Mesilate also reduces blood loss during cardiac operations [8], and it inhibits activation of fibrinolysis. Because fibrinolysis can increase the risk of bleeding, suppression of fibrinolysis by nafamostat mesilate most likely contributed to the prevention of further cerebral hemorrhage.

It might have been possible to remove the mass using inflow occlusion and avoid heparin or cardiopulmonary bypass altogether, but we were concerned that although we might have been able to remove a right atrial mass in an off-pump procedure, we would not have been able to remove all the left atrial mass and remove air in a short time with the off-pump technique. Therefore, we chose on-pump LA mass removal with nafamostat mesilate and reduced systemic heparinization.

In conclusion, we successfully performed surgical removal of a left atrial ball thrombus without further injury to the brain in a patient with hemorrhagic cerebral infarction using nafamostat mesilate and a reduced dose of heparin.

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References

Successful Repair of a Mitral Valve Aneurysm With Cleft of Anterior Mitral Leaflet in an Adult

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A 40-year-old woman was admitted with severe mitral regurgitation (MR) and atrial fibrillation. Preoperative
3-dimensional transesophageal echocardiography demonstrated severe MR with an unruptured mitral valve aneurysm and a cleft. The stiff cleft edge was removed and closed directly, and plication of the aneurysm was added. After the implantation of a semirigid full ring, there was no residual MR. An adult patient with MR involving an unruptured mitral valve aneurysm with a cleft not associated with infection or a congenital anomaly is extremely rare. The 3-dimensional transesophageal echocardiography modality is useful for mitral valve repair because it provides precise anatomic information preoperatively.


Mitral valve aneurysm (MVA) is rare and usually reported as the consequence of infective endocarditis [1, 2]. The mechanism of MVA formation is not clear. We present a rare case of mitral regurgitation (MR) in an adult due to an unruptured MVA and a cleft between the A2 and A3 portions. A precise preoperative diagnosis was made by 3-dimensional transesophageal echocardiography (3D-TEE). Mitral valve repair was successfully performed.

A 40-year-old woman was admitted to our hospital with a diagnosis of MR and atrial fibrillation. She had no children but desired to bear children. The 3D-TEE demonstrated severe MR with an unruptured MVA of the anterior leaflet (basal part of the A2 portion) and a cleft between the A2 and A3 portions (Fig 1). The regurgitant jet was mainly from this cleft.

Mitral valve repair was performed through a median full sternotomy. Cardiopulmonary bypass was established in a routine fashion. The mitral valve was exposed through a right-sided left atriotomy. The operative findings of the mitral valve were very similar to the findings on preoperative TEE in addition to sclerotic changes of the cleft edge (Fig 2). The MVA was 3 mm × 5 mm, and the subvalvular apparatus were normal. There was no prolapse of the anterior and posterior leaflets. A Maze procedure was performed in advance.

First, simple edge-to-edge closure of the cleft was performed, but a saline test showed regurgitation from the coaptation zone of the closed cleft. The sclerotic portion around the cleft edge was considered to be the cause of insufficient coaptation. Then, we resected the sclerotic edge of the cleft, and the cleft was closed by direct interrupted sutures. The saline test still showed regurgitation, with a billowed anterior leaflet (Fig 3).

We considered that regurgitation occurred due to bulging of the MVA. It protruded into the left atrium under the left ventricular pressure, and the coaptation area of the anterior mitral leaflet was pushed downwards. Thus, we plicated the MVA tissue by simple interrupted 5-0 polypropylene sutures along the line of the anterior mitral annulus. A 28-mm Carpentier-Edwards Physio Annuloplasty Ring (Edwards Lifesciences, Irvine, CA) was implanted, and the final saline test showed no leakage. After the patient was weaned from cardiopulmonary bypass, TEE demonstrated almost no leakage and no mitral restriction.

The patient’s postoperative course was uneventful, with a normal sinus rhythm. Transthoracic echocardiography and TEE showed no MR at discharge.

Comment

Cases of MVA are rare. They are usually reported as a consequence of infective aortic valve endocarditis causing “kissing endocarditis” of the anterior mitral leaflet [1, 2], which sometimes leads to MR due to mitral valve prolapse [3]. They can even occur in cases of transcatheter aortic valve endocarditis [4]. MVA has also been reported in patients with connective tissue disorder, rheumatic disease, osteogenesis imperfecta, and Marfan syndrome [1, 2]. Gajjar and colleagues [3] reported a patient with a true MVA resulting from valvulitis. The patient had no previous history of such a lesion and no symptom of active endocarditis or inflammation. Imamura and colleagues [5] reported mitral valve repair for an MVA with a cleft in a 65-year-old woman with a partial atrioventricular septal defect.

The present patient did not have a ventricular or atrial septal defect or any other congenital cardiac anomaly. So, the etiology of this patient is different from those previously reported. However, we did not excise aneurysm tissue, so the pathologic mechanism of MVA formation in the present patient is unknown.

The diagnosis of MVA or mitral clefts is sometimes difficult by transthoracic echocardiography. In contrast, TEE is more sensitive and accurate [6]. In the present patient, the diagnosis of the cleft of the anterior mitral valve...
was made primarily by transthoracic echocardiography, but MVA was not found until TEE was performed. The 3D-TEE modality is an important and reliable diagnostic option compared with conventional 2D-TEE [7]. The ability of 3D-TEE to display a surgeon’s view from the left atrial side provides valuable information preoperatively.

An MVA with a cleft is a good indication for mitral valve repair. The precise preoperative diagnosis by TEE is useful for developing a strategy for mitral valve repair [1, 4]. However, it is sometimes difficult to repair, and valve replacement is needed, especially in such a young and elective patients. Long-term results of mitral valve repair for these entities are not clear because of its rarity, so careful follow-up is necessary.

In conclusion, we encountered a rare case of an MVA with a cleft in an adult patient and successfully repaired the lesion. The 3D-TEE modality provides excellent anatomic information preoperatively.

References

Giant Aneurysm of the Left Atrial Branch of the Left Circumflex Artery With Fistula
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Giant coronary artery aneurysm with a fistula is a rare condition. We present one of the largest aneurysms of left circumflex coronary artery territory, arising from the left atrial branch of the left circumflex coronary artery. It had

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