteriorization on the two occipital regions with predominance in left hemisphere were found. In the nocturnal sleep EEG, not very persistent focal paroxysmal activity of spikes in right parasagittal region that appear in N-REM and REM sleep was observed.

He goes to school and has shown good integration with the other children. His learning level is low due to attention deficit. In a psychometric assessment performed at 8 years and 5 months of age, an IQ = 90 was observed. As the most outstanding traits of his personality, impulsivity, masked aggressiveness, psychomotor restlessness and obsessive traits are observed. During the interview,

an anxious and overprotective family setting was observed.

He was admitted in the Pediatrics Service at 9 years of age due to an anxiety picture with somatizations. Assessed by the Child Psychiatry service, low mood, aggressiveness, very low tolerance to frustrations and very low self-esteem were observed. The family setting was ambivalent, with overprotection and anxiety, that maintained and increased the patient's symptoms. Anxiolytics, psychotherapy and family therapy were advised.

For approximately 2 years, he received treatment with paroxetine because he presented obsessive personality traits, without improvement. Coinciding with this period, his brother was admitted to psychiatry due to a psychotic disorder and was subsequently diagnosed of obsessive-compulsive disorder. He is presently stable with sertraline treatment.

He studied by correspondence to be a nursing assistant but never worked in this field.

In March 2003, he began with a delusional symptom picture having mystic and religious content. In the beginning, the patient reported that he heard the voice of God in his left ear that spoke to him through a picture in his room. Aware of the rareness of his sensations, the patient hid this information from his family, since the content of the messages was pleasant for him, as he was profoundly religious, and since he lived in a family setting very given to religious manifestations. At two weeks of beginning the picture, he began to hear voices of spirits in his right ear that he located in the exterior, relating them with the devil. They had a threatening content and, as he comments, «violated his consciousness.» These symptoms were deeply distressing for the patient who requested help from his family. He was admitted to the PBHU where treatment was begun with risperidone 6 mg/day. At 24 hours of admission, the patient reported the absence of the delusional symptoms and total disappearance of the previously described sensoriperceptive disorders. He presented mild dysarthria as a side effect to the neuroleptic treatment that improved when the dose was decreased to 4.5 mg/day, with which he was discharged, asymptomatic.

## CONCLUSIONS

There is evidence that psychosis is more frequent in patients with epilepsy. Clinicians who treat epileptic patients have described ictal, postictal or interictal psychosis episodes.

The relationship between psychosis and epilepsy of the temporal lobe is not only found in the clinical symptoms but there is also a close relationship between the limbic lobe and modulation of emotional and social behavior (MacLean, 1990)<sup>13</sup>. Lesions in the medial temporal structures and psychotic picture are often associated. Disorders in the same area of the brain have also been found in schizophrenia (Trimble, 1996)<sup>14</sup> and schizophrenia is presently associated with disorders in the neurodevelopment of the central nervous system in the fetal or perinatal period<sup>11</sup>.

There is a clear relationship between temporal lobe epilepsy and psychosis in all the series of patients studied with psychosis and epilepsy. A summary of 10 studies shows that 76% of the patients studied had temporal lobe epilepsy (Trimble, 1991)<sup>15</sup>. On the other hand, the lesions in this site may give rise to the development of a psychotic picture such as that described after anterior temporal lobectomy in epilepsy surgery, constituting an example of alternative psychosis or phenomenon of forced normalization secondary to surgical treatment (D'Alessio and Koche, 2001)<sup>16</sup>.

The possible relationship between both conditions is not very clear (Schmitz, 1992)<sup>17</sup>, partially due to the ambiguity of the definition of temporal lobe epilepsy in the literature, that is based on the symptoms of the seizure: psychomotor epilepsy, that includes specific function systems (limbic epilepsy) or neuroanatomic location detected by the EEG or by neuroimaging (amygdalo-hippocampal epilepsy).

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