Multiple pericardial abscesses in a child with known chronic granulomatous disease

Sir,

Chronic granulomatous disease (CGD) is a rare primary immunodeficiency that affects about 1 in 250,000 individuals.[1] It is known by a defective intracellular killing of phagocytized organisms. Pneumonia was noted in 79%, suppurative lymphadenitis in 53%, whereas subcutaneous abscesses in 52% in these patients.[1] Pericardial involvement is rarely seen in patients with CGD and mostly presented with pericardial effusion rather that abscess.[1] Herein, we present a case of a CGD with diffuse multiple pericardial abscesses, which is diagnosed by cardiac magnetic resonance imaging (MRI).

An 8-year-old child with known CGD was administered to emergency service with cough and chest pain. Chest x-ray showed cardiomegaly and right paracardiac infiltration. Routine biochemical tests were reflected an inflammatory condition (C-reactive protein: 18.8 mg/l, erythrocyte sedimentation rate: 116 mm/h, and white blood cell count: 13 × 10^3/μl). Ceftriaxone was intravenously administered with diagnosis of pneumonia. Echocardiography was performed to identify potential cause of cardiomegaly. Pericardial effusion including fibrin bands with suspicious lesions suggesting pericardial abscesses in pericardium was identified. For further evaluation of these lesions, cardiac MRI was performed (Avanto, Siemens Medical Systems, Enlargen, Germany). Apart from routine cardiac MRI sequences, diffusion-weighted sequence, which is very reliable MRI technique to demonstrate pericardial abscess, was added to our cardiac MRI examination.[2] Cardiac MRI of the patient revealed multiple pericardial abscesses extending to the left pleura and mediastinum [Figure 1]. In the following days, patient showed symptoms of tamponade, thus urgent pericardiectomy was performed. Pathologic examination of the excised pericardial specimen showed multiple abscesses. Patient died because of cardiac arrest 1 month later despite all the efforts.

In conclusion, to our knowledge this is the first article that report a case of a CGD presented with multiple pericardial abscesses. On the basis of our report, we suggested that although cardiac involvement is a very rare condition in patients with CGD, if the clinical findings are supporting cardiac involvement, pericardial abscesses should also be kept in mind in addition to

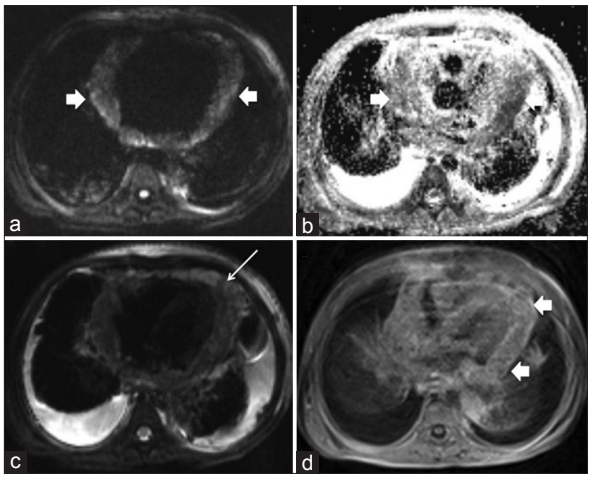

Figure 1: Cardiac magnetic resonance imaging of the patient. (a and b) Four-chamber diffusion-weighted sequence and apparent diffusion coefficient (ADC) maps showing diffusion-restricted areas in the pericardium (arrows). (c) Four-chamber T2-weighted sequence (TR-5916 ms: TE-78 ms: FOV 324*384: slice thickness – 8 mm) showing multiple focal hyperintense pericardial abscesses (thin arrow). Also note the bilateral pleural effusion. (d) Delayed T1-weighted contrast-enhanced image (TR-500: TE-7.2: FOV 324*384: slice thickness – 8 mm) demonstrating multiple pericardial abscesses that shows peripheral ring-like contrast enhancement (arrows)

pericardial effusion. We also suggested that using cardiac MRI including diffusion-weighted sequences might be a valuable tool to evaluate the type of pericardial involvement in these patients.

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Conflicts of interest

There are no conflicts of interest.

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