A retrocardiac mass unveiled by a can of soda

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Figure 1. A) Parasternal long-axis view before ingestion of carbonated beverage, showing a retrocardiac mass-like lesion near the atrioventricular junction. B) Parasternal long-axis view after ingestion of carbonated beverage, showing microbubbles in the retrocardiac 'mass'.

A 75-year-old female presented to the outpatient clinic with complaints of retrosternal pain. The electrocardiogram was normal. Exercise testing was within normal limits. Transthoracic echocardiography showed normal dimensions and normal valvular and ventricular function. A mass-like lesion was visible near the left posterior atrioventricular junction in all echocardiographic views (figure 1A). Differential diagnosis included intracardiac thrombus, intracardiac tumour, extracardiac tumour, dilated descending aorta and hiatal hernia. Computed tomography (CT) of the thorax revealed a large hiatal hernia, extending far into the retrocardiac region (figure 2). This diagnosis was confirmed by repeat

echocardiography after having the patient drink a carbonated beverage in the recumbent position. Contrast bubbles were clearly visible inside the retrocardiac 'mass' after ingestion of the carbonated fluid (figure 1B).

Hiatal hernia is a herniation of abdominal contents into the thoracic cavity through the diaphragmatic hiatus. It often results in gastro-oesophageal reflux, which in this patient was thought to be the cause of her retrosternal complaints at presentation. In retrospect, she had already been suffering from heartburn for years. In this case, the diagnosis of hiatal hernia was established by CT. Chest radiography was omitted, but could have resulted in this diagnosis as well, with a much lower radiation load.¹ Identification of a hiatal hernia by echocardiography can be difficult, although several characteristics have been described to distinguish it from other forms of retrocardiac masses.^{2,3} The use of a carbonated beverage as an oral contrast agent can increase the diagnostic yield of echocardiography.^{4,5} ■

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Figure 2. Computed tomographic image, showing large hiatal hernia (white arrow) in the retrocardiac space.

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