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IMAGES IN CARDIOLOGY

The Etiology of Atrial Myxoma Tumor Plop

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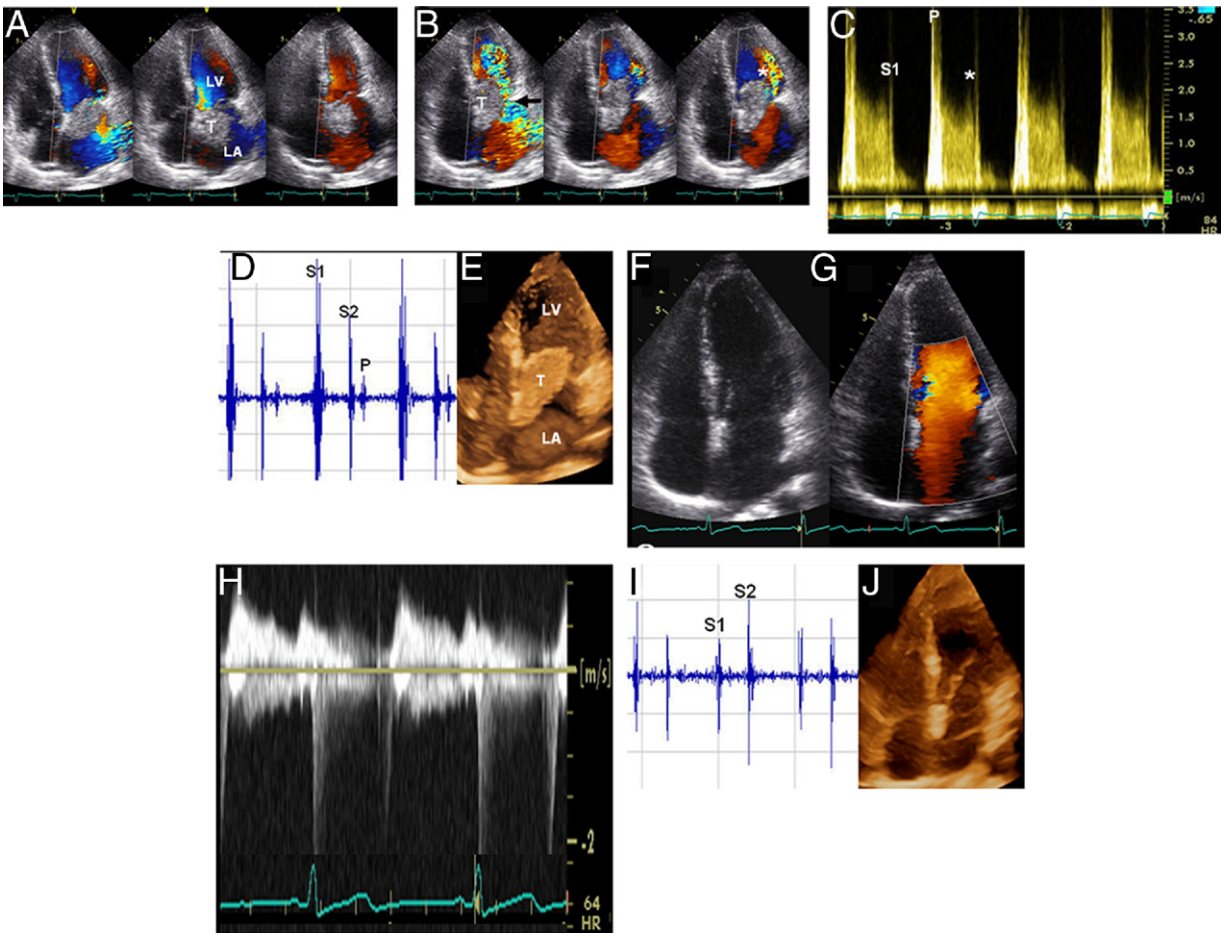

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A transthoracic echocardiogram detected an atrial myxoma (T) in the left atrium (LA) of a 39-year-old woman with a tumor plop heart sound **(A and E)**. Onset of systole **(A, left)**, midsystole **(A, middle)**, and isovolumic relaxation **(A, right)** 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.