Effect of migraine treatment on heart

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Case report

A 59-year-old woman presented for evaluation of palpitations, orthopnoea, and dyspnoea on exertion. On examination, the patient was found to have an apical holosystolic murmur suggestive of mitral regurgitation. She had no history of rheumatic heart disease but had experienced migraine headaches for which she started taking methysergide when she was 51 years old. She stopped using the methysergide at age 53, when it was withdrawn from the US market. There was no prior history of use of appetite suppressants. A transthoracic echocardiogram (TTE) conducted after discontinuation of the methysergide revealed mild mitral regurgitation.

She subsequently used dihydroergotamine (DHE) for migraines for about 6 years. At age 59, TTE revealed severe mitral regurgitation, with thickening of the valve and restricted motion of the leaflets (Figure 1A and B). The tricuspid valve showed partial fusion of the leaflet to the septum, with severe tricuspid regurgitation and right atrial enlargement (Figure 1C and D). Left ventricular function was normal, and there was no evidence of endocarditis. Cardiac catheterization showed normal right heart pressures and no clinically significant coronary disease. The patient underwent mitral valve replacement and tricuspid valve repair. Histopathologic findings indicated myxomatous disease of the mitral valve. Postoperatively, DHE was discontinued and the patient subsequently experienced considerable improvement in cardiac symptoms and exercise tolerance.

In contrast to carcinoid heart disease, drug-induced valve disease primarily affects the left heart valves. Although related to stimulation of serotonin receptors, the exact mechanism of preferential left-sided valve involvement is still unclear. Our case is notable because both the right- and left-sided valves were involved.

Figure 1. Transthoracic echocardiogram. (A) Parasternal long-axis view shows thickened mitral valve (arrow); (B) Apical long-axis view shows regurgitant jet across dysfunctional mitral valve; (C) right ventricular (RV) inflow view shows thickened tricuspid valve (arrow); and (D) RV inflow view shows regurgitant jet across dysfunctional tricuspid valve. LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle.

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