Association of Oesophageal Hypertension with Bradycardia Mediated Deglutition Syncope

Abstract:

RY Lim, H Mulcahy, D Keane
Cardiology Department, St Vincentâ s University Hospital, Elm Park, Dublin 4

Abstract

Swallow syncope is a rare form of situational syncope. We report a case of swallow syncope with invasive confirmation of esophageal hypertension (spasm) and invasive confirmation of a bradycardia mechanism. Awareness of this uncommon disorder is important as a treatable cause of syncope.

Introduction

The exact prevalence of swallow syncope is unknown. Its recognition is important as once diagnosed, its treatment is often effective.

Case Report

A 77 year old woman was referred for cardiac evaluation by the gastroenterology service for assessment of recurrent syncope and presyncope upon deglutition of solids. These episodes were always preceded by symptoms of dysphagia following ingestion of solid food. She was found to have a structurally normal upper GI tract, however, a high resolution oesophageal motility study had detected a hypercontractile oesophagus (see Figure 1). She was on no rate lowering cardiac medications and she had no other relevant medical history. Initial investigation in the form of cardiac monitoring during meals failed to reveal any cardiac abnormalities. We proceeded to insertion of an implantable loop recorder (ILR). Approximately 1 month later, two episodes of patient activated events on the ILR revealed sinus arrests of 6 seconds (see Figure 2). Both episodes correlated with symptoms of presyncope preceded by dysphagia after ingestion of solid food. A permanent pacemaker was implanted. On follow up the, the patient has not reported any recurrence of presyncope or syncope.

Discussion

The pathophysiology of swallow syncope is postulated to be caused by common innervation of the oesophagus and the heart. Food boluses stretching the mechanoreceptors in the oesophagus result in afferent impulses to the brainstem via the oesophageal plexus, followed by efferent impulses to the SA and AV node of the heart resulting in bradyarrythmia.[1,2] Abnormal or excessive connections of the afferent nerves from the GI tract and efferent innervation to the heart in the brainstem may exist in patients with swallow syncope. Bradyarrhythmias in the form of sinus arrest, sinus bradycardia, SA block or AV block have been identified in swallow syncope[1]. As the occurrence of these events are unpredictable more permanent forms of cardiac monitoring may be required in the form of an ILR, as demonstrated in our case. Once bradyarrythmias are identified and a temporal relationship with symptoms established, pacemaker insertion is usually an effective form of treatment[1]. Swallow syncope is often associated with underlying cardiac or GI abnormalities. In a literature review of 80 reported cases of swallow syncope, 38.8% had underlying GI disease while 15% had underlying cardiac disease[1]. While bradyarrythmias are common, structural abnormalities such as hiatus hernia causing compressive effects leading to syncope when distended have also been described[3,4]. Establishing these structural abnormalities as a cause is important as pacemaker insertion would not be effective in these situations.

We report a case of swallow syncope caused by bradyarrythmias from a structurally normal, but functionally abnormal oesophagus. The symptoms of swallow syncope can have significant detrimental effects to patientsâ lifestyle, and should be suspected in patients with a convincing history of syncope associated with ingestion of food. The use of ILRs are helpful in establishing the presence of an arrhythmic component to the disease. Pacemakers provide symptomatic relief if bradyarrythmias are the underlying cause to syncope.

Correspondence: RY Lim
Cardiology Department, St Vincentâ s University Hospital, Elm Park, Dublin 4
Email: limrenyik@gmail.com

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