TRANSIENT LOSS OF CONSCIOUSNESS (TLOC)

–

COMMON BUT OFTEN MISDIAGNOSED

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Learning objectives

The lecture will give an overview on the different types of Transient Loss of Consciousness (TLOC),

a frequent diagnosis in acute neurology and emergency rooms that often poses differential diagnostic challenges.

The lecture shall further enable participants to

- identify the different types of syncope,
- differentiate syncope from epileptic seizures, particularly
- distinguish between convulsive syncope and epileptic seizures which is often difficult,
- recognize functional (psychogenic forms) of syncope (“Pseudosyncope“)
  and functional (or psychogenic) seizures,
- diagnose events that resemble syncope although there is no loss of consciousness.

Teaching Course participants will learn

- to determine which forms of TLOC are associated with low, moderate, or high risk, and
- which patients immediately need further, particularly cardiologic evaluation and treatment.

Key messages

Convulsive syncope (independent from syncope etiology)

brief, tonic-clonic ***irregular*** movements; in contrast to epileptic seizure: **no crescendo-decrescendo; not unilateral;**

not rhythmical; in different extremities (arm / leg) **not synchronous**

Muscle jerks occur only after fall ! (in epilepsy possible while still standing)

sometimes difficult to differentiate from epileptic seizures ➔ simultaneous Video-EEG-recording clarifies diagnosis

serum prolactin levels may be increased after seizure & syncope

serum **creatinine kinase** increases **more often after seizure**

"10/20 Rule“ facilitates differentiating Syncope vs. Epileptic Seizure:

Syncope:

- Tonic posture of the arms
  (Brainstem -Disinhibition)
- myoclonic jerks: **< 10** *(irregular)*
- **Loss of Muscle TONE**
  strongly favors diagnosis of SYNCOPE

Epileptic seizure:

- Tonic posture of the arms
- myoclonic jerks: **> 20** (rhythmic!)
- **NO** muscle atonia

Shmuely S, Bauer PR, van Zwet EW, van Dijk JG, Thijs RD. Differentiating motor phenomena in tilt-induced syncope and convulsive seizures. Neurology. 2018 Apr 10;90(15):e1339-e1346.

Key messages

Reflex-Syncope ➔ **very frequent, but *good Prognosis*** (Young patients without structural or electric heart disease)

Syncope due to Orthostatic Hypotension: **2-fold increase of prospective mortality risk !**

Cardiac Syncope: *poor prognosis -* high mortality risk ! *(Moya, Sutton et al. 2009)*

RED FLAGS: TLOC requires cardiology examination within 24 hours if there is:

- Transient loss of consciousness **during exertion;** new or **unexplained breathlessness; heart failure;** a **heart murmur**
- **family history** of sudden cardiac death in pats. **below age 40** and/or an **inherited cardiac condition**
- **electrocardiographic abnormalities:**

  inappropriate persistent **bradycardia;**
  conduction abnormality (e.g., complete right or left bundle branch block, or any degree of heart block);
  left or right **ventricular hypertrophy;**
  long QT interval (corrected >450 ms) **& short** QT interval (corrected <350 ms);
  pathological Q waves;
  ventricular pre-excitation;
  any **ventricular arrhythmia** (including ventricular extrasystoles); **Brugada syndrome; paced rhythm**
  any **abnormalities in ST-segment or T-wave**, especially abnormal T- wave inversion

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