Transient global amnesia as an unusual presentation of status epilepticus: Case report

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ABSTRACT

We present the case of a 71-year-old female patient with symptoms consistent with transient global amnesia secondary to nonconvulsive status epilepticus. She had experienced recurrent episodes over the previous two years. The article describes her clinical progression, relevant considerations for her management, and a brief review of the literature related to transient epileptic amnesia.

Keywords: amnesia, epilepsy, status epilepticus, transient global amnesia, emergency department

Amnesia global transitoria como presentación inusual de un estado epiléptico: informe de caso

RESUMEN

Se presenta el caso de una paciente de 71 años con un cuadro compatible con amnesia global transitoria secundaria a un estado epiléptico no convulsivo. Había presentado episodios recurrentes durante los últimos dos años. En el artículo se describe la evolución clínica, las consideraciones relevantes para su tratamiento y una revisión breve de la literatura relacionada con la amnesia epiléptica transitoria.

Palabras clave: amnesia, epilepsia, estado epiléptico, amnesia global transitoria, sala de urgencias.

INTRODUCTION

The epileptic status is a neurological emergency, whose early recognition impacts mortality and long-term disability[1]. Since status epilepticus is considered a medical emergency, its management is recommended to be divided into two key time points. Time 1 corresponds to epileptic activity that does not stop within a defined period: 5 minutes for bilateral tonic-clonic status epilepticus and 10 minutes for focal status epilepticus, with or without impaired consciousness, or for absence seizures. Time 2, on the other hand, refers to the moment when epileptic activity may cause long-term sequelae, defined as 30 minutes for generalized tonic-clonic status epilepticus and one hour for focal status epilepticus, with or without impaired consciousness[2]. It can also be classified as status epilepticus with motor phenomena or without motor phenomena; the latter is further subclassified according to whether or not consciousness is impaired[2]. The following is an atypical presentation of non-motor status epilepticus without impaired consciousness, manifested as transient global amnesia (TGA).

CASE PRESENTATION

A 71-year-old female patient was admitted to the Emergency Department with arterial hypertension as her only past medical history. She was admitted because that same morning, she awoke with anterograde and retrograde amnesia accompanied by episodes

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of disorientation. She did not remember her age and showed impaired calculation and abstraction abilities. These symptoms persisted up to the time of medical evaluation.

She presented no alteration in her level of alertness, and her vital signs on admission were: blood pressure 142/78 mm Hg, heart rate 78 beats per minute, respiratory rate 17 breaths per minute, and temperature 36.8 °C. A Mini-Mental Test was performed, indicating cognitive impairment (score of 16 points). She had been experiencing these paroxysmal episodes of cognitive alteration for the past two years, the first lasting three consecutive days, and thereafter occurring approximately twice a week, each lasting about five minutes. A brain MRI revealed punctate frontal and right temporal-occipital calcifications of unknown residual origin, with no hippocampal atrophy.

In the Emergency Department, a new neuroimaging study was requested, which revealed the previously known bilateral frontal calcifications of indeterminate etiology (Fig. 1). Given the recurrence and chronicity of the symptoms, an electroencephalogram was performed, showing continuous bilateral slow spike –wave and polyspike–wave complexes (see Fig. 1), consistent with generalized non-motor status epilepticus of unknown etiology. Lacosamide was initiated with a loading dose of 400 mg, followed by 100 mg every 8 hours. The patient was kept under observation for 24 hours, and by the next day, improvement in the previously described cognitive symptoms was observed. Since the electroencephalographic pattern indicated generalized epilepsy, levetiracetam was started, and the patient was discharged without complications.

DISCUSSION

Status epilepticus is a fairly common neurological emergency in Emergency Departments, with a bimodal distribution: between 0-4 years of age and after 60 years. Prognosis depends on the etiology, type and duration of seizures, and electroencephalographic findings[3]. It can be further subclassified according to its presentation as either with motor phenomena or without motor phenomena (also known as nonconvulsive status epilepticus), the latter being of particular interest in this case. Nonconvulsive status epilepticus may or may not involve impaired consciousness and can be either focal or generalized[2].

Transient global amnesia (TGA) is defined as the sudden onset of anterograde and retrograde amnesia lasting less than 24 hours. Its pathophysiology remains unclear, although several mechanisms have been proposed, including an epileptic phenomenon[4]. In 1990, particular cases of an atypical form of epilepsy characterized by episodes of transient amnesia were first described, termed “transient epileptic amnesia (TEA)”[5]. This condition is characterized by recurrent transient memory loss lasting less than one hour, most frequently occurring upon awakening, and has been reported to be accompanied by olfactory disturbances and oral automatisms, suggesting a temporal lobe origin. Since that decade, Zeman et al.[6] developed diagnostic criteria for this condition:

1. Recurrent episodes of amnesia.

2. Other cognitive functions remain intact during the attacks.

3. Evidence of epilepsy based on one or more of the following:

a. Epileptiform activity on electroencephalogram.

b. Occurrence of other forms of epilepsy (automatisms, olfactory hallucinations, lip smacking).

c. Response to anticonvulsant therapy.

In 2008, the same authors, using their diagnostic criteria, described 54 cases reported before 2007, finding a higher prevalence in men (63%), a mean age of onset of 58 years, and an average attack duration between 30 and 60 minutes. However, in that case series, some episodes lasted more than 24 hours[7]. One of the most relevant findings was the association of this type of epilepsy with awakening, reported in 70.4% of all cases. In 2021, the largest series to date was published,

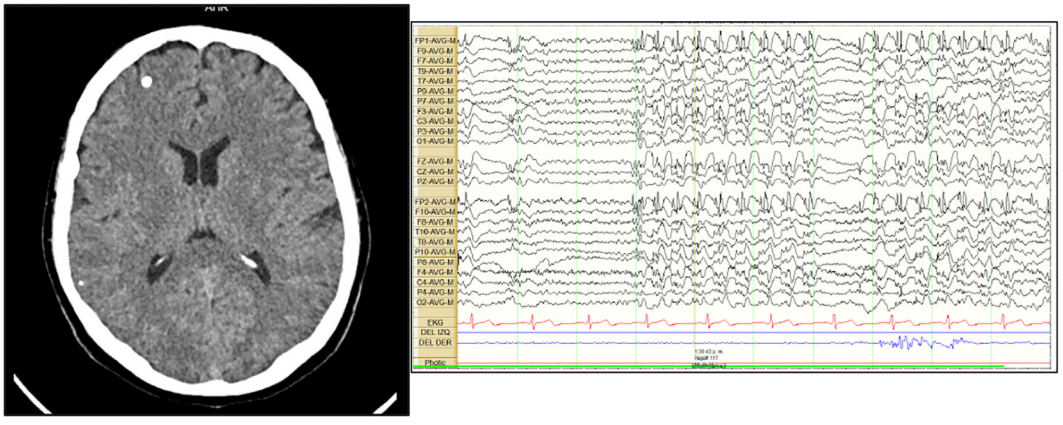

Figure 1. Plain CT scan of the skull (left) and electroencephalogram (right).

including a total of 115 cases of transient epileptic amnesia, which combined several cohorts described since 1988. In that registry, they reported an average attack frequency of one per month, with a mean duration between 15 and 30 minutes, most commonly occurring upon awakening[8]. The authors concluded that transient epileptic amnesia is a clinical syndrome of unknown etiology and late onset. It is also an important and treatable cause of memory loss in older adults and is often misdiagnosed as dementia, cerebrovascular disease, and/or functional amnesia.

CONCLUSION

Our case report meets the diagnostic criteria described in the literature for the syndrome known as *transient epileptic amnesia*, which has an unknown incidence due to the limited number of cases recorded in major international databases. In our particular case, the patient was in a state of status epilepticus, considered an unusual manifestation of this condition. It is clear that such a presentation may be mistaken for dementia, functional amnesia, and/or cerebrovascular disease, with the key distinguishing feature being that –after treatment with anticonvulsant therapy– there is an almost complete resolution of symptoms.

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