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Clinical Image
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A Case of Hypertrophic Cardiomyopathy Complicated with Infective Endocarditis was Diagnosed by Echocardiography

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Clinical Image

A 56-year-old man was admitted to the intensive care unit with chills, high fever, and confusion. He had recently lived in a plague area for three months. He had not had a physical examination in the past and denied a history of hypertension, diabetes, heart disease, or cerebrovascular disease. The body temperature was 39.0°C, the pulse was 120 beats/min, the respiration was 22 breaths/min, and the blood pressure was 140/80 mmHg. The first echocardiography showed that the diameter of each chamber was in the normal range, and the left ventricular outflow tract was not narrow. The septal was thickened by about 24 mm (Figure 1a), and the echo of the lesion was rough, showing speck-like changes, and the myocardial texture was disarranged and the motion was reduced. The mitral valve leaflet was thickened with a 14.7 mm × 6.8 mm hypoechoic posterior leaflet (Figure 1b), the aortic valve was trifoliated with a thickened leaflet, and the left coronary valve had a 12.8 mm × 8.7 mm hypoechoic posterior leaflet (Figure 1c); both were swinging with the heart cycle, resulting in failure of closure of the leaflet. CDFI: Left ventricular outflow tract blood flow velocity was normal and there was no significant pressure difference. A large number of regurgitation signals were seen in the mitral and aortic valves, and the mean pressure gradient across the aortic valves was about 10 mmHg. Ultrasound diagnosis: Infective Endocarditis (IE); Vegetations of aortic and mitral valves; Massive regurgitation of aortic and mitral valve; non-obstructive Hypertrophic Cardiomyopathy (HCM); The left ventricular diastolic function was decreased. Blood culture was positive for *Staphylococcus aureus*, accompanied by coagulopathy, impaired liver and kidney function, and double pneumonia. The clinical diagnosis was hemorrhagic fever with renal syndrome.

HCM and IE are two common diseases in clinical practice. According to the pathogenesis of HCM, the disease itself does not cause IE. IE is caused by the migration of pathogenic microorganisms from other infection sites to the heart through the blood circulation [1]. This case was a multiple organ damage syndrome mainly caused by hemorrhagic fever caused by living in the plague area. The pathogen was *Staphylococcus aureus*. The echocardiographic manifestations of IE included vegetation, abscess, pseudoaneurysm, endoleak, valve perforation or aneurysm, and prosthetic valve dehiscence [2]. The possible cardiac complications include: Heart failure due to valvular insufficiency; Acute myocardial infarction due to coronary artery occlusion; Myocardial abscess may occasionally rupture leading to suppurative pericarditis. Myocarditis caused by infection and inflammation involving the heart muscle. During the treatment of this patient, with the extension of the disease, echocardiography has the advantages of convenient, real-time and dynamic observation, which can timely evaluate whether there is left ventricular outflow tract obstruction caused by IE aortic valve vegetation on the basis of DCM, observe the occurrence of vegetation with thrombosis

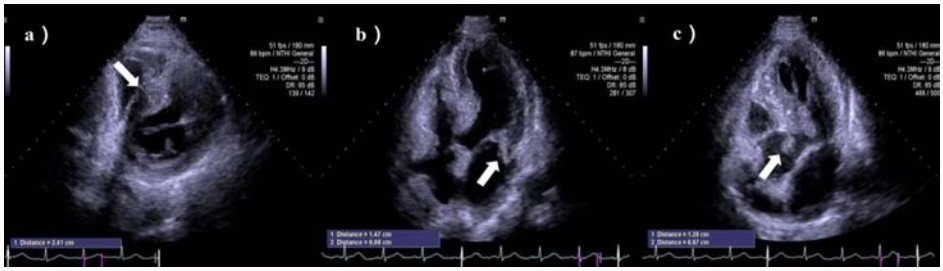

Figure 1: Echocardiographic images, a) showed significant thickening of the interventricular septum up to 24 mm; b) showed thickening of the mitral leaflet and a hypoechoic vegetation (14.7 mm × 6.8 mm) in the posterior leaflet; c) showed that the aortic valve was trilobed with thickened leaflets, and a hypoechoic vegetation measuring 12.8 mm × 8.7 mm was seen in the left coronary valve.

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and the above complications, and provide indispensable diagnostic value for clinical practice.

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