

CLINICAL AND NEUROPSYCHOLOGICAL PROFILE OF PATIENTS WITH TRANSIENT EPILEPTIC AMNESIA. CLINICAL CASE REPORT.

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Introduction

Transient epileptic amnesia (TEA) is a rare clinical manifestation of temporal lobe epilepsy that occurs in middle-age individuals, usually between 50 and 60 years of age, with male predominance. TEA can be easily interpreted as episodes of global transient amnesia, which are often the reason for delaying appropriate treatment.

Keywords: transient epileptic amnesia, autobiographical memory, temporal lobe epilepsy

Purpose of this study

is to evaluate the clinical features and neuropsychological profile of patients with TEA.

Material and methods

Patients were clinically evaluated in the National Center for Epilepsy, Chișinău, Republic of Moldova and diagnosed with TEA based on diagnostic criteria proposed by Zeman and Butler, 1998. Also, were monitored with EEG for 120 and 180min. Cerebral imaging was performed on high resolution MRI. Neuropsychological assessed with MoCA test, Luria verbal memory test and complex figure REY.

Case 1

Patient B.A., a 42-year-old man, was address for recurrent episodes of short-term memory impairment (transient amnesia), that started at the age 37. The episodes were mostly on awakening, when he does not remember the name of his children, spouse or "forgets" to perform some actions (for ex. forget how to drive a car), with a duration for 5-10 min weekly. One year ago, he experienced two tonic-clonic seizures on awakening in the same day.

EEG telemetry 180min (Fig.1). **MRI epilepsy protocol** without structural changes in the hippocampus. On neuropsychological evaluation he demonstrated impairment of immediate verbal memory (Fig.2), autobiographical memory with confusion in personal data and procedural memory. Carbamazepine was started, being free of episodes of memory disturbance or epileptic seizures for 12 months.

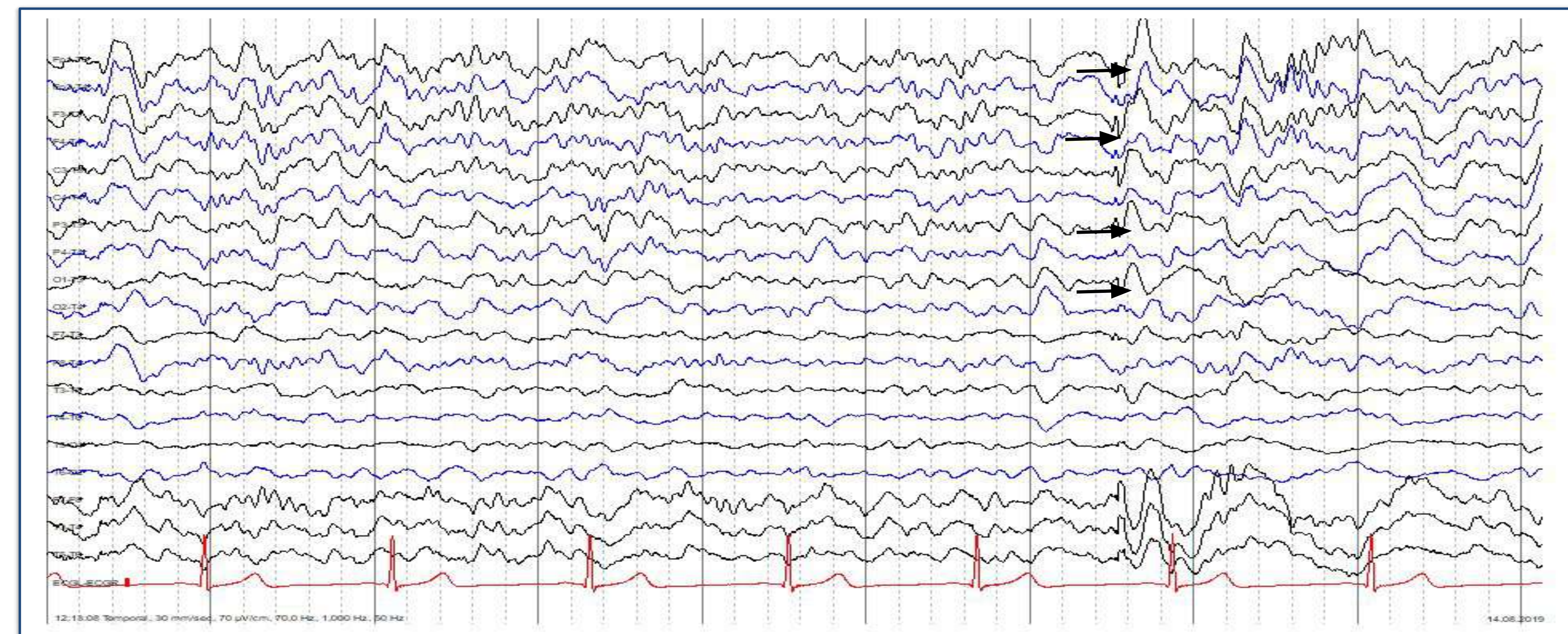


Fig.1 Patient B.A., EEG demonstrate left temporal spike and wave in stage 2 sleep (bipolar temporal montage)

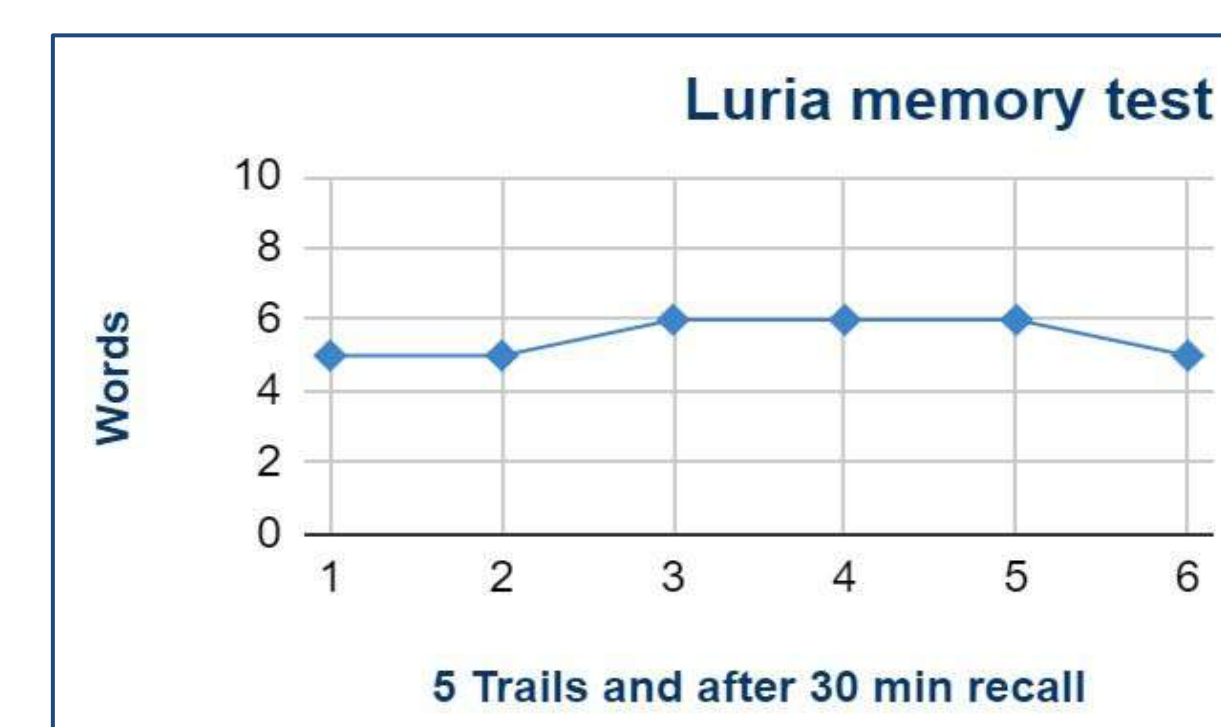


Fig.2 Patient B.A, Luria test demonstrate impairment of immediate verbal memory

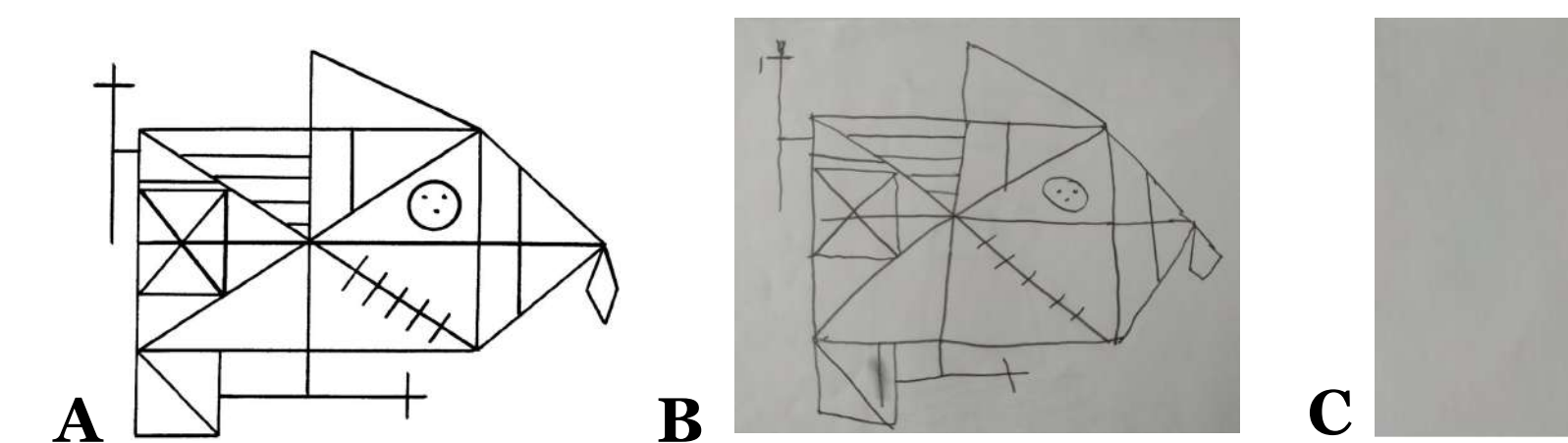


Fig. 3 Patient M.E, **A.** Complex Rey figure; **B.** Copy; **C.** Immediate and delayed recall - the patient could not reproduce the figure from the memory.

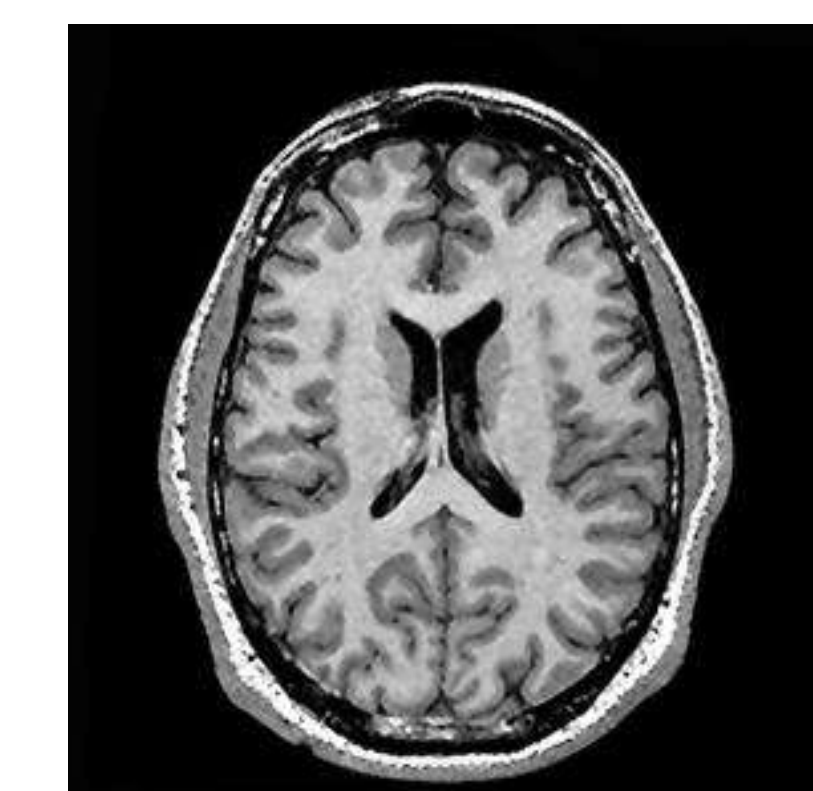


Fig.4 Patient M.E., normal T1w images on MRI

	No of patients	Age at onset (years)	Seizures features	EEG	MRI	Memory impairment	Cognitive impairment	Treatment response
Mosbah, 2014	30	43-77, mean 59	*with motor features (oral or motor automat.) *focal with olfactory hallucin.	57% had left/right temporal IEDs	normal	autobiographical and episodic memory impairment	abs	good response (no specific.)
Ioannidis et al, 2011	3	53 - 73	on waking, * with motor features *focal with olfactory hallucin.	100% had right temporal IEDs	structural changes (temporal lobe cavernoma) or normal 2	autobiographical and episodic memory impairment	abs	complete resolution (LVT)
Savage et al, 2016	9	49 - 78	*with motor features or *pure transient amnesia	54% had left/right temporal IEDs	normal or non-specific lesions	retrograde amnesia and accelerated long term forgetting	abs	good response (LMT, CBZ, VPA)

Table 1. Clinical and neuropsychological profile of reported cases with TEA

(Abrev.) IEDs - interictal epileptiform discharges, LVT -levetiracetam, CBZ -carbamazepine, VPA -valproic acid

Case 2

Patient M.E., a 52-year-old woman, addressed for frequent episodes of memory gaps for almost 4 years. She could not remember some important events in her life(she forgot how was celebrated the 20 birth day of he daughter), without motor elements of seizure.

On neuropsychological evaluation is an important autobiographical memory impaired that was associated with verbal memory impairment and moderately low verbal fluency and immediate/episodic memory impairment (Fig.3).

Video EEG telemetry 120min identified interictal epileptiform discharges left temporal lobe. **MRI** without structural changes (Fig.4).

Carbamazepine was initiated, being free of episodes of memory disturbance for 28 months.

Results

- the reported cases have an early onset, than previously reported (Table 1), which makes diagnosis even more difficult.
- the seizures were short associated or not (case 2) with ictal motor elements.
- patients manifested persistent disturbance of short-term and autobiographical memory interictally, identified by neuropsychological evaluation.
- IEDs were found in sleep in the temporal areas.
- Patients responded well to antiepileptic treatment and have a good outcome.
- Our findings were confident with others case report studies (Table 1).

Conclusions

TEA is a benign and treatable distinctive syndrome. It is important for the attending neurologists to identify this patients and should not be confused with other transient amnesias. Video EEG telemetry and neuropsychological evaluation by a trained specialist are the clues for diagnosis of this syndrome for a better life of this patients.

References

1. Mosbah A, Tramoni E, Guedj E, et al. Clinical, neuropsychological, and metabolic characteristics of transient epileptic amnesia syndrome. *Epilepsia*. 2014;55(5):699-706. doi:10.1111/epi.12565
2. Ioannidis, P., Balamoutos, G., Karabela, O., Kosmidis, M. H., Karacostas, D. Transient epileptic amnesia in a memory clinic setting: A report of three cases. *Epilepsy & Behavior*. 2011; 20(2), 414-417. doi:10.1016/j.yebeh.2010.12.028
3. Savage SA, Butler CR, Hodges JR, Zeman AZ. Transient Epileptic Amnesia over twenty years: Long-term follow-up of a case series with three detailed reports. *Seizure*. 2016;43:48-55. doi:10.1016/j.seizure.2016.10.022