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) 64.3×10^3/μl, 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/HP).

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.

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%). 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. 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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