A 50-year-old man with hypertrophic obstructive cardiomyopathy (HOCM) underwent cardiac catheterization to evaluate the hemodynamic effects of cibenzoline, a class 1a antiarrhythmic agent. Initially, the pressure gradient between the left ventricle (LV) and aorta (Ao) was more than 100 mm Hg (Picture A). During atrial pacing at 110/min, the LV contraction was enhanced, as judged by an increase in LV dP/dt, and LV pulsus alternans appeared (Picture B). After the patient received intravenous cibenzoline (1.4 mg/kg) therapy, his LV dP/dt decreased, the pressure gradient was abolished (Picture C), and the atrial pacing no longer caused pulsus alternans (Picture D).

Pulsus alternans is a sign of compromised systemic perfusion (1) and suppression of an LV contraction may augment this condition. However, in this case of HOCM, cibenzoline therapy suppressed the LV contraction and abolished LV pulsus alternans, thus indicating that pulsus alternans is not always caused by impaired LV contractility but may also be related to other cardiac burdens, such as tachycardia and changes in the LV afterload (2).

The authors state that they have no Conflict of Interest (COI).

References