

Acute eosinophilic myocarditis mimicking inferior myocardial infarction presenting with delayed hypereosinophilia

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A 39-year-old male, who had a history of mugwort allergy and had had a recent antigen exposure, was hospitalized due to chest pain. The laboratory examinations showed elevated troponin T concentration and an electrocardiogram indicated inferior-wall ischemia (Fig. 1A). Transthoracic echocardiography showed a severe hypokinesis in inferior left ventricular wall and pericardial effusion (Fig. 1B; Suppl. Video 1). The coronary angiography showed no obstructive coronary artery diseases. Stress myocardial perfusion scintigraphy revealed a fixed perfusion defect of the inferior wall of the left ventricle, but no significant myocardial ischemia (Fig. 1C). The peripheral eosinophil count was normal at admission, but was increased up to 35% (eosinophilic count: 3,955/ μ L) on the 11th day in hospital. The histopathological examinations of the right ventricular myocardium obtained by endomyocardial biopsy demonstrated myocardial inflammation with eosinophilic infiltration (Fig. 1D). A blood examination showed a total IgE level of 1,280 IU/mL (normal range:

< 170 IU/mL), and a multiple allergen simultaneous test revealed a serum mugwort-specific IgE level of 132 lumi-count (normal range: < 1.39 lumi-count). These findings led to a diagnosis of eosinophilic myocarditis (EM), and the administration of oral prednisolone was started. Thereafter, the peripheral eosinophilia resolved and his chest pain, cardiac function and pericardial effusion improved. Our observations suggested that EM may present with regional ST-segment elevations in electrocardiography and a focal asynergy in echocardiography, which are similar to acute myocardial infarction. Furthermore, this case highlights the importance of recognition that hypereosinophilia in peripheral blood may not necessarily be evident in the initial stage of EM.

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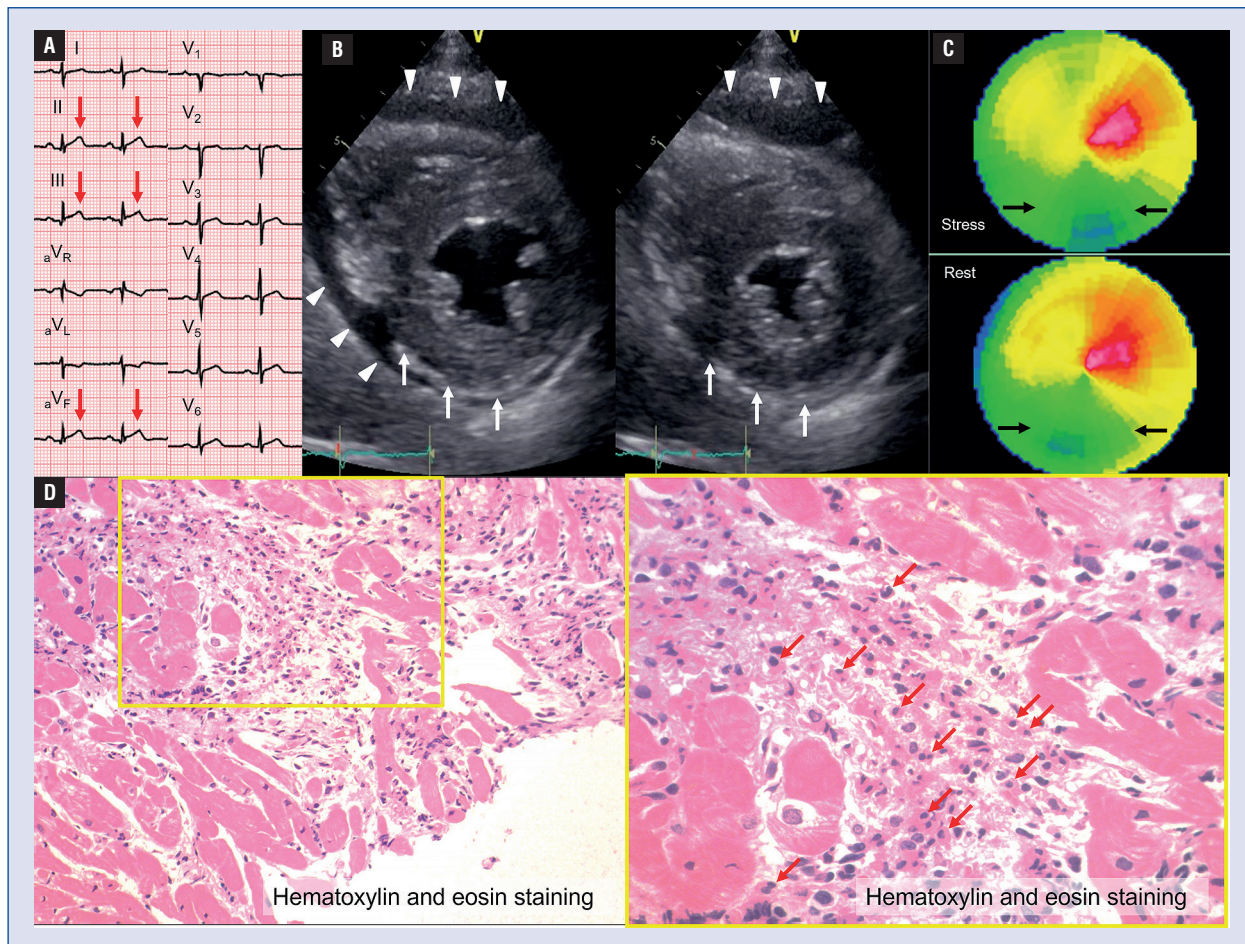


Figure 1. A. A twelve-lead electrocardiogram showed ST-segment elevations in leads II, III and aV_F (red arrows). B. Echocardiogram (parasternal short axis) showing a severe hypokinesia in the inferior left ventricular wall (white arrows) and pericardial effusion (white arrowheads). C. Stress myocardial perfusion scintigraphy using technetium-99m (^{99m}Tc) tetrofosmin revealed a fixed perfusion defect of the inferior wall of the left ventricle (black arrows). D. The histopathological examinations of endomyocardial biopsy specimen from the right ventricular septum showing myocardial inflammation with eosinophilic infiltration (red arrows).