Disequilibrium and Risk of Falling in the Elderly is a Priority for Health Services

Falls may cause a great deterioration in health among older adults because they lead to the loss of independence, worsening in quality of life and premature mortality. Epidemiological data showed a huge impact of falls and its consequences on morbidity and mortality. A large scale surveillance survey showed that approximately 30% of older adults fall at least once over the course of a year, resulting in an estimated 29.0 million falls and 7.0 million fall injuries in the United States [1]. Fall-related injuries (e.g., hip fractures and head injury) contribute to increasing care costs for older adults.

2.8 million of these patients were treated in emergency departments and approximately 800,000 of these individuals needed hospitalization. Of those who fell, 37.5% reported at least one fall that required medical treatment or restricted activity for at least 1 day. Approximately 27,000 older adults died because of falls during that same period [1]. In the elderly, the percentage of falls increases with age, 26.7% (65 to 74 years old), 29.8% (75 to 84 years old), 36.5% (greater than or equal to 85 years old). Within a year, more than 30% of persons living in their own homes and more than 50% of persons living in care homes experience at least one fall, even without experiencing dizziness [2]. Generally, around 30% of older individuals fall at least once a year, and 15% fall twice or more. In consideration of falls in older persons, another issue that plays a key role is the fear of falling. It has been estimated that the prevalence of fear of falling in older individuals is near 65% among non-fallers but reaches 90% among fallers. Fear of falling assumes a concern about falling, loss of balance, loss of confidence and contribute to restricted activity as a strategy to reduce the perceived risk of subsequent falls [3].

Moreover, several authors indicated that fear of falling could predict the occurrence of falls among older persons in the future [4].

The prevention of falls among the elderly is one important public health issue in our aging society. One of the main determining factors in the risk of falling in the elderly population is represented by the aging of the balance system, which exposes these people to a particular vulnerability. Aging in vestibular and hearing structures starts early in life with the loss of hair cells in the inner ear and other progressive structural changes, but vestibular function usually is maintained without any particular damage up to advanced ages [5]. However, dizziness and imbalance are common in the elderly and have a substantial impact on the quality of life. The 1-year prevalence for significant dizziness that prompts a visit to the doctor and restricts everyday life activities in persons older than 60 is 20%; in those older than 70, it is 30%, and older than 80 reaches 50% [6]. Moreover, some pathological factors, such as Benign Paroxysmal Positional Vertigo (BPPV) are more represented in the elderly [7].

The recent definition of Presbivestibolopathy (PVP) from the Classification Committee of the Bárány Society, one of the most important scientific societies for balance issues, suggests increasing attention to this important aspect, which increases the frailty of the elderly subject. PVP occurs along with other age-related deficits, like visual impairment, altered proprioception, and aging of cortical, cerebellar and extrapyramidal function, which also contribute and, in some cases, might be required for the manifestation of the symptoms of unsteadiness, gait disturbance, and falls [8]. Susceptibility to falls results from an interaction of multiple factors: reduced efficacy of postural responses, diminished sensory acuity, impaired musculoskeletal and neuromuscular systems, deconditioning associated with inactivity, depression, and low balance self-efficacy, polypharmacy, and a series of environmental factors [9, 10]. So, synergistic multifactorials act on the elderly's imbalance and on the risk of falling, in particular, nearly half of patients may present multiple causes of dizziness. Lastly, it is important to consider the documented effect of aging of the vestibular system on cognitive abilities in the elderly. As a result, this multifactorial complexity makes challenging the identification of those more at risk of falling.

The high prevalence, morbidity, and mortality, the high use of individual and social resources, the intrinsic complexity of the pathology, make it a major public health problem. The question remains open on the opportunity of screening procedures for the identification of potential subjects at risk of falling and on the possibility of stimulating some behavioral models to prevent falls, even in apparently protected environments. In this regard, some Authors indicate the usefulness of different tools within defined communities [11]. Nevertheless, falls are multifactorial; a single instrument, a single measure, cannot be considered a sufficient instrument to identify subjects at risk. The usable tools include history questions, self-report measure, or performance-based measures. Unfortunately, there is limited information on which these tools, or a combination of measures, is capable of predicting a future fall. From experiences in literature, the Berg Balance Scale score, the Timed Up and Go times, and the 5 times sit-to-stand times are currently the most evidence-supported tests to determine individual risk of future falls [12].

Our opinion is that even outside protected communities that have shown a higher incidence of falls, greater attention should be paid to those at risk. In everyday life, outside protected communities, risk of falling may be identified with anamnestic data and tests that can be easily administered even by non-specialized personnel. Those considered at increased risk of falling will be addressed for further assessment [13]. Then, since the risk of falling finds one of its most important causes precisely in the aging process of the vestibular system, as described above, the role of the assessment of the balance system is strategic. Of
course, this cannot be the first option, but it must be reserved for subjects identified by simple and inexpensive screening procedures. We believe that even a simple approach, such as STEADI [13] questionnaire can be an effective tool to start investigations or to evaluate the risk of falls. Affirmative response to any of the questions can be used to identify those who need a more comprehensive risk assessment.

The last question is “great attention, great results?” The latest epidemiological studies show a reduction of cases over the years, in Europe [14], although with considerable variation among the different countries. This leads us to solicit further attention to this problem in order to obtain better results through validated and shared tools. In summary, the multidisciplinary approach strategy is essential for these patients. Consequently, we recommend the implementation of protocols shared between the clinicians involved in the problem, renewing the importance of the figure of the expert in balance problems as a constant ally of the geriatrician in the management strategy for the patients in this age of life.

REFERENCES


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