A transthoracic echocardiogram detected an atrial myxoma (T) in the left atrium (LA) of a 39-year-old woman with a tumor plop heart sound (A and E). Onset of systole (A, left), midsystole (A, middle), and isovolumic relaxation (A, right) are depicted. With onset of diastole (B, left), a high-velocity jet (arrow) occurred when the tumor passed through the mitral orifice, partially occluding it. Jet velocity decreased in mid-diastole (B, middle) and increased with atrial contraction (B, right, asterisks). Both the high-velocity jet on continuous-wave Doppler (C) and the plop sound (P) on phonocardiography (D) occurred right after the second heart sound (S2) (Online Video 1). After excision, the tumor and associated plop were absent (F to J, Online Videos 2 and 3 for 3-dimensional echocardiographic comparison).

This case suggests that the cause of the plop sound may relate to tumor obstruction of the mitral orifice with associated high-velocity flow, although this is difficult to distinguish temporally from other reported causes such as sudden tensing of the tumor stalk or impact of the tumor against the septum. LA = left atrium; LV = left ventricle.