A congenital contractile left ventricular diverticulum in the apex

A 63-year-old man presented with dyspnea on exertion (NYHA class II) and palpitation. On physical examination, a late systolic murmur of grade 2/6 was heard at the apical area. The electrocardiogram showed sinus rhythm. On transthoracic echocardiography, moderate mitral regurgitation due to mitral valve prolapse and normal left ventricular systolic functions and dimensions were found. In addition, the parasternal long-axis view showed a diverticulum arising from the left ventricular apex (Fig. A). The patient underwent coronary angiography and left ventriculography. Coronary arteries were normal. Left ventriculogram obtained from the right anterior oblique projection showed a contractile diverticulum with a wide neck, originating from the apex with a connection to the left ventricle (Fig. B, C). The diverticulum was muscular in structure, and, in the left anterior oblique projection, it was simultaneously contracting in systole and relaxing in diastole in the left ventricle (Fig. D, E). Because the patient did not have symptoms associated with the diverticulum, its surgical resection was not considered. After medical treatment for mitral regurgitation, his complaints improved and he was discharged with periodic follow-up.

Figures. (A) Transthoracic echocardiogram in the parasternal long-axis view showing a left ventricular contractile diverticulum in the apex. Left ventriculogram in the right anterior oblique projection in (B) systole and (C) diastole, showing a contractile diverticulum originating from the apex with a connection to the left ventricle. Left ventriculogram in the left anterior oblique projection in (D) systole and (E) diastole. LV: Left ventricle; LA: Left atrium; RV: Right ventricle; D: Diverticulum.