Unusual association of diseases/symptoms

Neurocardiogenic syncope: a rare presentation of pharyngeal lymphoma

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Summary

Syncope is a common symptom of patients attending emergency departments, yet presents significant diagnostic and therapeutic challenges. We present a rare cause of recurrent vasovagal syncope with predominant cardioinhibitory response due to lymphoma surrounding and compressing the carotid artery treated successfully with radiotherapy.

BACKGROUND

Syncope is a common symptom of patients attending emergency departments, yet presents significant diagnostic and therapeutic challenges.

CASE PRESENTATION

A 71-year-old man was admitted with recurrent dizziness, collapse, left facial pain and ipsilateral hearing loss following 3 weeks of presyncopal symptoms that developed after dental extraction. He was otherwise fit and well on no regular medications. He had a history of diffuse non-Hodgkin's lymphoma in remission. During his admission he had multiple episodes of collapse with transient loss of consciousness for approximately 1 min, invariably associated with profound nausea and vomiting. During these episodes, sinus bradycardia was captured on

telemetry with heart rates between 30 and 40/min and blood pressure was found to fall to 90/70 mm Hg.

INVESTIGATIONS

His resting ECG demonstrated normal sinus rhythm with left axis deviation. Electrolytes were normal. In view of his previous diagnosis of lymphoma and facial pain and swelling, he underwent fine cut CT scan of his head and neck which demonstrated a 6 cm mass in the left nasopharynx encasing the internal jugular vein and internal carotid artery (figure 1).

DIFFERENTIAL DIAGNOSIS

Differential diagnoses of squamous cell carcinoma, nasopharyngeal carcinoma and metastasis involving the retro parapharyngeal space were considered. In view of the patient's history, recurrent lymphoma was suspected.

Figure 1 Axial CT scan at the level of nasopharynx showing a tumour engulfing the carotid artery and jugular vein (arrowed).

Figure 2 Follow-up CT scan showing regression of previously imaged neck mass.

TREATMENT

Biopsy confirmed recurrent B cell lymphoma. The patient was therefore given dexamethasone and referred for chemo/radiotherapy. He responded to treatment within a few days and his symptoms subsided with no further episodes of collapse.

OUTCOME AND FOLLOW-UP

Subsequent CT scan showed near complete regression of the pharyngeal mass and he remains well (figure 2).

DISCUSSION

The neurocardiogenic syncopal syndromes are marked by a reflex response resulting in bradycardia and/or vasodilatation leading to cerebral hypoperfusion. Head and neck cancers are a rare cause of neurocardiogenic syncope.¹

Two mechanisms have been postulated to cause syncope in head and neck cancers. One mechanism involves direct stimulation of the carotid body leading to carotid sinus hypersensitivity syndrome. Another involves stimulation of the glossopharyngeal nerve, the glossopharyngeal neuralgia-syncope syndrome. The glossopharyngeal nerve supplies sensation to the pharynx, tonsillar region and back of the tongue and also afferents that supply the baroreceptors in the carotid sinus. Afferent fibres from the carotid sinus (Nerve of Herring) then proceed to the motor nucleus of the vagus. Stimulation of this reflex arch, usually heralded by unilateral head/neck pain, leads to vasovagal syncope.²

Treatment for syncope from head and neck masses has involved permanent pacemaker insertion with varying degrees of success dependent on the predominance of

cardioinhibitory or vasodepressor response but has rarely been shown to ameliorate symptoms altogether. More effective therapies include radiotherapy and surgical resection of the glossopharyngeal nerve.³

Learning points

- Syncope is a common presentation of a large number of conditions leading to bradycardia and/or hypotension and the cause is often undiagnosed.
- When conventional investigations for syncope do not find a cause or where symptoms such as pain, hearing loss or a history of head and neck cancer are present, investigations should involve imaging for head and neck tumours.
- Symptoms can rapidly respond to treatment of the underlying tumour without the need for permanent pacing.

Competing interests None.

Patient consent Obtained.

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