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TRANSIENT LOSS OF CONSCIOUSNESS: A TWO-YEAR RETROSPECTIVE STUDY OF 60 CASES IN MOROCCO.

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ABSTRACT

Background: Transient loss of consciousness (TLOC) has multiple causes and remains a diagnostic challenge.

Objective: To describe the epidemiological, clinical, and etiological characteristics of TLOC and outline diagnostic practices in a Moroccan military neurology department.

Methods: A two-year retrospective study (March 2022 – March 2024) included adults admitted for TLOC. Diagnoses of epilepsy, psychogenic nonepileptic seizures (PNES), and syncope were established through clinical and paraclinical criteria. Data were analyzed descriptively using Microsoft Excel.

Results: Sixty patients were included (mean age 28 years; 90 % male). Epilepsy represented 61.7 % of cases, PNES 28.3 %, and syncope 10 %. EEG abnormalities were present in 61.7 %, brain imaging was abnormal in 19 %, and ECG bradycardia occurred in 10 %.

Conclusion: Epilepsy predominated among TLOC cases in this young, male population.

Diagnostic accuracy depended on systematic clinical and paraclinical assessment.

Multidisciplinary collaboration is essential to improve future diagnostic precision.

KEYWORDS

transient loss of consciousness; epilepsy; PNES; syncope; EEG; Morocco

MAIN ARTICLE

INTRODUCTION

Transient loss of consciousness (TLOC) is defined as a brief interruption of awareness and postural tone with spontaneous recovery [1]. Its main causes—epileptic seizures, syncope, and PNES—can mimic one another [2]. Distinguishing between them is vital to avoid misdiagnosis and inappropriate treatment [3].

In Morocco, limited data exist on TLOC patterns in neurology departments. This study aimed to describe the epidemiological and clinical profiles of patients admitted for TLOC in a military hospital and to discuss diagnostic strategies and limitations.

MATERIALS AND METHODS

Study Design and Setting

A **retrospective descriptive study** was conducted at the Neurology Department of Moulay Ismaïl Military Hospital (Meknès, Morocco) from March 2022 to March 2024.

Population

All adults (≥ 18 years) admitted for TLOC were included.

Exclusion criteria: traumatic, metabolic, toxic, or vascular causes; incomplete files; outpatient cases; and patients lost to follow-up.

Diagnostic Criteria

- **Epilepsy:** typical semiology (tonic–clonic movements, lateral tongue-bite, postictal confusion) plus EEG showing epileptiform discharges [4].
- **PNES:** prolonged or irregular episodes with emotional triggers and normal interictal or video-EEG [5].
- **Syncope:** prodromal dizziness or hypotension with rapid recovery and supportive ECG findings [6].

Data and Analysis

Clinical and paraclinical data were collected from medical records. Descriptive statistics (mean $\pm$ SD, frequencies, percentages) were calculated using Microsoft Excel.

Ethical Considerations

All data were anonymized; confidentiality was maintained according to hospital policy.

RESULTS

General Characteristics

Sixty patients were included (mean age 28 years; range 18–50; 90 % men). Mean hospital stay = 3 days.

Table 1. Baseline characteristics and etiologies

Variable	Findings
Number of patients	60
Mean age (years)	28
Male (%)	90
Mean hospital stay (days)	3
Etiologies	Epilepsy 61.7 %; PNES 28.3 %; Syncope 10 %

Clinical and Paraclinical Findings

Visual aura (33 %) and diaphoresis (25 %) were the most common prodromes.

EEG was abnormal in 61.7 % (focal spikes or generalized spike–wave).

Brain imaging revealed lesions in 19 % (cortical dysplasia, frontal lesions).

ECG showed bradycardia in 10 %.

Table 2. Summary of paraclinical findings

Test	Normal (%)	Abnormal (%)	Main findings
EEG	38.3	61.7	Epileptiform discharges
Brain imaging (CT/MRI)*	81.0	19.0	Cortical dysplasia, agenesis
ECG	90.0	10.0	Bradycardia

*Performed in 42 patients (25 MRI).

DISCUSSION

Key Findings

Epilepsy (61.7 %) was the main cause of TLOC, followed by PNES (28.3 %) and syncope (10 %). This mirrors the profile seen in other neurology-based cohorts [7]. The high male predominance reflects the military population, limiting direct comparison with civilian data.

Diagnostic Approach

A structured, symptom-based approach supported by EEG, ECG, and imaging enabled differentiation between etiologies. Epileptic seizures were confirmed by epileptiform EEG

discharges, PNES by normal EEG and emotional context, and syncope by cardiovascular findings. This triage strategy remains central to TLOC evaluation [8].

Limitations and Bias

The study's **retrospective design** and **small sample** ($N = 60$) restrict statistical power. **Selection bias**—neurology-only recruitment—overrepresents epileptic causes. Moreover, the **male-dominant sample (90 %)** limits generalization. Future prospective studies across neurology, cardiology, and psychiatry services are needed.

Clinical Implications and Recommendations

Accurate differentiation among epilepsy, PNES, and syncope requires **multidisciplinary collaboration**. We recommend:

1. **Standardized diagnostic protocols** combining EEG, ECG, and neuroimaging for all TLOC admissions.
2. **Video-EEG monitoring** for unclear cases or suspected PNES [5].
3. **Tilt-table testing** when syncope is suspected [6].
4. **Patient education** on avoiding triggers such as sleep deprivation, flashing lights, and stress [9].
5. **Multicenter, gender-balanced research** to improve external validity.

These measures could reduce misdiagnosis and ensure more targeted management.

CONCLUSION

Epilepsy was the predominant cause of TLOC in this Moroccan military cohort. Diagnostic confirmation relied on a combined clinical and paraclinical approach. While informative, the findings are limited by small sample size and gender imbalance. Broader prospective studies and multidisciplinary collaboration are essential to enhance diagnostic accuracy and patient outcomes.

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