Mitral valve repair in acute extensive infectious endocarditis

Réparation de la valve mitrale dans l’endocardite infectieuse aiguë étendue

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A 25-year old woman with a history of a cardiac murmur in childhood presented with acute occlusion of the left popliteal artery requiring emergency surgical embolectomy. Transoesophageal echocardiography (TEE) showed several mobile masses up to 16 mm in size on both mitral valve leaflets, in the region of the anterolateral part of the valve, compatible with vegetations (Fig. 1, Panel A, white arrows). There was a prolapse of the posterior and anterior mitral valve leaflets near the anterolateral commissure with likely perforation of the two leaflets in this region leading to severe mitral regurgitation (Fig. 1, Panel B). Imaging with the real-time transoesophageal three-dimensional echocardiography (3DE) showed more clearly that mitral valve prolapse was located to the paracommissural parts of both leaflets (A1 and P1), with large vegetations attached close to the commissure (Fig. 1, Panel C, white and black arrows, respectively). Urgent surgery, performed to avoid further embolization and leaflet destruction, confirmed the echocardiographic findings. An enormous vegetation (Fig. 1, Panel D, arrow) was located at the level of the anterolateral commissure extending to A1 and P1 with nearly complete destruction of the underlying valve tissue. Successful mitral valve repair was performed with reconstruction of the anterolateral commissure and the adjacent anterior leaflet segment with a bovine pericardial patch. Cultures from blood, thrombus and the vegetation revealed the presence of Streptococcus mitis.

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Figure 1. Panel A. Transoesophageal echocardiography showing mobile masses on both mitral valve leaflets, compatible with vegetations (white arrows). Panel B. Prolapse of the posterior and anterior mitral valve leaflets near the anterolateral commissure with likely perforation of the two leaflets, leading to severe mitral regurgitation. Panel C. Real-time transoesophageal three-dimensional echocardiography showing mitral valve prolapse located to the paracommissural parts of both leaflets (A1 and P1), with large vegetations attached close to the commissure (white and black arrows, respectively). Panel D. Enormous vegetation (arrow) located at the level of the anterolateral commissure extending to A1 and P1.

AL: anterior leaflet; ALC: anterolateral commissure; PL: posterior leaflet; PMC: posteromedial commissure.

Mitral valve repair, if feasible, is the procedure of choice for mitral regurgitation, especially in the case of acute infective endocarditis. However, in the case of extensive destruction, especially if the anterior leaflet and/or the commissures are involved, repair may be technically challenging with a suboptimal result. We report here the case of successful repair in such a difficult situation. Precise delineation of the endocarditic lesion is critical to achieve a successful repair. In our case, real-time transoesophageal 3DE had a complementary diagnostic value.

Conflicts of interest
None.