

Allergy and dizziness

Prof Louis Murray Hofmeyr, Ear, Nose and Throat Surgeon, University of Pretoria

Although allergies and dizziness are very common, little is known of their co-existence and relationship to each other. Allergy associated dizziness (AAD) refers to vertigo and disequilibrium.

AAD is mediated primarily by the allergic involvement of the vestibular system.

In general symptoms of allergic disease, side effects of medication used in the management of, and the anaphylactic reactions may all include nonspecific dizziness and lightheadedness of various severity.

The end organ targeted by the allergic response may include not only the vestibular system but also the other systems responsible for image stabilisation, spatial orientation and balance control.

RISE IN PREVALENCE OF ALLERGIC DISEASE

The rise in prevalence of allergic diseases has continued in the industrialised world for more than 50 years, affecting up to 30% of the population. Sensitisation rates to one or more common allergens among school children are

currently approaching 50%. Of food allergic children, peanut is the most prevalent allergen, followed by milk and then shellfish.

VERTIGO AND DIZZINESS

Dizziness is very common in the general population. In the US it is the third most common complaint in adult patients presenting to a general practitioner after headache and lower back pain.

Vertigo and dizziness lead to imbalance and falls with increased morbidity, especially in the elderly. Allergic children are prone to eustachian tube dysfunction, otitis media and chronic effusion (glue ear). Although hearing loss is very common, up to 50% of children with glue ear may also have subtle balance problems. If antibiotics does not resolve the glue ear myringotomy and grommet placement may be necessary.

A child who stays dizzy or have a persistent balance problem should have a magnetic resonance imaging scan, to exclude a posterior fossa tumour. The endolymphatic sac and duct of the inner ear is considered to be the immunoactive part that secretes immunoglobulins and immunocompetent cells.

It may act as a direct or indirect target organ of mediator released from the systemic inhalant or food reactions. Endolymphatic hydrops is considered by many to be the pathology of Meniere's disease (MD) and can occur if a dysfunctional endolymphatic sac impairs the absorbing of endolymph.

Duke was the first to report on a suspected allergic etiology for MD in 1923. The association between allergy and MD is well established in the literature. MD consists of vertigo, fluctuating hearing loss, tinnitus and fullness of the ear. 150 years after its first description, the etiology of MD stays elusive.

In 1966 Derebery suggested that 30% of patients with MD have food allergy. Although it is estimated that MD affects only 200 out of 200 000 people it is a condition often diagnosed (and over diagnosed) in a patient presenting with vertigo after the exclusion of more serious cardiovascular and neurological causes.

In numerous studies the severity of vertigo, tinnitus, and unsteadiness decreased and the frequency of vertigo and frequency and unsteadiness, improved in patients with both MD and allergy who received immunotherapy and/



Vertigo and dizziness lead to imbalance and falls

or dietary avoidance of reactive food allergens.

Migraine has a prevalence of 14% in the population. The existing medical literature supports a correlation between allergy and migraine. Vestibular migraine is a form of migraine that presents with dizziness and recurrent vertigo spells without hearing loss. Headaches do not always accompany the spells.

The reason for the vertigo is not known. The management includes dietary advice, as certain foods are known to trigger symptoms. Food allergy may play a role but the female predominance in vestibular migraine stay difficult to explain.

The question is in whom to suspect allergy as the primary cause of dizziness and vertigo. The possibility should be considered in all dizzy patients with a history of seasonal or weather related symptoms. Also consider it in those with other allergic symptoms or allergy history, atopic dermatitis, asthma, allergic rhinosinusitis, bilateral symptoms, or those refractory to usual medical therapy.

Lightheadedness and dizziness are common symptoms of food allergies and can occur hours after ingestion, making the link between allergy and the dizzy spell difficult. Allergy is unlikely responsible for benign paroxysmal positional vertigo (BPPV).

There is no specific vestibular test that is diagnostic of allergy related vestibular involvement. Allergy associated dizziness is a diagnosis made by exclusion of other known vestibular disorders such as vestibular neuritis and BPPV.

TESTING AND TREATMENT

Skin prick testing and Immunocap® specific IgE

blood testing may help to identify allergens, especially in Immunoglobulin E (IgE) mediated type 1 hypersensitivity reactions. Non-mediated food allergy is more of a challenge that may require a food challenge.

The management of allergy includes avoidance of the trigger, anti-histamines, vasoconstrictors, corticosteroids, mast cell stabilisers and desensitisation. Subcutaneous or sublingual immunotherapy can establish permanent improvement by modifying the immune response.

Many patients are treated for vertigo every

day. Vertigo however is not a diagnosis but merely a symptom that describes a certain form of rotational dizziness. Be it as it may, it is well managed with lifestyle modification, medication, surgery and vestibular rehabilitation.

It is interesting to note that it would appear that the most effective treatment for allergic endolymphatic hydrops is the prevention of mast cell degranulation.

Clinically, the antihistamine treatments commonly and effectively used as an adjunct to lessen the clinical severity of vertigo in MD, do not seem to improve the endolymphatic

hydrops. They also do not block the effects of the other inflammatory mediators such as serotonin and bradykinin that are also released with mast cell degranulation, implying the importance of histamine. Exactly how is debated.

Betahistine is often prescribed for MD and care should be taken not to combine it with a central acting anti histamine or anti depressant with central antihistamine properties This may render the central histamine effect of betahistine ineffective.

References available on request. [SF](#)

Questions

| | | | |
|---|---------------------------------|-----------------|----------------------|
| SURNAME | <input type="text"/> | INITIALS | <input type="text"/> |
| YOUR HPCSA REGISTRATION NO. | <input type="text" value="MP"/> | | |
| Address: | <input type="text"/> | | |
| Telephone: | <input type="text"/> | Fax: | <input type="text"/> |
| E-mail: | <input type="text"/> | | |
| <input type="radio"/> YES! I would like to receive <i>The Specialist Forum</i> for FREE monthly. | | | |

Questions True or false:

- | | |
|---|---|
| <p>1 Allergy associated dizziness refers to vertigo and disequilibrium. <input type="radio"/> T <input type="radio"/> F</p> <p>2 The end organ targeted by the allergic response only includes the vestibular system. <input type="radio"/> T <input type="radio"/> F</p> <p>3 Sensitisation rates to one or more common allergens among school children are currently approaching 80%. <input type="radio"/> T <input type="radio"/> F</p> <p>4 Allergic adults are prone to eustachian tube dysfunction, otitis media and chronic effusion (glue ear). <input type="radio"/> T <input type="radio"/> F</p> <p>5 A child who stays dizzy or have a persistent balance problem should have a magnetic resonance imaging scan, to exclude a posterior fossa tumour. <input type="radio"/> T <input type="radio"/> F</p> | <p>6 If antibiotics does not resolve the glue ear myringotomy, grommet placement may be necessary. <input type="radio"/> T <input type="radio"/> F</p> <p>7 Meniere's disease consists of vertigo, fluctuating hearing loss, tinnitus and fullness of the ear. <input type="radio"/> T <input type="radio"/> F</p> <p>8 Vestibular migraine is a form of migraine that presents with dizziness and recurrent vertigo spells with hearing loss. <input type="radio"/> T <input type="radio"/> F</p> <p>9 Food allergy may play a role but the female predominance in vestibular migraine stay difficult to explain. <input type="radio"/> T <input type="radio"/> F</p> <p>10 Vertigo describes a certain form of rotational dizziness. <input type="radio"/> T <input type="radio"/> F</p> |
|---|---|

This is to state that I have participated in the CPD-approved programme and that these are my own answers.

Signature

Date

INSTRUCTIONS:

To complete the questionnaire online, go to www.specialistforum.co.za and click on the CPD articles button. Click on the article on the right to access the online questionnaire. Alternatively, complete the questionnaire manually and submit it via e-mail to john.woodford@newmediapub.co.za or fax it through to +270862702680. Your certificate will be send to you within 10-15 working days.