Case report
Posterior mitral leaflet aneurysm – A rare cause of mitral regurgitation

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ABSTRACT
Posterior mitral leaflet aneurysm is a very rare complication of infective endocarditis. A 28-year-old athlete got admitted with fever, congestive heart failure and multi-organ dysfunction syndrome. The echocardiogram showed large aneurysm of the posterior mitral leaflet with severe mitral regurgitation. Patient succumbed to refractory heart failure.

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A 28-year-old athlete, not known to have heart disease, had high-grade fever with chills of 15 days duration. He took intravenous antibiotics for 1 week in a local hospital. His fever started improving, but patient began experiencing breathlessness which started as class II and rapidly progressed to class IV with orthopnea. He got admitted to two other hospitals and diagnosed to have severe mitral regurgitation and infective endocarditis. He was treated with various antibiotics and anti-failure measures. However, patient’s general condition did not improve and transferred to our institute for mitral valve replacement.

On admission, patient was in class IV heart failure with multi-organ dysfunction. His baseline investigations showed elevated white blood cell counts, sedimentation rate and raised renal and hepatic parameters. Blood cultures did not grow any micro-organisms probably resulting from previous antibiotic treatment. The trans-thoracic echocardiogram showed mildly dilated left atrium and left ventricle, normal appearing anterior mitral leaflet, the posterior mitral leaflet (PML) was thinned out and aneurysmal and there was no apparent vegetation or leaflet perforation. Color flow Doppler revealed blood flow into and out of the PML aneurysm and severe mitral regurgitation resulting from failure leaflet coaptation and the jet was directed posteriorly by the aneurysm (Fig. 1). Other valves appeared normal. A high-risk mitral valve replacement was planned. In the meantime patient expired from resistant heart failure and multi-organ dysfunction.

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Mitral valve aneurysm is a rare complication of infective endocarditis. When it occurs, it usually involves anterior mitral leaflet and is associated with aortic regurgitation and often complicated by leaflet perforation. PML aneurysms are extremely rare with very few reported cases. If this involves a single scallop, resulting regurgitation may not be very severe. However, when the whole leaflet is aneurysmal, the leak will be severe, and with associated infection prognosis is grave. Even though diagnosis can be made by trans-thoracic 2D and color Doppler echocardiography, trans esophageal echocardiography and 3D echocardiography are more useful to well characterize this abnormality.

**Conflicts of interest**

All authors have none to declare.