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EDITORIAL

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Everyone eventually goes to ground: Distinguishing true syncope from mimics for emergency department studies on syncope in older persons

Syncope accounts for ≈1.3 million emergency department (ED) visits and $2.4 billion in healthcare costs annually in the United States.[1] With an aging US population and with higher ED visits and hospitalizations for syncope among older persons, ED use and costs associated with syncope will only increase.[2,3] To optimize the use of healthcare resources, decision tools were developed to improve ED disposition and reduce unnecessary hospitalization for patients at low risk of adverse outcomes. Yet, a proven decision rule for older persons remains elusive.[4]

Voigt et al examined the prognostic accuracy of the San Francisco Syncope Rule (SFSR),[5] the Canadian Syncope Risk Score (CSRS),[6] and a modified version (because of limited serum B-type natriuretic peptide [BNP] data) of the FAINT score.[7] The authors found that none (SFSR sensitivity 86% and specificity 26%, CSRS 89% and 23%, and FAINT 91% and 17%) demonstrated sufficient accuracy for 30-day serious outcomes in older persons with syncope or near syncope in their single ED retrospective study. Interestingly, the sensitivity in Voigt et al for the SFSR approached that (89%) in the external validation study by Sun et al.[8] Although the sensitivity was highest for the FAINT score, the lack of BNP data is notable as BNP showed the strongest association with outcome in the derivation study by Probst et al.[7]

ED syncope studies highlight several key methodologic challenges: (1) the case definition is complex and case ascertainment is prone to misclassification (ie, syncope vs fall with the loss of consciousness), which undermines the underlying relationship between predictor and outcome; (2) ED studies generally do not separate syncope subtypes (eg, cardiogenic vs non-cardiogenic) and therefore cannot distinguish the unique relationships between predictor and outcome within individual subtypes; and (3) the measurement of outcome is frequently weakened by the lack of infrastructure for longer term follow-up given the transient doctor–patient relationship in ED care.

A fundamental pitfall with the case definition lies in the uncertainty surrounding the suspected syncope event itself. Did the patient actually lose consciousness? Did the patient lose consciousness and then fall to the ground? Or did the patient fall and consequently lose consciousness? Was there an unwitnessed seizure without the classic tell-tale signs, such as tongue bites, urinary incontinence, or a reported post-ictal state? Studies that use a stricter definition of syncope or exclude cases with any history of seizure or falls or any unwitnessed events will maximize the number of true syncope cases but may reduce the sensitivity of their case definition. Conversely, a less-restrictive case definition that includes "near syncope" or unverified syncope may increase the sensitivity of case finding but risk misclassifying mimic conditions as syncope. The SFSR and FAINT included both "syncope" and "near syncope" cases in their derivation samples, but the CSRS included only "syncope" cases. While the respective roles of imaging[9] and laboratory tests[10] in ED syncope diagnosis continue to be studied, the history remains paramount.

About half of ED syncope cases lack a clear etiology,[11] and up to 25% fail to recall the syncope event.[12] Syncope in older persons is further complicated by a decreased reliability of physical exams and ECG interpretation,[13] by a greater number of potential etiologies,[2] by the challenges of identifying syncope and risk factors among persons with dementia,[14] and by the overlap with geriatric syndromes such as falls.[12,15] For this editorial, we analyzed 2019 National Emergency Medical Services Information System data and found that 12% of patients aged ≥65 years classified by emergency medical services as syncope were also treated for a fall-related injury. Thus, some falls were potentially misclassified as syncope, and vice versa, the rate of which may vary across hospitals and patient age. Such misclassification can impact the prognostic accuracy of syncope decision tools. 2019 National Emergency Medical Services Unformation System (NEMSIS).

Cardiac syncope, which is associated with the most harmful outcomes, accounts for <25% of cases in older persons, whereas syncope of unknown etiology accounted for the majority (≈40%) of cases.[3] Yet, the SFSR, CSRS, and FAINT are predominantly influenced by cardiac risk factors and logically are more applicable to cardiogenic syncope. This raises the question whether decision tools that give equal emphasis to predictors associated with adverse outcomes for non-cardiogenic syncope are more appropriate for older persons.

One remedy to disentangling syncope from mimics is for studies to exclude anyone without a witnessed syncope or those with a high likelihood of mimic events, for example, ≥2 falls in the past year[16] or seizure history. This approach follows the 2014 multidisciplinary ED syncope

research workgroup's recommendation to strengthen the case definition by only selecting confirmed syncope cases.[17] Future studies should also consider developing separate decision tools for different syncope etiologies to the extent possible. In the meantime, the conclusion of Voigt et al that risk stratification of older adult patients with syncope should not rely on clinical prediction rules alone underscores the importance of clinical judgment in ensuring a safe disposition for ED patients with syncope.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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