Case Report

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Attended alone sign revisited in the Indian context

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Introduction

Memory and cognitive complaints amongst the elderly often raise concern for neurodegenerative conditions of memory such as dementia. Alzheimer's disease is the most common dementia worldwide. However, not all memory and cognitive concerns reflect underlying neurological pathology. In some '*patients*', these complaints may stem from everyday factors like stress, anxiety, health related concerns or normal aging. We report the case of a 90-year-old woman who presented with complaint of occasional memory lapses, particularly during stressful moments, without showing any signs of a serious cognitive disorder. She was worried about Alzheimer's disease and consulted a neurologist. Our case also revisits an interesting phenomenon known as the attended alone sign, first highlighted by A.J. Larner, as a diagnostic observation in patients reporting memory complaints when they attended with an informant as opposed to when they attended the office visit alone.

Case report

A 90-year-old female, hereby referred to as Mrs. X, presented with concerns about memory lapses that had developed over the past few months. She reported occasional episodes of forgetting sentences or lines from songs, particularly when stressed or anxious. There were no associated symptoms such as confusion, disorientation, or behavioural changes. She was accompanied by her family members, who reported that they did not feel that she had memory problems. Medical history was relevant for essential hypertension, diabetes mellitus, and hypothyroidism. She had no history of stroke or other neurological conditions. Her medications consisted of antihypertensives, antidiabetic agents, and medications for hypothyroidism and sleep regulation (melatonin).

On neurological examination, she was alert and oriented to person, place, and time. Her memory, including immediate recall, short-term, and long-term memory, was intact. Attention and concentration were normal, and no focal neurological deficits were identified. Cranial nerves II to XII were intact, motor strength was 5/5 in all limbs, and reflexes were within normal limits. Further investigations such as MRI brain and EEG were considered but deferred due to the non-focal findings on examination and a normal mini-mental status evaluation with a score of 28/30. She was reassured that there were no signs to suggest a neurodegenerative condition like dementia and advised to remain in follow up with her primary care physician.

Discussion

Our case revisits an interesting observation wherein, patients, specifically elderly patients, tend to have subjective complaints of memory, attention, cognitive, and concentration problems. Given their age, these problems are often subjectively misconstrued as neurodegenerative diseases such as dementia by the 'patient'. However, when specifically asked attendants or caregivers, do not collaborate these complaints. About two decades ago, this observation was the subject of research by AJ Larner. It was described as an "attended alone" sign, where a patient with concerns of memory impairment usually visits the physician's office alone. In the vast majority of cases the etiology turns out to be anxiety or stress. On the other hand, when caregivers accompany patients and voluntarily provide information about the family member's memory problems, it is more likely that the issue is organic in nature.

Memory lapses and cognitive complaints in elderly individuals should raise concerns for neurodegenerative diseases such as Alzheimer's disease or other forms of dementia. However, as in our case, not all memory concerns are indicative of an underlying pathological condition. The "attended alone" sign was considered as a test for dementia and compared with clinical criteria-based diagnosis. It has been seen that the attended alone sign rules out dementia with a high level of accuracy. However, its significance goes beyond simply ruling out dementia.

The utility of the clinical signs, AA (attended alone) and AW (attended with), has been determined useful as a binary classifier which is quick and easy to categorize in daily clinical practice in diagnosing cognitive impairment.[1] The AA sign has emerged as a valuable clinical marker for the absence of cognitive impairment and also of the presence of cognitive health, as confirmed by various independent studies conducted in general psychology settings.[2] It has also been useful in determining the absence of dementia as confirmed in an independent study based in a general psychology clinic.[3]

Larner's 2020 study, reported to be the largest study seen over a 5-year period, showcased that the sign "AW" (abnormal) is highly sensitive for identifying any cognitive impairment, with sensitivity greater than 0.9, as confirmed by previous independent patient cohorts assessed in this clinic. However, the specificity of AW was relatively low, around 0.5, meaning that it results in a higher rate of false positives. Its positive predictive value (PPV) is also limited, approximately 0.6 for identifying any cognitive impairment. The "AA" (absent) sign served as an indicator of the absence of cognitive impairment, showing a high PPV of greater than 0.9, as corroborated by previous studies involving independent patient cohorts. This high

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PPV makes AA a reliable marker for ruling out cognitive impairment. The study also notes that the frequency of AA is noteworthy in individuals with subjective memory complaints and in younger age groups, which may relate to functional cognitive disorders in these populations.

Soysal et al. examined 529 patients over the age of 60 in a geriatric clinic and found that AW had a sensitivity of 0.92 for detecting cognitive impairment. Similarly, Tyson et al. assessed 275 patients in a general psychology clinic and found AW's sensitivity for detecting dementia to be 0.94. The study having the largest sample size reported to date, provided a significant contribution to understanding the clinical relevance of these signs in different patient populations. Overall, the study suggested that while AW is effective for screening purposes, AA is the more reliable indicator of cognitive health, the AA sign being more helpful in distinguishing between functional cognitive disorders and cognitive impairments caused by underlying diseases. This distinction is crucial for ensuring appropriate diagnosis and treatment. Furthermore, the AA sign has been integrated into diagnostic models that aid clinicians in differentiating between disease-driven cognitive impairments and functional, often reversible, cognitive conditions. That underscores the potential of the AA sign as a key tool in cognitive assessment and differential diagnosis.

Small memory slips when someone's stressed and "tip of the tongue" syndrome, are harmless and can happen in the absence of organic pathology. Signs like "came alone" (AA) and "came with someone" (AW) can tell us a lot about brain health.[1] If the patient comes alone for the appointment, it often means that their brain is healthy especially in the setting of a normal neurological examination and MMSE. The normal brain exam, along with the robust MMSE score, hint that our patient's memory problems are more likely tied to stress or worry than a brain-wasting disease. Memory slips brought on by stress can happen without any organic health issue in older folks. These seniors might notice their mental acuity drop off without an underlying brain disorder. Larner's study reveals that showing up to clinics by oneself (AA sign) is specific in ruling out major brain function problems.[1,4,5]

Patients presenting with complaints about memory and cognitive complaints require standard psychiatric and neurological history and examination. A meta-analysis found that older people (with a mean age of 71.6 years) with subjective memory complaints (SMCs) are twice as likely to develop dementia as those without SMCs over an average follow-up period of nearly 5 years.[6–8]

Compounded with other mental stressors, psychological aspects play a big role in cognitive decline in older adults. Research shows that the cognitive effects of stress are comparable to early signs of cognitive decline; however, they can almost always be managed and often reversed if proper and timely interventions are made. There should be an increased focus on non-pharmacological methods. Stress reduction techniques, cognitive stimulation exercises and mindfulness activities have been identified to be critical components for preservation of elderly brain health outside of pharmaceutical solutions. This is correlated by population-level research detailing why holistic approaches are so crucial when it comes to keeping our neurons firing well into old age.

Mrs. X's memory lapses were notably episodic, occurring primarily in moments of stress and anxiety, rather than a consistent or progressive decline. This pattern suggests a cognitive response to emotional states rather than an underlying neurodegenerative disease process. Stress and anxiety are well-documented contributors to temporary memory impairment, particularly in older adults, as they affect the brain's ability to encode, store, and retrieve information. Studies demonstrate that increases in cortisol production in stressful situations impair hippocampus function important for performing memory functions.[9] Importantly, this understanding allows us to draw the conclusion that our patient's manifestations were explained by the effects of psychological factors rather than a neurodegenerative process.

While there has been research done on the clinical utility of the attended alone sign in the West, its validation in the Indian context might prove to be tricky. India is a collectivistic society wherein the elderly are revered and family values upheld with the highest of regard. Taking care of the elderly is seen as a duty and gesture of respect by family members. Hospice and old age memory homes are often looked down upon by families that value togetherness. In this context, elderly people rarely visit healthcare setups alone. They are often accompanied by their spouse, children, or other caregivers. Another reason for this could also be the low health literacy among Indian elderly, therefore warranting the need for an attendant. It has been observed that the few times, older Indian adults do visit the neurologist alone, their list of complaints rarely include memory problems alone. Meanwhile, much like Mrs. X, Indian elderly accompanied by family members to a doctor's visit do report subjective complaints of memory issues, but for them, informant report confirming or denying these issues is readily available. This raises the question whether the attended alone sign is a culturally biased phenomenon.

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None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

Disclosures

KC, DP and NKS report no relevant disclosures. The views expressed by the authors are their own and do not necessarily reflect the views of the institutions and organizations which the authors serve. All authors share the first author status.

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