

An autopsy case of giant left atrium with restrictive left ventricle

A 62-year-old man was admitted to our hospital for the control of heart failure and pneumonia (figure 1A). His medical history included chronic atrial fibrillation for 20 years and the presence

of a large left atrium (LA) without a family history of heart disease. Echocardiography showed a huge LA, a normal range of diastolic wall thickness of 9 mm, a 56% ejection fraction, a mean E/e' of 8 and mild mitral regurgitation without stenosis (figure 1B). A CT image (figure 1C) showed a giant LA (16.4×12.9×15.7cm). After the control of infection (figure 1D), cardiac catheterisation revealed a high pulmonary capillary wedged pressure (mean of 29 mm Hg) and an end-diastolic left ventricular pressure (22mm Hg) without a dip and plateau pattern showing that he had restrictive cardiomyopathy. One year later, he died due to heart failure. The weight of the heart

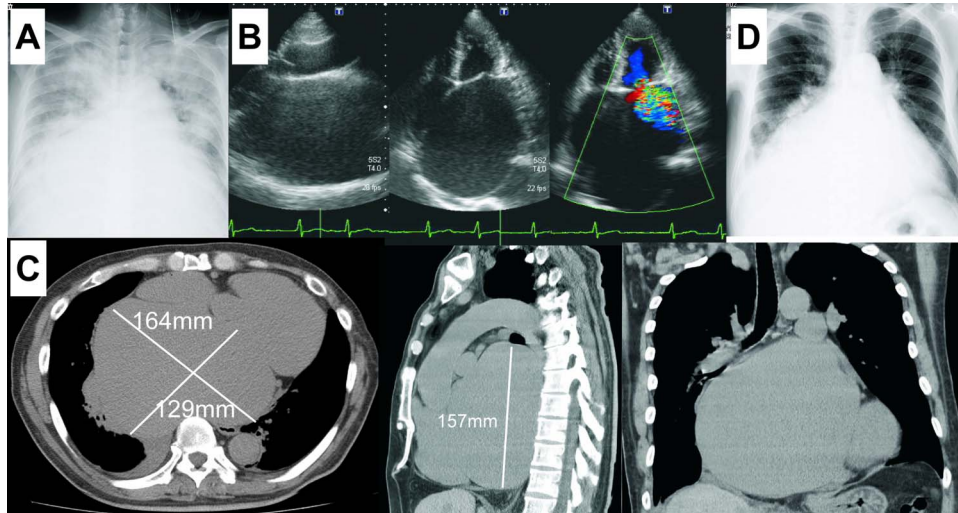


Figure 1 (A) A chest radiograph, upon presentation. (B) B-mode echocardiography, upon presentation. Left panel: a parasternal long-axis view; middle panel: a 4-chamber view; right panel: a coloured 4-chamber view. Echocardiography showed a huge left atrium, a normal range of diastolic wall thickness of 9 mm, a 56% ejection fraction and mild mitral regurgitation without stenosis. (C) A CT image showed a giant left atrium (16.4×12.9×15.7 cm). Left panel: a transverse plane; middle panel: a sagittal plane; right panel: a coronal plane. (D) A chest radiograph, after the control of infection.

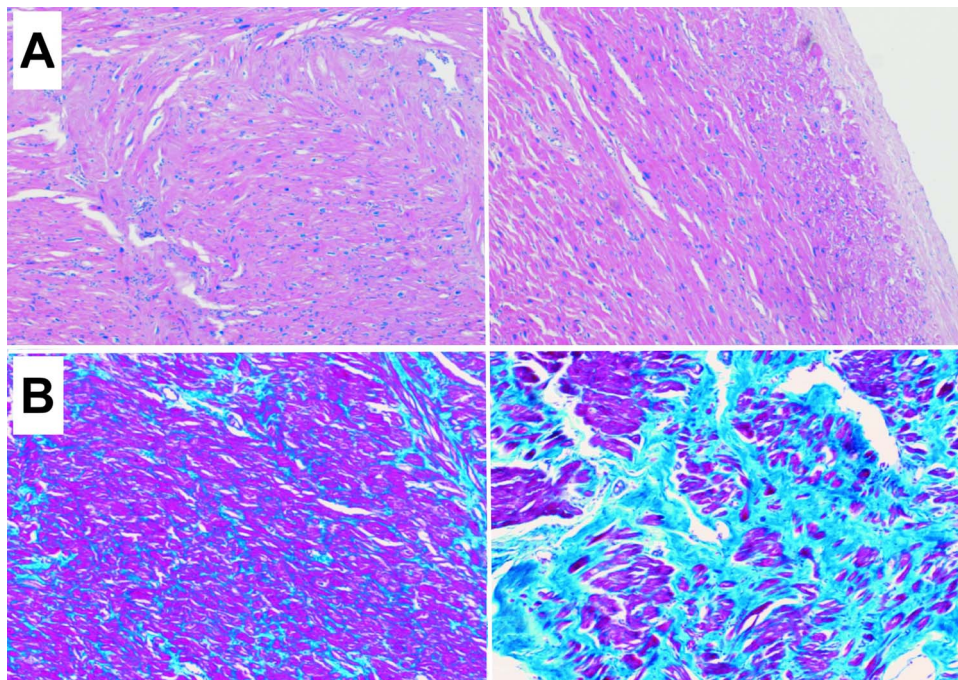


Figure 2 (A) H&E staining. Microscopic examination revealed unexpectedly hypertrophic cardiomyopathy with disarrayed cardiomyocytes. (B) Azan staining. A patty fibrosis was observed.

was increased up to 490 g with a markedly enlarged LA in an autopsy. Microscopic examination revealed unexpectedly hypertrophic cardiomyopathy with disarrayed cardiomyocytes (figure 2A: H&E staining), patty fibrosis (figure 2B: Azan staining), and normal pathology of atrium and mitral valve. This giant LA is the second largest one and the first autopsy case ever reported to our knowledge,¹ implicating the extensibility of LA in compensation of restrictive left ventricle. LA volume was reported to be a powerful predictor of mortality in heart diseases and markedly increased by mitral valve diseases and a restrictive left ventricle, such as hypertension, dilated cardiomyopathy, hypertrophic cardiomyopathy, restrictive cardiomyopathy and amyloidosis.²

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