

Isolated tricuspid valve infective endocarditis with multiple septic pulmonary emboli in a patient with atopic dermatitis

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Abstract

Multiple lung nodules in atopic dermatitis patients may reflect infective endocarditis. Our case underlines the importance of potentially severe infections due to staphylococci associated with atopic dermatitis.

The title of the paper

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KEYWORDS

atopic dermatitis, multiple septic pulmonary embolism, isolated tricuspid valve infective endocarditis

KEY CLINICAL MESSAGE

Atopic dermatitis may cause infective endocarditis associated with staphylococci. Generally, Right-sided infective endocarditis responds well to medication, but our patient had multiple organ failure and required long-term ICU management.

A 51-year-old man with severe atopic dermatitis (AD) visited our hospital with high fever and general malaise. On physical examination, his body temperature was 39.8°C, heart rate was 129/min, blood pressure was 115/71mmHg, respiratory rate was 25 breaths/min, and oxygen saturation was 97% under room air. Laboratory tests showed the following results: white cell count 17,600/ μ L, C-reactive protein 32.4 mg/dL, and procalcitonin 17.3 ng/mL. Chest computed tomography showed multiple cavities in bilateral lungs, consistent with septic emboli (Figure 1). Transthoracic echocardiography revealed a vegetation on the tricuspid valve (Figure 2). Blood cultures revealed methicillin-sensitive *Staphylococcus aureus*.

It is generally reported that right-sided Infective endocarditis (IE) displays a good response to medical therapy. However, our patient initially suffered from multiple organ failure, so we performed long-term ventilation management and blood purification.

IE due to *S. aureus* occasionally occur in patients with AD, because AD lesions are often colonized by *S. aureus*¹, and the biofilm is almost ubiquitous in AD lesion skin. The perivalvular abscess and the valve perforation as *S. aureus* -linked IE manifestation of tissue destruction were associated with high mortality².

CONFLICT OF INTEREST

The authors report no conflict of interest.

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FIGURE LEGENDS

Figure 1: Axial computed tomography section in lung on admission shows multiple nodules (arrows) and cavitory infiltrates (A-D), feeding vessel sign (arrowhead) (C), and bilateral pleural effusion in bilateral lungs.

Figure 2: Transthoracic echocardiogram shows a huge vegetation (arrow heads) of 3cm or more attached to the tricuspid valve extending to the pulmonary artery (A, B).

AUTHOR CONTRIBUTIONS

NS: involved in conception and design, manuscript preparation.

NI: made diagnosis, obtained and edited images, and prepared.

EM and MN: obtained images and reviewed the manuscript.

YT, KH and YS : reviewed the manuscript.



