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Article:

A New Approach to the Diagnosis of Acute Dizziness in Adult Patients. Emergency Medicine Clinics of North America, 2016-11-01, Volume 34, Issue 4, Pages 717-742.

Introduction:

Dizziness is a common complaint in the Emergency Department and has a broad differential diagnosis associated with it including life-threatening conditions. Compared to other complaints, dizzy patients undergo a more thorough workup and are more likely to be admitted for further testing. Furthermore, many CT's are performed on these patients with a very low yield for diagnostic information. This article looks at the differential diagnosis of dizziness in adult patients, reviews the traditional approach and reviews data suggesting a newer approach.

Methods:

National Hospital Ambulatory Medical Survey:

Database of patients seen in a variety of different hospitals over 13 years identified 9,472 patients with dizziness. Of these cases, 50% were diagnosed with a cardiac issue, 33% otovestibular while only 11% neurological diagnoses. The rest of the group received symptom based diagnoses.

Two other retrospective studies also provide relevant data. One study performed in Germany included 475 "dizzy" patients. The initial diagnoses made by neurologists were benign 73% of the time and serious in 27%. However, in follow-up by a different neurologist blinded to the original diagnoses, 44% of the diagnoses were changed. 1 in 7, the diagnosis was changed from benign to serious. The other study noted here included 907 patients over a 3-year period with dizziness and found only serious neurological disease in 5% of the population.

Prior to an article published in 1972 by Drachman and Hart, there was no algorithmic approach to dizziness. Furthermore, this article had many shortcomings and was unable to be generalizable. Furthermore, this article paved the way for the acceptance of "what do you mean by dizzy?" to be the first question asked. The symptom quality approach lacks the ability to help ER physicians distinguish between serious and benign etiologies. The study showed that 60% of participants changed their description of the word dizzy when asked later on. They also found that the responses to the timing and triggers were more consistent. This study suggests that the timing, triggers and associated symptoms should help drive the differential, not what the word "dizzy" means.

Results/Discussion:

ATTEST is the new diagnostic tool to help with identifying benign versus serious causes of dizziness. However, this has not been proved to reduce the number of misdiagnoses. A = associated symptoms, TT = timing and triggers, ES = examination signs and T = additional testing as needed. This article breaks down dizziness into 4 different syndromes, which will be described below.

Acute vestibular syndrome—acute onset of dizziness associated with N/V, gait instability, nystagmus and head-motion intolerance lasting days to months. The most common cause is vestibular neuritis (dizziness only) or labyrinthitis if there is dizziness + hearing loss or tinnitus. The most common dangerous cause is posterior circulation stroke. Authors of this paper state that

PE can make the distinction between these two causes with greater sensitivity than MRI. The PE included 3 components—head impulse, nystagmus and test of skew (HINTS). Two additional components can be added to help with the diagnosis including a general neuro exam in addition to gait testing.

Determining what the results of these tests mean—nystagmus, if anything other than horizontal, suggest central causes; test of skew, a normal response is no vertical correction, otherwise consider central cause, head impulse tests the vestibuloocular reflex. In a normal patient, the response is that the patient's focus stays on the examiner's nose. In order to be helpful, the patient must have acute vestibular syndrome + nystagmus. A positive test indicates peripheral process whereas a negative test suggests more of a central process.

Triggered episodic vestibular syndrome—episodic dizziness triggered by specific movement such as standing and lasts < 1 minute. Benign causes include BPPV and serious one includes orthostatic hypotension (bleeding, sepsis) or CPPV (CNS mimics of BPPV). Because these symptoms are positional, the physician should be able to recreate the symptoms using positional testing such as Dix-Hallpike test. Regarding CPPV, additional symptoms are present that are not included with BPPV—headache, diplopia, abnormal neuro exam, atypical nystagmus or poor response to therapeutic maneuvers such as Epley.

Spontaneous episodic vestibular syndrome—recurrent, spontaneous dizziness that ranges from seconds to days. This evaluation relies many on the history since the symptoms are not reproducible. Most common benign cause is vestibular migraine, additional benign cause is Menieres disease and most serious cause is a TIA.

Chronic vestibular syndrome—chronic dizziness lasting weeks to months. Diagnosis made mostly by history. Benign causes include medication side effects, anxiety, depression and serious conditions include posterior fossa masses.

Bottom line:

Timing, triggers and associated symptoms rather than the descriptor of the word dizzy in conjunction with PE (HINTS, neuro test, gait, etc.) can frequently made the diagnosis. This new paradigm has not been validated but current evidence suggest that this is a possibility in the future.