Three case studies

Case history: Syncope of unknown origin

History

A 59 year old man consults with you describing a history of recurrent syncope. He reports seven episodes of syncope in the previous 12 months with rapid onset, no warning signs and no apparent triggers. He has no significant past medical history and takes no medications.

Examination

Cardiovascular examination is normal.

What would you do next?

You should advise him that he must not drive, and he must notify the DVLA. He requires further evaluation with an ECG (which is normal). He should also be referred to a cardiologist.

Outcome

His cardiologist organises further tests including carotid sinus massage, tilt table testing and echocardiogram which are all normal. He receives an insertable cardiac monitor (ICM), and 9 months later experiences a syncopal episode associated with a recorded 21 second asystolic pause. His diagnosis is asystolic vasovagal syncope. Lifestyle changes do not improve his symptoms as he has no warning an no clear triggers. He subsequently has a pacemaker fitted with no further episodes of syncope.

Learning Points

In cases of recurrent syncope with no evidence of structural heart disease on initial assessment and normal ECG, ICMs can provide evidence of the underlying cause.

Syncope with multiple causes

History

An 80 year old lady awakes in the night needing to pass urine. She stands up from her bed, feels hot and dizzy, takes a few steps then collapses on the floor. Her husband hears her fall and finds her unconscious. She regains consciousness quickly but has no recollection of having fainted and assumes she has tripped. An ambulance is summoned, and she is transported to A+E. She is found to have suffered a Colles fracture, which is reduced and immobilised before she is discharged the following morning.

10 days later she faints again when she rises to go to the toilet in the night. Her husband helps her back to bed and the following day requests a visit from you, the GP. You note a history of hypertension, type 2 diabetes mellitus and overactive bladder. She is taking 12 different medications, notably amitriptyline for her arthritic back and to help her sleep, oxybutynin for incontinence, and 3 antihypertensive drugs (amlodipine, ramipril and furosemide). She reports feeling intermittently dizzy in the day during the past months.

Examination

Cardiovascular examination reveals a heart rate of 86 bpm and BP of 160/95 whilst sitting, which falls to 120/60 with associated dizziness after 2 minutes of standing.

Which investigations should be performed in primary care?

An ECG should be performed and in this case shows borderline left ventricular hypertrophy. Blood tests may be useful in the presence of polypharmacy to check her electrolytes as she is taking a diuretic and ACE inhibitor.

What would you do next?

The key feature in this case is polypharmacy in the context of frailty contributing to syncope. General advice should be given regarding fluid intake and postural manoeuvres to prevent fainting, such as rising from bed slowly and tensing arm and leg muscles before standing (which may offer less benefit in the elderly compared with young people due to the lack of muscle bulk and power). A medication review is important, and you stop her amitriptyline, oxybutynin and furosemide. You establish that she does not drive.

Outcome

You review her 4 weeks later and she reports no further blackouts and her bladder symptoms have improved since discontinuing the diuretic.

Learning points

- Syncope in the elderly is often multifactorial. Causes include impaired autoregulation of blood pressure due to age, polypharmacy, dehydration and comorbidities (e.g. autonomic neuropathy of diabetes).
- Culprit drugs include antihypertensives, diuretics, anticholinergics and tricyclic antidepressants.
- Syncope can masquerade as falls, especially in older people, as patients often have amnesia for syncope.
- A combination of hypertension and orthostatic hypotension can be difficult to manage.

Unexplained Falls

History

A 78 year old man consults with you with a history of recurrent falls. He does not recall the events surrounding the falls and has been found on the floor by his carers at home on 3 occasions. He has a past medical history of prostate cancer and is not taking any medication.

Examination

Cardiovascular examination is normal and postural blood pressure measurements show no significant drop.

What would you do next?

He is further investigated with an ECG, FBC and U+E, which are all normal. You refer him to the local falls clinic.

Outcome

He is reviewed by a care of the elderly consultant who organises carotid sinus massage, echocardiogram and Holter monitoring which are all normal. He undergoes tilt table testing and after 6 minutes he experiences a syncopal episode, with a heart rate and blood pressure drop. He recognises this to be similar to when he has his falls. He is given advice regarding postural counter-manoeuvres, adequate fluid intake and a healthy diet, refraining from refined carbohydrates to avoiding post-prandial hypotension. There is a reduction in the frequency of syncopal episodes; he is able to recognise presyncope symptoms and he takes avertive action (such as sitting or lying down promptly) to avoid loss of consciousness.

Learning Points

- Vasovagal syncope with amnesia is a cause of recurrent "unexplained" falls in older patients.
- Other common causes of syncope in older patients include orthostatic hypotension and carotid sinus syndrome.
- Holter monitoring is often requested to investigate syncope in secondary care but is unlikely to identify the cause of syncope unless the episodes are extremely frequent.