Syncope

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“Syncope is a symptom complex that is composed of a brief loss of consciousness associated with the inability to maintain postural tone that spontaneously and completely resolves without medical intervention.”

Cause - transient cerebral global hypoperfusion
Epidemiology

- Prevalence of syncope in general population: first faint - 1% of toddlers, between ages 10-30 peak incidence at age 15 - VVS. Only 5% have first faint over age 40. Another peak over age 65 (sharp rise over age 70).

Prevalence of cause:
- Reflex mediated - most frequent cause in any setting (60%)
- Cardiovascular disease - second most common
- OH - frequent in older patients, uncommon in young
- Unexplained - Up to 35% of patients
- Non-syncopal - misdiagnosed at initial eval 8-20%

ED goals for evaluation

- Diagnose etiology of syncope
- Risk stratify patients who do not have a diagnosis (who will benefit from an inpatient evaluation?)
- Rule of 15’s: Fifteen percent of the time the following etiologies present with syncope: SAH, ACS, PE, thoracic aortic dissection, AAA leak or rupture, ruptured ectopic pregnancy.

History: syncope or not?

- Was LOC complete?
- Transient with rapid onset and brief duration?
- Loss of postural tone?
- Spontaneous and complete recovery to baseline?
- If ANY of the above answers are NO, must seek other etiology before syncope work-up

SAH - subarachnoid hemorrhage, ACS - acute coronary syndrome, PE - pulmonary embolism, AAA - abdominal aortic aneurysm

LOC - loss of consciousness
H&P, Orthostatics, EKG

- Detailed history: true syncope v other etiologies
- Physical exam: detailed cardiac exam (murmurs?), neuro exam (focal neurologic deficits?)
- 12-lead EKG (7 etiologies to look for)
- Orthostatic blood pressure*

Diagnostic tests

- Carotid sinus massage
- Orthostatic challenge (active standing, tilt testing)
- Electrocardiographic monitoring
- Electrophysiological study
- Adenosine triphosphate test
- Echocardiography and other imaging techniques
- Exercise stress testing
- Cardiac catheterization
- Psychiatric evaluation
- Neurological evaluation

Etiologies and EKG findings of importance in syncope

- ACS
- Tachy Brady syndromes
- WPW: pre-excitation syndrome
- Brugada syndrome
- Hypertrophic cardiomyopathy
- Short or long QT syndromes
- Arrhythmogenic right ventricular dysplasia

ACS - acute coronary syndrome, WPW - Wolff-Parkinson-White
Risk stratification: ACEP clinical policy on syncope

• What history and physical exam data help to risk stratify patients with syncope?

  • Level A - use H&P exam findings consistent with heart failure.
  • Level B - consider older age high risk with structural heart disease or a history of CAD. Consider younger patients with syncope low risk if non-exertional, w/o hx or s/s of heart disease, w/o a family hx of sudden death, no co-morbidities.
  • Level C: none specified.

What diagnostic testing data help to risk stratify patients with syncope

• Level A: obtain a standard 12-lead EKG.
• Level B: none.
• Level C: lab testing and advanced investigative testing such as echocardiography or head CT need not be routinely performed unless guided by specific findings in the history and physical.

Who should be admitted after an episode of syncope of unclear cause?

• Level A: none specified
• Level B: admit patients with syncope and evidence of heart failure or structural heart disease OR other factors that lead to risk stratification as high-risk for adverse outcome.
• Level C: none specified.
Syncope in the elderly

- Most common causes: OH, reflex syncope - especially CSS, and cardiac arrhythmias.
- Neuro: gait and balance, MME if cognitively impaired from baseline
- "I fell, I must have tripped"

OH - orthostatic hypotension, CSS - carotid sinus syndrome, MME - mini mental exam

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Syncope in pediatrics

- Reflex syncope most common
- Consider evaluation for seizure or pseudosyncope
- Infantile reflex syncopal attacks
- Apneic hypoxic T-LOC
- Remember: look for prolonged QT on EKG

T-LOC - transient loss of consciousness

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Drugs: Too many to actually list here, but some commonly used Rx in Peds are:
- Antimicrobials
- Macrolides (Erythromycin, Clarithromycin, Azithromycin)
- Fluoroquinolones (Levofloxacin, Gatifloxacin, Ciprofloxacin)
- Antihistamines (Fexofenadine, Loratadine)
- Antidepressants (Amitriptyline, Desipramine, Imipramine, Sertraline)
- Sedatives (Chloral hydrate, ONDANSETRON (zofran))

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Thank you:

- 謝谢
- Gracias
- شكرًا
- dank je wel
- salamat sa iyo di ou mèsi
- ありがとう
- cảm ơn bạn
- mahadsanid

Questions?
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References

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