A 36-year-old African woman from Yaoundé (Cameroon) was admitted to our cardiovascular surgery unit for severe mitral regurgitation thought to be caused by mitral valve prolapse. She had a 1-year history of progressive shortness of breath. Preoperative transthoracic echocardiography showed severe eccentric mitral regurgitation. The apical four-chamber view (Fig. 1A) revealed that part of the mitral annulus was disconnected from the ventricular myocardium with systolic prolapse of paraannular tissue in the left atrium (arrows) forming a large paraannular aneurysm, widely communicating with the left ventricular cavity (arrowhead). Transoesophageal echocardiography (Fig. 1B and C; movies 1 and 2) confirmed a large subannular aneurysm in the anterior-lateral region of the posterior mitral annulus (arrow) with severe mitral regurgitation (small arrow) and systolic filling of the aneurysm (arrowhead). Preoperative coronary angiography showed systolic expansion of the aneurysm (arrow in Fig. 1D; movie 3) with systolic compression of the distal circumflex coronary artery (arrow in Fig. 1E; movie 4). The patient underwent uneventful surgery with partial resection of the aneurysm and closure of the entry by pericardial patch. The posterior mitral valve leaflet was reconstructed and reinserted without placement of an annuloplasty ring. There was moderately residual mitral regurgitation.
Fig. 1. A. Preoperative transthoracic echocardiography showing systolic prolapse of paraannular tissue in the left atrium (arrows) forming a large paraannular aneurysm, widely communicating with the left ventricular cavity (arrowhead). B and C. Transoesophageal echocardiography showing large subannular aneurysm in the anterior-lateral region of the posterior mitral annulus (B, arrow) with severe mitral regurgitation (C, small arrow) and systolic filling of the aneurysm (C, arrowhead). D. Preoperative cardiac ventriculography showing systolic expansion of the aneurysm (arrow). E. Preoperative coronary angiography showing systolic compression of the distal circumflex coronary artery (arrow). LV: left ventricle; RV: right ventricle; RA: right atrium; LA left atrium; SMA: subvalvular aneurysm.

Comment

Submitral aneurysm is a rare finding in Europeans, most often being described in Africans. The presumed etiology is congenital connective tissue weakness at the junction between the mitral annulus and the ventricular myocardium. Associated lesions include sinus Valsalva aneurysm and rheumatic valve disease. Delineation of the relationship between the aneurysm, the mitral valve and the annulus is critical for successful repair.

Conflicts of interest

None.

Appendix A. Supplementary data