

Incomplete Kawasaki disease: early findings consist of congestive heart failure due to valvular heart disease

A 4-month-old girl with a 5-day history of fever was diagnosed as having urinary-tract infection. Her symptoms did not improve after 3 days of antibiotic therapy. Then, she was transferred to our hospital.

She showed heart-failure features such as a gallop rhythm, tachypnoea and liver enlargement. X-rays revealed heart hypertrophy. Echocardiography confirmed severe mitral-valve regurgitation (MR) and tricuspid-valve regurgitation (TR) (figure 1). Laboratory findings showed haematocrit (Hct) 28.2%, platelet (Plt) $64.3 \times 10^3/\mu\text{l}$, albumin (Alb) 2.9 g/dl, aspartate aminotransferase 202 IU/l, alanine aminotransferase 216 IU/l, sodium 132 mEq/l, C-reactive protein 4.27 mg/dl and a urinary sediment of white blood cells (50–99/HF).

We diagnosed her with infective endocarditis and continued antibiotics. However, echocardiography revealed a coronary artery aneurysm on the 18th day (figure 2). This led us to diagnose her with incomplete Kawasaki disease (KD). She underwent an operation for MR and TR thereafter.

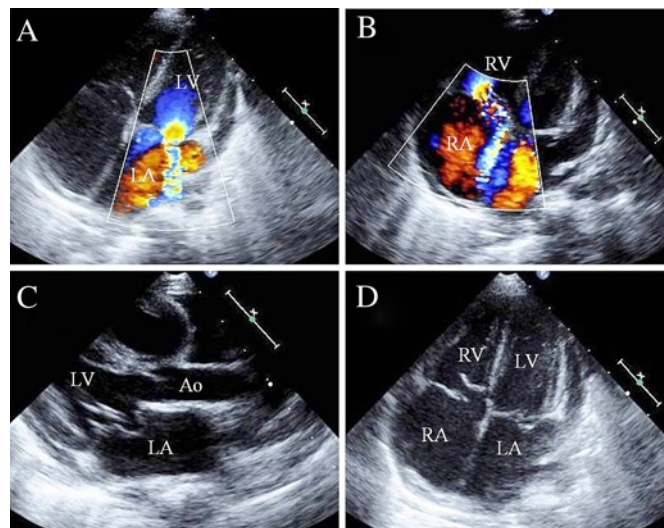


Figure 1 Transthoracic echocardiographic four-chamber view demonstrating severe mitral-valve regurgitation (A) and severe tricuspid-valve regurgitation (B). The short-axis image of the mitral valve suggested that mitral-valve regurgitation was the result of mitral-valve prolapse (C). Transthoracic echocardiography also indicated that tricuspid valve prolapse was the cause of TR (D). Finally, thoracic the surgical procedure revealed elongation of chordae tendineae of the mitral valve and rupture of chordae tendineae of the tricuspid valve. Ao, aorta; LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle.

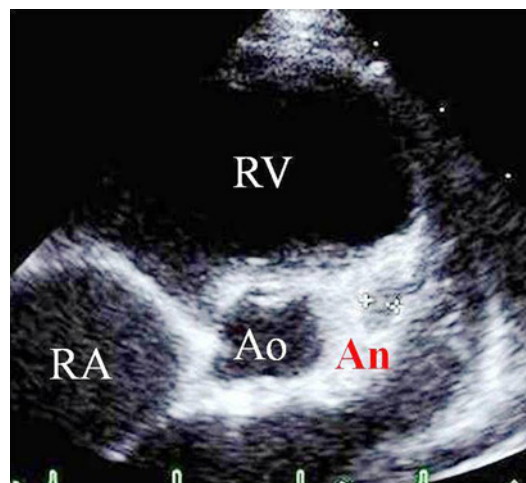


Figure 2 Transthoracic echocardiographic image of the left coronary artery showed an aneurysm (An). The diameter of the aneurysm was 3.4 mm. In addition, the circumference of the coronary wall showed a high echo density. Ao, aorta; RA, right atrium; RV, right ventricle.

It was reported that 16.1% of patients are incomplete KD among 15 857 KD patients. In addition, the prevalence of coronary-artery abnormality in incomplete KD (18.4%) was higher than that in complete KD (14.2%).¹ In this case, a coronary artery aneurysm strongly indicated the possibility of KD. Sterile pyuria, elevated aspartate aminotransferase, alanine aminotransferase, C-reactive protein, anaemia, hypoalbuminaemia, hyponatraemia and thrombocytosis are also characteristic KD findings.² These findings suggest the endothelial dysfunction. Severe MR and TR appeared to be the consequence of KD.

In conclusion, if we see febrile patients with valvular diseases, we should consider the possibility of KD. If several findings suggest the possibility of KD, we strongly recommend that echocardiography is performed.

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