14-year-old girl presented with a 2-month history of dyspnea on exertion. A physical examination revealed a giant A-wave on jugular venous pulse. Echocardiography revealed a huge mobile heterogenous mass (A to D, asterisks), suggestive of myxoma, in the right ventricle (RV) protruding across the tricuspid valve into the right atrium (RA), causing partial RV inflow obstruction (D, black arrows; Online Video 1) and an immobile sessile mass (C, white arrows; Online Video 2) in the RA, suggestive of thrombus. Gadolinium-enhanced cardiovascular magnetic resonance imaging revealed delayed heterogenous enhancement of the RV mass (E and F, asterisks), confirming the diagnosis of myxoma, whereas there was no delayed enhancement of the RA mass (E and F, white arrows), consistent with thrombus. The masses were completely removed under cardiopulmonary bypass (G). The RV and RA masses were histologically confirmed to be a myxoma and a thrombus, respectively.

Myxoma of the RV is rare. Associated syndromes, including Carney’s complex, and family history should be sought out when encountering a myxoma in a young adult and in an uncommon location. However, these were not demonstrated in our patient. This case also highlights the need for noninvasive imaging modalities in the delineation of the different etiologies of the 2 cardiac masses before contemplating surgical planning, because attempting cardiac mass biopsy before surgical removal in this case may have led to catastrophic embolization. Surveillance of recurrent myxoma in an uncommon location is recommended. LA = left atrium; LV = left ventricle, RVOT = right ventricular outflow tract.