A 66-year-old patient with some years’ history of apical hypertrophic cardiomyopathy treated by beta-blockers attended for follow-up echocardiography. This revealed a giant apical aneurysm as shown in figure 1A. The obstruction is still visible at the aneurysm outflow, as shown by the aliasing in colour Doppler (arrow, fig. 1B). A significant gradient is present in pulsed waved Doppler (fig. 2). Coronary angiography showed no significant coronary lesion (fig. 3). The ventriculogram confirmed the aneurysm and the obstruction at mid-ventricular level (arrow, fig. 4). The patient died from a non-cardiac cause (lung cancer) two years later.

Apical aneurysm in hypertrophic cardiomyopathy is not a rare finding, and many cases have been reported. It is known that the disease is frequently missed by echocardiography with 57% sensitivity [1]. Magnetic resonance is a good alternative means of diagnosing apical hypertrophy [2] and assessing the presence of apical aneurysm (more commonly found than previously thought [3]). This finding is apparently associated with a poor prognosis and a high rate of sudden death, embolic stroke and heart failure [1, 4].

The exact mechanism of aneurysm formation is still unclear, but there is evidence to suggest a high
Figure 2
Pulse waved Doppler at the level of the aneurysm neck. A premature ventricular beat causes a rise in the obstruction.

Figure 3
A Coronary angiogram of the left coronary artery. No significant stenosis is visible.
B Coronary angiogram of the right coronary artery. No significant stenosis is visible.
chronic intraventricular pressure gradient due to mid-ventricular obstruction triggering infarction [5, 6]. Some other mechanisms may be involved, since magnetic resonance shows diffuse late gadolinium enhancement in these cardiac walls [3].

Management consists of anticoagulant to prevent embolism and consideration of an ICD implantation to prevent sudden cardiac death [1, 6].

References


