

Main Article

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Abstract

Background. There have been many studies linking falls and benign paroxysmal positional vertigo. This article collates those studies, and demonstrates how a community falls service fast-tracked patients with benign paroxysmal positional vertigo by implementing validated screening tools and recognised guidance.

Objective. This study aimed to explore whether routine screening of referrals to a community falls service can identify those with benign paroxysmal positional vertigo, for fast-tracked management.

Methods. Patients referred to a community falls service were screened for possible benign paroxysmal positional vertigo using the Dizziness Handicap Inventory, and triaged to a physiotherapy-led falls and benign paroxysmal positional vertigo assessment service.

Results. Twenty-five per cent of patients were fast-tracked to a falls and benign paroxysmal positional vertigo assessment service for management. The community falls service waiting list reduced by 25 per cent.

Conclusion. The data support incorporating assessment and treatment of benign paroxysmal positional vertigo into routine practice within all falls services.

Introduction

Falls and fall-related injuries are a common and serious problem for older people. People aged 65 years and older have the highest risk of falling, with 30 per cent of people older than 65 years and 50 per cent of people older than 80 years falling at least once a year.¹

The human cost of falling includes distress, pain, injury, loss of confidence, loss of independence and mortality. Falling also affects the family members and carers of people who fall. Falls are estimated to cost the National Health Service (NHS) more than £2.3 billion per year. Therefore, falling has an impact on quality of life, health and healthcare costs.¹

The National Institute for Health and Care Excellence (NICE)¹ identifies the following as a comprehensive, multifactorial assessment for those who have fallen or are at risk of falling: identification of falls history; assessment of gait, balance and mobility, and muscle weakness; assessment of osteoporosis risk; assessment of the older person's perceived functional ability and fear relating to falling; assessment of visual impairment; assessment of cognitive and neurological examination findings; assessment of urinary incontinence; assessment of home hazards; and cardiovascular examination and medication review.

Notably absent from this list is any mention of dizziness and/or vestibular dysfunction. Pothula *et al.*² and Oghalai *et al.*³ clearly identified that 80 per cent of people presenting to an accident and emergency department with an unexplained fall have symptoms of vestibular dysfunction. One could rationalise that assessing balance, gait and neurological examination would encompass the vestibular system. However, none of the most commonly used tests in an older persons' falls clinic, which includes the Romberg, the Tinetti, and the Timed Up and Go tests, have been specifically or sufficiently studied in people with vestibular impairment to support their sole use in vestibular assessment.⁴ The Timed Up and Go test and the Dynamic Gait Index have been shown to predict increased fall risk in those with vestibular dysfunction, but do not predict vestibular dysfunction in those with higher fall risks.⁵

Ageing is associated with degradation of the vestibular apparatus, including degeneration of otoconia, degeneration of hair cells, loss of vestibular afferents, and a reduction in the number of hair cells in the vestibular nuclei.⁶ As such, the older adult may not experience or report rotational vertigo in the same way a younger person may.^{6–8} Often the report will be of a vague imbalance or dizziness, a veering of the gait, and/or generalised disproportionate fatigue. In fact, we know 50 per cent of those with benign paroxysmal positional vertigo (BPPV) will not report vertigo, instead identifying issues with balance and difficulty with tasks.^{6–8} Lawson and colleagues⁹ found that older individuals with undiagnosed BPPV were more commonly referred to falls services, rather than

specialist ENT services, because of the likelihood of multiple aetiologies for the falls and dizziness.⁹ They found that the high prevalence of atypical vestibular impairment in older adults required the inclusion of bedside vestibular screening within falls clinics to ensure appropriate assessment and treatment, supporting Furman and colleagues' guidance that a Dix–Hallpike manoeuvre should be performed on all patients aged over 65 years.^{6,9,10}

Benign paroxysmal positional vertigo is becoming increasingly recognised as the commonest cause of vertiginous dizziness and imbalance. The prevalence of BPPV increases with age such that it is seven times higher in those aged 65 years and over, relative to those aged 15–40 years.¹¹ Vestibular dysfunction significantly contributes to falls in the elderly,¹¹ with falls and related injuries (e.g. fractures, joint dislocations and head injury) being rated as the sixth highest cause of death.¹²

Although large-scale, randomised, controlled trials have not been delivered yet to influence NICE guidance,¹ the World Falls Guideline has included vestibular disorders within its scope, encouraging investigative questioning.¹³ There are many smaller-scale studies demonstrating the significance of specific vestibular screening in the older population. Liston and colleagues¹⁴ found that 80 per cent of those presenting to a falls clinic had unidentified vestibular impairment that was missed in usual falls clinic screening. Some were identified as having BPPV; however, the study also highlighted imbalance and vestibular deficits, with gaze and/or postural instability, recognising the more insidious, age-related degradation of the balance system.⁷

Vertigo and dizziness are experienced by 30 per cent of those aged over 60 years, increasing to 85 per cent in those aged over 80 years.⁷ In addition, those with vestibular dysfunction and self-reported dizziness are 12 times more likely to fall without targeted vestibular assessment.¹⁵ Hence, the signs for peripheral and central vestibular dysfunction can be missed and the opportunity to provide advantageous intervention wasted.

The inclusion of routine testing for BPPV in falls clinics and for those at risk of falling is well supported by the evidence as being both clinically and cost-effective. Testing and treatment require no specialist equipment, no specific environment, and can be performed by any suitably trained clinician.¹⁶

Materials and methods

A community falls service associated with an acute NHS Trust in the North East of England, serving a catchment area of approximately 150 000 people, started screening referrals for potential cases of BPPV. The screening tool used was the five-question Dizziness Handicap Inventory.¹⁷ In the six-month period from 1 January 2022 to 30 June 2022, there were 404 referrals for fallers received. Of those, 109 were identified through screening as likely to have BPPV and were seen in the rapid-access BPPV clinic (within two weeks). A total of 104 patients were found to have BPPV during positional testing. They were treated and followed up by telephone 72 hours later.

Results

Twenty-five per cent of referred patients were able to be seen within two weeks, and discharged after one or two consultations. The community falls service waiting list was reduced by 25 per cent ($n = 109$).

Discussion

Performing positional testing on all patients aged over 65 years who report imbalance or vague dizziness⁶ is a 'gold standard' safety net approach that would identify and facilitate timely, effective treatment for those suffering this common, potentially high-risk yet easily treatable condition. Current service limitations and challenges may not provide the environment to test every patient. However, investigative questioning, as recommended by Montero-Odasso *et al.*,¹³ could be completed in any environment. This approach would identify those patients who have changed activities to reduce symptoms; for example, sleeping with several pillows to avoid dizziness, standing back to look for items up at a height, and/or moving their entire bodies rather than just their heads and necks.

Further validity and confidence in identifying activities that may induce dizziness can be supported by completing the five-question Dizziness Handicap Inventory.¹⁷ This is a quick and reliable method to identify BPPV; it can be completed in any environment and used to facilitate pathways of rapid-access care, as seen in this service model.

- There exists a well-documented link between falls and benign paroxysmal positional vertigo (BPPV) in older adults
- Screening of community falls service waiting list patients with the Dizziness Handicap Inventory can identify those with BPPV
- Patients on the falls service waiting list can be fast-tracked, assessed and managed in a timelier manner
- Screening for and redirecting referred patients presenting with BPPV can reduce the community falls waiting list by 25 per cent

Access to specialist clinics and a therapist trained in vestibular assessment and treatment can provide a safer environment for this vulnerable population group. Usual manoeuvres can be modified, as described by Lee *et al.*,¹⁸ to accommodate the older body. In addition, alternatives such as the Semont manoeuvre may be used, which can be better tolerated by those with thoracic or cervical spinal age-related changes. By allowing extra time for the treatment session, clinics provide sufficient time for patients to recover following repositioning manoeuvres. The session can also be used to identify risk factors for recurrence that may not have been previously discussed, such as vitamin D deficiency and poorly controlled type II diabetes,¹⁹ both identified to be represented in higher numbers in those with BPPV. A recent systematic review and meta-analysis²⁰ supports the recommendation that all fallers should be screened and, if found to have BPPV, treated with effective manoeuvres. Additional rehabilitation may be necessary to improve walking, with head movements and visual targeting to further reduce the risk of falling.

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Competing interests. None declared

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