



The Ménière's Years

Part 11

Dealing with Drop Attacks!

By

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Tumarkin Otolithic Crisis

I've noticed on several Ménière's forums in recent months an increase in the number of people describing their 'drop attacks.' Also known as *Tumarkin otolithic crisis*, these attacks come on suddenly and without warning. The effect of feeling like someone is pushing you hard while you are conscious can be frightening and potentially injurious, so let's see what we can learn about them.

First, what is a 'drop attack?'

Drop attacks are sudden falls without warning that can occur without loss of consciousness or neurologic symptoms as a rare manifestation of Meniere disease. Patients typically describe a sensation of being pushed, thrown, or knocked to the ground or have a sudden illusion of environmental tilt causing the fall. This video shows a drop attack (also sometimes called an otolithic crisis, Tumarkin drop attack, or drop vestibular attack) in a 47-year-old man with Meniere disease manifest as longstanding recurrent vertigo, fluctuating hearing loss, and tinnitus in his left ear. Pathophysiology is thought to be associated with sudden changes of utricle or saccule function or by sudden stimulation and mechanical

deformation caused by pressure differentials within the inner ear or by a rapid change in electrolyte levels in the endolymph and perilymph. [American Medical Association](#)

Second, what percentage of Ménière's patients experience 'drop attacks?'

The frequency of VDA in MD leading to a fall to the ground varied from 3 to 19% in 9 hospital-based studies. In studies where a less restrictive definition of VDA included attacks with postural perturbation, tripping and near-to-fall situations was used the prevalence ranged from 50 to 72%. The pooled frequency of VDA leading to fall to the ground was 8% (95% CI 4 to 12%) in hospital-based studies. In these studies, VDA often occurred in severe and advanced MD whereas in cohort studies such connection was not found. Co-morbidity with migraine increased the likelihood of VDA occurrence in MD. In 3 studies syncope was recorded in connection to VDA with falls. In terms of clinical manifestation, audiometry, MRI, vestibular evoked muscle response measures indicated endolymphatic hydrops with involvement of the otolith system. The hearing loss was more pronounced, and balance was worse in MD patients with VDA than in those without. Injury

associated with VDA was reported in only one study. [NIH National Library of Medicine](#)

Third, what is the cause of 'drop attacks?'

In most instances (64%), the cause of the drop attack is never definitively established (Meissner et al, 1986). About 12% are due to the heart (a variant of syncope), 8% due to poor circulation to the brain, 8% due to problems with both the heart and brain, 7% due to seizures, 5% due to the inner ear (Menieres disease -- called the otolithic crisis of Tumarkin), and 1%, due to psychological problems. Rarely, drop attacks are exaggerated startle reactions.

In our large experience in a dizzy clinic setting, most drop attacks are have been due to Meniere's disease, presumably because of the large number of patients that we follow with this condition (i.e. more than 1000 in our database). Then patients describe a sensation as if they are suddenly in free fall, they desperately try to right themselves, and end up on the floor. Variants include "invisible hands", or "shoves" with nobody around to push. Injuries are very common. (the term "invisible hand of the market" was used by Adam Smith -- this

is not the same invisible hand of course). [Timothy C. Hain, M.D.](#)

Fourth, what do Ménière's patients experience when they have a 'drop attack?'

Drop attacks, known as Tumarkin's otolithic crisis, are when a person falls to the ground with no warning. The person remains awake and does not lose consciousness. Drop attacks are sometimes experienced in the later stages of Ménière's disease. They do not affect everyone and some people will not experience drop attacks. A drop attack feels as if you are being pushed violently and suddenly, causing you to fall. Symptoms are usually gone as quickly as they appear, and you can get up straight away and carry on with whatever you were doing (unless you get a drop attack at the same time as an acute attack of vertigo). During these attacks, the hair cells on your otoliths are suddenly activated, causing your balance to be severely disrupted. Experts do not know how or why this happens. [Meniere's Society](#)

Many people in Ménière's forums say they have experienced 'violent episodes' of spinning vertigo after a drop attack, so that would apparently describe the 'acute attack of vertigo' mentioned by the Meniere's Society quote above.

Key points

[[Courtesy: MedLink Neurology](#)]

- Drop attacks are sudden falls without loss of consciousness that are not precipitated by a specific stimulus, occur with abrupt onset and without warning, and are followed by a rapid return to baseline.
- The term “drop attack” has subsequently been used to encompass a wide variety of sudden falls with or without existing conditions known to increase the risk of falls, with or without provocation by a specific stimulus, with or without loss of consciousness, and with or without significant baseline abnormalities.
- A range of localizations for drop attacks is possible, but lower brainstem or spinal cord structures are usually implicated.
- Drop attacks generally indicate transient impairment of bilateral central nervous system structures involved in maintenance of postural muscle tone and balance.
- Tumarkin otolithic catastrophes (or crises) are drop attacks without associated autonomic or neurologic symptoms in patients with severe vestibular disease, usually due to Ménière disease.

Can I Prevent A Drop Attack?

Preventing a 'drop attack' is difficult to do because the attacks happen suddenly and without warning. However, Ménière's patients may be able to reduce the potential of 'drop attacks' by managing the risk factors associated with the disease. That includes following your doctor's directions about managing Ménière's, including lifestyle modifications and medications. Vestibular Rehabilitation Therapy (VRT) may also help because therapists work with Ménière's patients to improve their balance, help the brain compensate for balance problems, and lessen the chance of falling. Some specialists also recommend surgery in more severe cases of Ménière's (e.g. Endolymphatic sac decompression; Labyrinthectomy) to lessen the chances of 'drop attacks.'

If you find that you are prone to 'drop attacks,' you may want to consider ways to protect yourself from serious injury. That can include the use of walking aids (e.g. cane, walker, wheelchair), the use of 'grab bars' in various rooms of your house (e.g. bathroom, shower, tub, bedroom, kitchen, hallway), removing trip hazards at home (e.g. throw rugs, loose carpeting), making other modifications to your home to increase safety in case of a sudden fall, and in

extreme cases wearing protective gear to protect your head, face, and knees (e.g. helmet; knee pads). Older people may also want to wear protective gear for their hips (e.g. [hip protectors](#)).

Other Resources

[National Library of Medicine](#)

[JAMA Neurology](#)

[Cambridge DB](#)

[Hearing & Health Technology Matters](#)

[Pub Med](#)

[Pub Med Central](#)

[Biology Insights](#)

[Science Direct](#)

[ENT & Audiology News](#)

[National Center for Biotechnology Information](#)

[Clinical Features and Management of Drop Attacks in Menière's Disease. Special Emphasis on the Possible Occurrence of Vertigo After the Drop Attacks](#)

[Management of drop attacks in Ménière's disease: a systematic literature review](#) (The Journal of Laryngology & Otology)

“... rejoicing in hope, patient in tribulation, continuing steadfastly in prayer.” Romans 12:12

Here's to hope!

“... rejoicing in hope, patient in tribulation, continuing steadfastly in prayer.” Romans 12:12