Valutazione iniziale e stratificazione del rischio

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DEFINITION OF SYNCOPE

Syncope is a transient loss of consciousness due to global cerebral hypoperfusion characterized by rapid onset, short duration, and spontaneous complete recovery

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LOSS OF CONSCIOUSNESS

- Loss of postural control
- Unresponsiveness during part of the attack

CLASSIFICATION OF T-LOC

- SYNCOPE
  - Reflex (neurally-mediated)
  - Due to orthostatic hypotension
  - Cardiac (cardiovascular)
- NON-SYNCOPAL T-LOC (disorders with partial or complete T-LOC, but without global cerebral hypoperfusion)

REFLEX (NEURALLY-MEDIATED SYNCOPE)

Typical vasovagal

- triggered by emotional distress
- triggered by orthostatic stress

Situational

- gastrointestinal stimulation (swallow, defecation)
- micturition
- post-exercise
- post-prandial
- others (laught, brass instrument playing)

Carotid sinus syncope

Atypical forms

SYNCOPE DUE TO ORTHOSTATIC HYPOTENSION

Primary autonomic failure

- Pure autonomic failure, Parkinson's disease

Sencondary autonomic failure

- Diabetes, amyloidosis, uraemia, spinal cord injury

Drug-induced orthostatic hypotension

- Alcohol, vasodilators, diuretics, phenotiazines, antidepressant

Volume depletion

- Haemorrhage, diarrhoea, vomiting, etc.

CARDIAC SYNCOPE

Arrhythmia as primary cause

- Bradycardia (SN dysfunction, AV block)
- Tachycardia (supraventricular, ventricular)

Structural heart disease

- Valvular heart disease, acute MI/ischemia, hypertrophic cardiomyopathy, atrial mixoma, pericardial disease/tampondade, pulmonary embolus, pulmonary hypertension, acute aortic dissection, etc.

NON-SYNCOPAL LOC

Real

- **Metabolic**
  (hypoglicemia, hypoxia)
- **Epilepsy**
- **Vertebrobasal TIA**

Apparent

- **Cataplexy**
- **Psychogenic pseudosyncope**

PATIENT WITH TRANSIENT LOSS OF CONSCIOUSNESS

Initial evaluation

History, physical examination, supine and upright BP measurement, standard ECG

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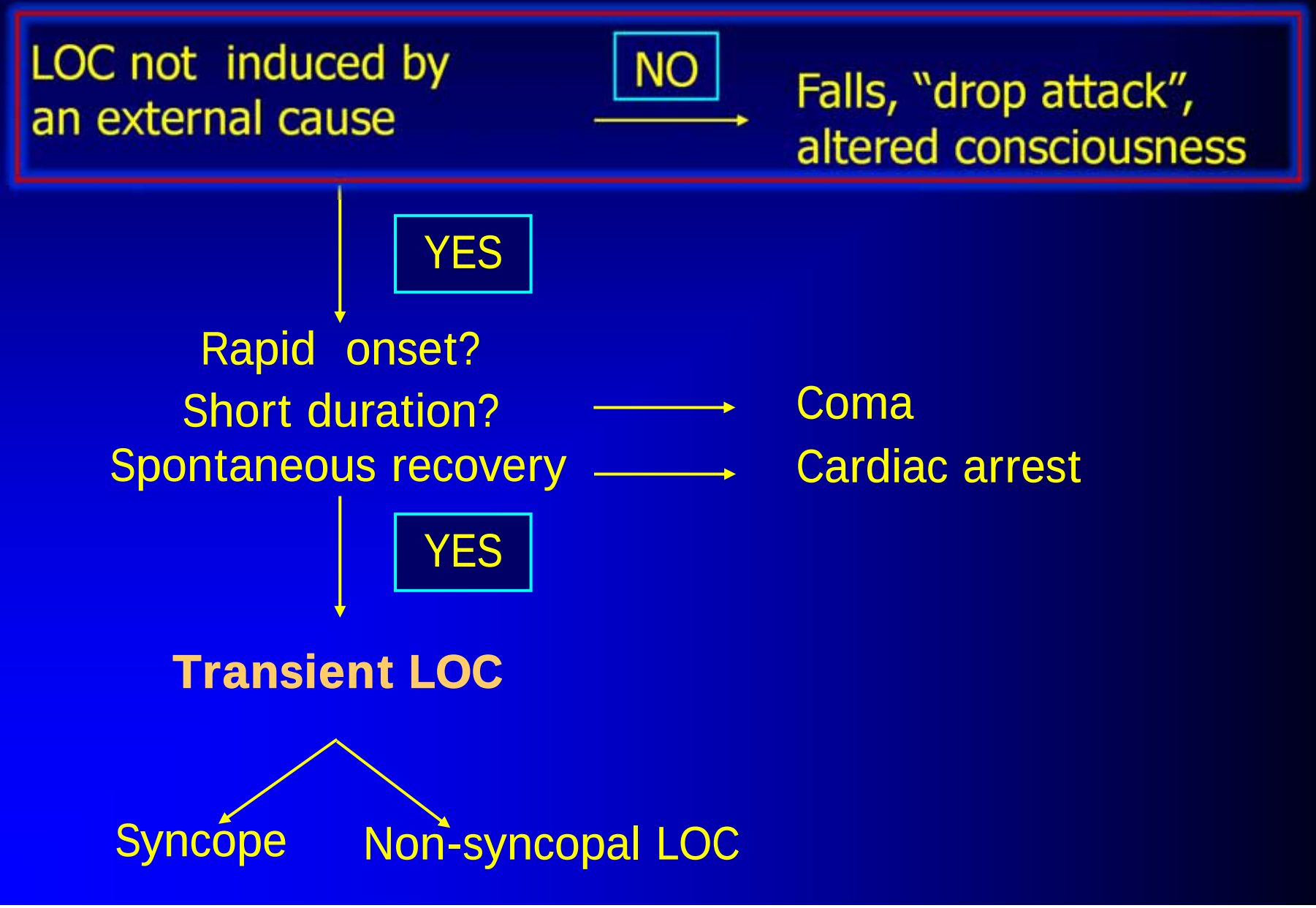
Syncope in the context of LOC. Clinical presentation



RETROGADE AMNESIA AFTER SYNCOPE

~ 25% of pts

after syncope induced during tilt test or carotid sinus massage

Parry SW et al, J Am Coll Cardiol 2005

O' Dwier C et al, Europace 2011

DIFFERENTIAL DIAGNOSIS BETWEEN SYNCOPE AND FALL

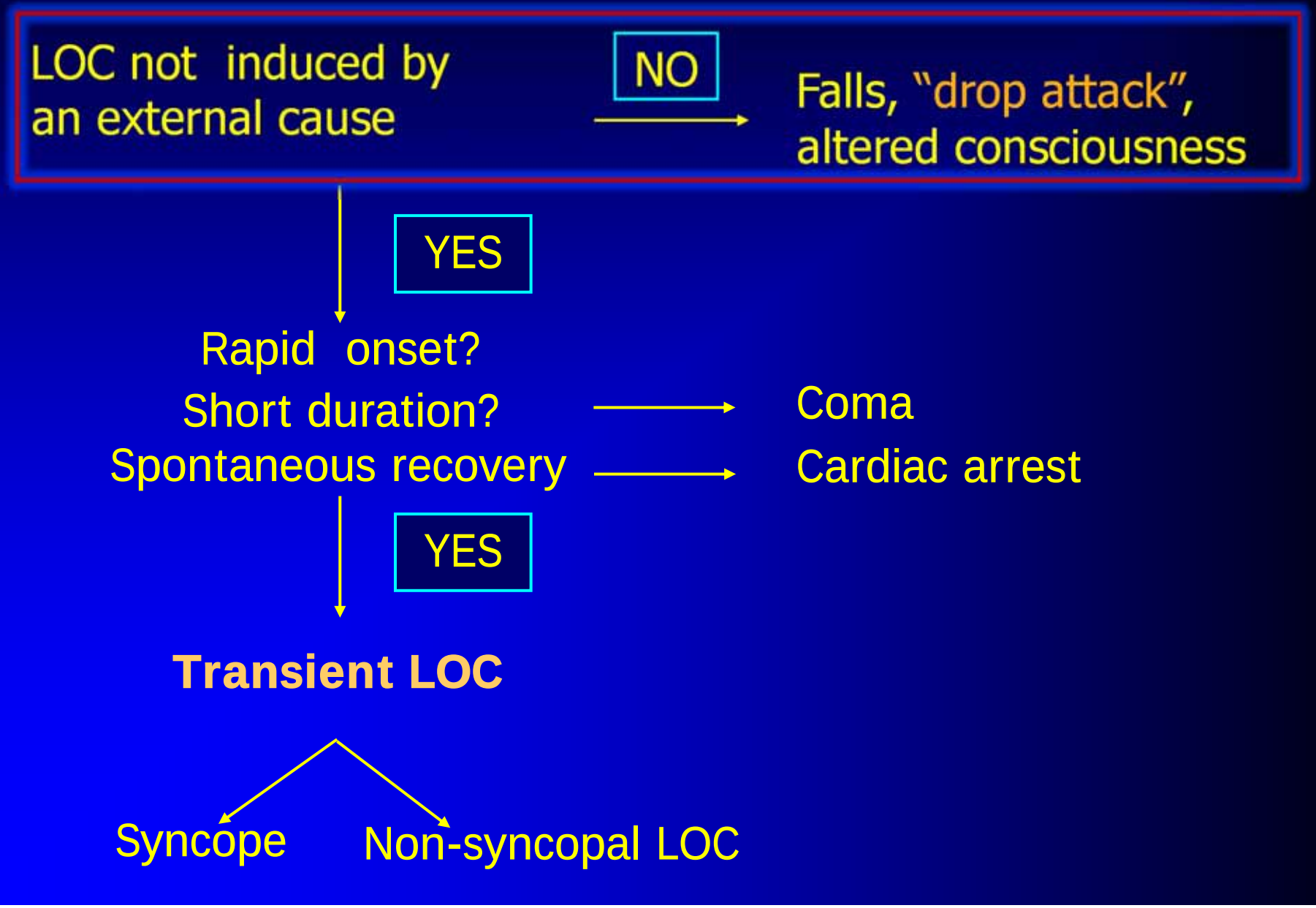
INCORRECT QUESTION

~~Were you unconsciousness?~~

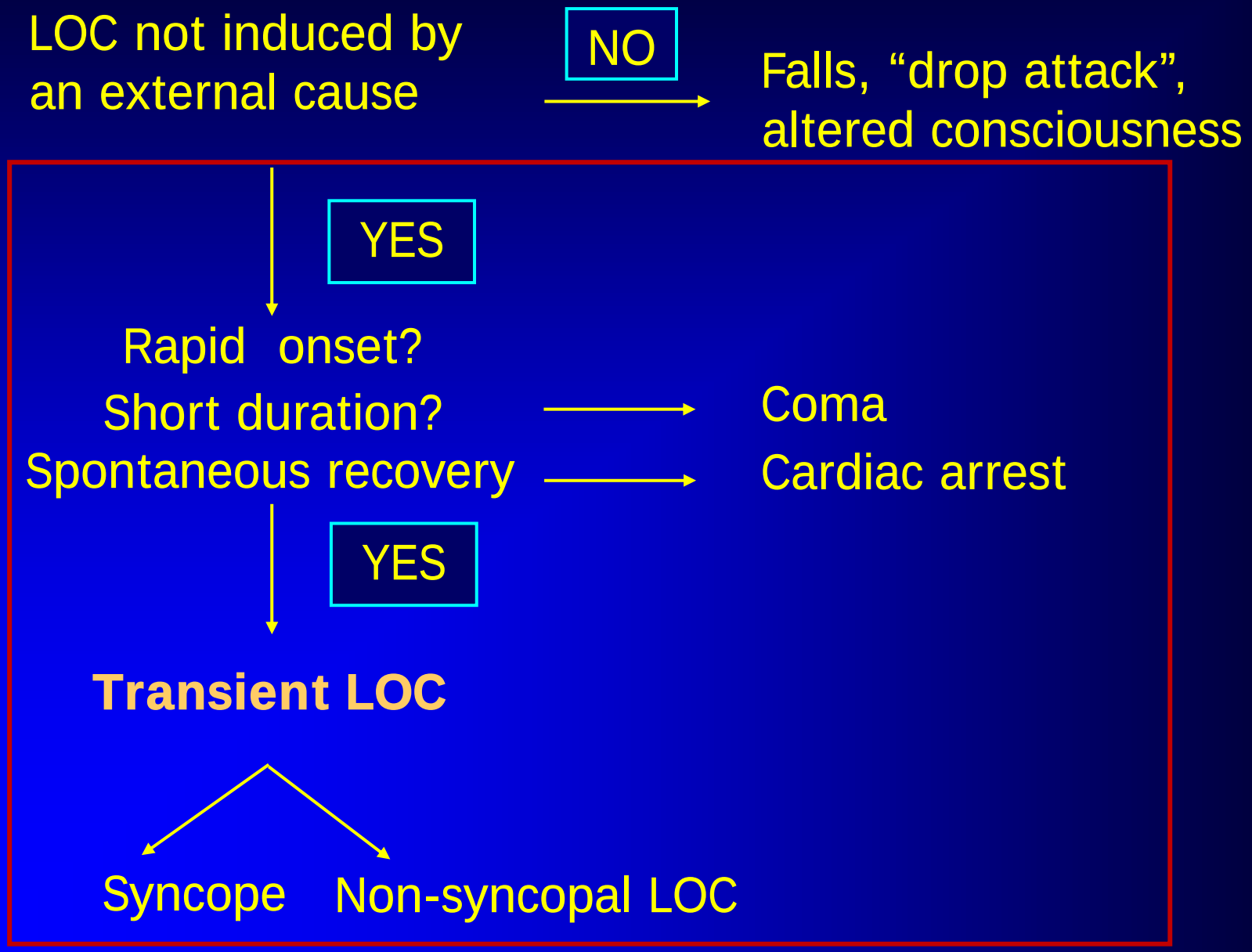
CORRECT QUESTION

Verify whether the patient remembers every part of the entire attack

Syncope in the context of LOC. Clinical presentation



Syncope in the context of LOC. Clinical presentation



DIFFERENTIAL DIAGNOSIS BETWEEN SYNCOPE AND NON-SYNCOPAL LOC

Try to exclude a non-syncopal LOC

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NON-SYNCOPAL LOC

Real

- **Metabolic**
  (hypoglicemia, hypoxia)
- **Epilepsy**
- **Vertebrobasal TIA**

Apparent

- **Cataplexy**
- **Psychogenic pseudosyncope**

SIGNS AND SYMPTOMS SUGGESTIVE OF EPILEPSY

- Tonic-clonic movements (coarse, rhythmic, synchronous); their onset coincides with LOC
- Automatisms (chewing or lip smacking or frothing at the mouth)
- Blue face
- Tongue biting
- Postictal confusion or headache
- Muscle pain lasting for hours or days

NON-SYNCOPAL LOC – SIGNS AND SYMPTOMS

Neurologic symptoms associated with transient LOC	→	**TIA**
Tremors and sweating preceding transient LOC in diabetic patients	→	**Hypoglicemia**
Frequent and long-lasting LOCs, closed eyes, many somatic symptoms	→	**Psycogenic pseudosyncope**
Transient LOC associated with emotions, in the context of narcoplexy	→	**Cataplexy**

DIAGNOSTIC CRITERIA WITH INITIAL EVALUATION

Typical vasovagal syncope

Situational syncope

Orthostatic syncope

Cardiac syncope

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TYPICAL VASOVAGAL SYNCOPE

1) Trigger

Emotional (emotional distress, fear, severe pain, blood phobia, instrumentation)

or

Orthostatic (prolonged standing)

2) Typical autonomic prodromes

SITUATIONAL SINCOPE

Loss of consciousness occurs during or immediately after:

- urination
- defecation
- cough
- swallowing

ORTHOSTATIC SYNCOPE

Documentation of orthostatic hypotension (decrease in systolic BP ≥ 20 mmHg or to < 90 mmHg and in diastolic BP ≥ 10 mmHg within 3 min of standing), associated with symptoms of cerebral hypoperfusion (presyncope or syncope)

ECG ABNORMALITIES DIAGNOSTIC OF ARRHYTHMIC SYNCOPE

- Persistent sinus bradycardia < 40 beats/min in awake or repetitive sinoatrial block or sinus pauses ≥ 3 s
- Mobitz II 2nd or 3rd degree AV block
- Alternating left and right bundle branch block
- VT or rapid (> 160 bpm) paroxysmal SVT
- Non-sustained episodes of polymorphyc VT and long or short QT interval
- Pacemaker or ICD malfunction with cardiac pauses

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SIGNS AND SYMPTOMS SUGGESTIVE OF REFLEX SYNCOPE

- **Absence of heart disease**
- **Long history of recurrent syncope (> 4 yrs)**
- **Nausea, vomiting associated with syncope**
- **Abdominal discomfort**
- **With head rotation, pressure on carotid sinus (tumors, shaving, etc.)**
- **During a meal or post-prandial (within 2 hrs)**
- **After exertion**

SIGNS AND SYMPTOMS SUGGESTIVE OF ORTHOSTATIC SYNCOPE

- **After standing up**
- **Standing after exertion**
- **Presence of autonomic neuropathy or Parkinsonism**
- **Neck ache radiating to the occipital region of the skull and to the shoulders ("coat hanger" distribution)**
- **Volume depletion (haemorrhage, diarrhoea, vomiting, etc)**
- **Temporal relationship with start or changes of dosage of vasodepressive drugs leading to hypotension**

SIGNS AND SYMPTOMS SUGGESTIVE OF CARDIAC SYNCOPE

- **Presence of definite structural heart disease**
- **Associated with palpitation**
- **Associated with chest pain**
- **During exertion, or supine**
- **Family history of unexplained sudden death or channelopathy**

Sleep syncope

Loss of consciousness in a non-toxicated adult occurring during the normal hours of sleeping.

Krediet CTP et al, Heart 2004
Jardine DL et al, Clin Auton Res 2005
Busweiler L et al, Sleep Med 2010

Sleep syncope

Clinical features

- Mainly middle-age women
- History of waking from sleep with abdominal pain, urge to defecate, followed by loss of consciounsess (in some in bed, in others while trying to get to the toilet)
- Other possible symptoms: Nausea, sweating, lightheadedness, myoclonic jerking, nightmare before the event
- Episodes of typical vasovagal syncope during the diurnal hours

Krediet CTP et al, Heart 2004

Jardine DL et al, Clin Auton Res 2005

Busweiler L et al, Sleep Med 2010

Syncope – Emergency room

Known or suspected heart disease

Precordial pain or shortness of breath

History of tachyarrhythmias or palpitation at the time of syncope

Syncope during exertion or supine

Lack of prodrome

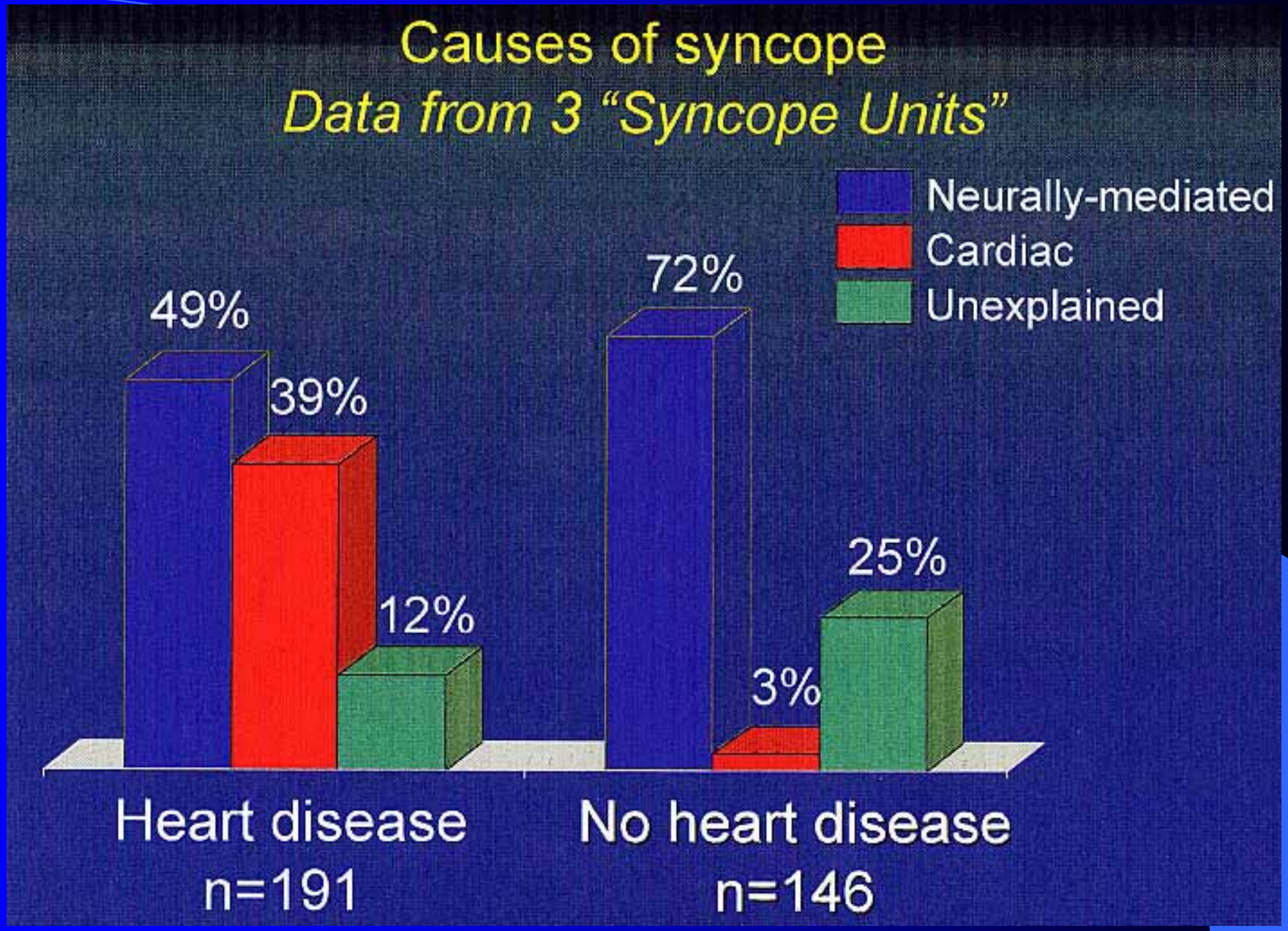
Loss of consciousness with focal neurologic symptoms

Loss of consciousness in diabetic patients

Suspected haemorrhage

Bradycardia or tachycardia and/or hypotension (phisyc. exam.)

Age > 65 years



Alboni P et al, J Am Coll Cardiol 2001