

A case of asthma revealed to be a much rarer condition

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Key message

Asthma is one of the most common diseases. However, in patients with refractory asthma, chest imaging assessment should be performed, bearing in mind the possibility of other diseases.

KEYWORDS

asthma, Swyer–James syndrome, Swyer–James–MacLeod syndrome

CLINICAL IMAGE

The patient was a 15-year-old girl who was referred to the outpatient clinic for treatment of refractory asthma. Her medical history included respiratory syncytial virus infection at 0 years old (Figure 1A). Auscultation revealed wheezing in both lungs during expiration. Chest radiography showed thickening of the bronchial walls and permeability in bilateral lower lung fields (Figure 1B). Computed tomography (CT) of the chest showed bronchial wall thickening and bronchiectasis, with emphysematous changes predominantly in bilateral lower lobes and the right middle and left upper lobes

(Figure 2A-1,A-2). Single photon emission CT (SPECT)/CT images of lung ventilation and perfusion demonstrated matched defects in bilateral lower lobes and the right middle and left upper lobes (Figure 2B-1,B-2,C-1,C-2). In particular, lung perfusion SPECT/CT showed markedly decreased perfusion in the lower lung fields (Figure 2C-1,C-2). As the patient had shown no congenital abnormalities in the lung fields at 0 years old, we determined that the lung abnormalities were acquired and diagnosed a subtype of Swyer–James–MacLeod syndrome.^{1,2} Asthma is one of the most common diseases, but in patients with refractory asthma, chest imaging is warranted to exclude the possibility of other diseases.

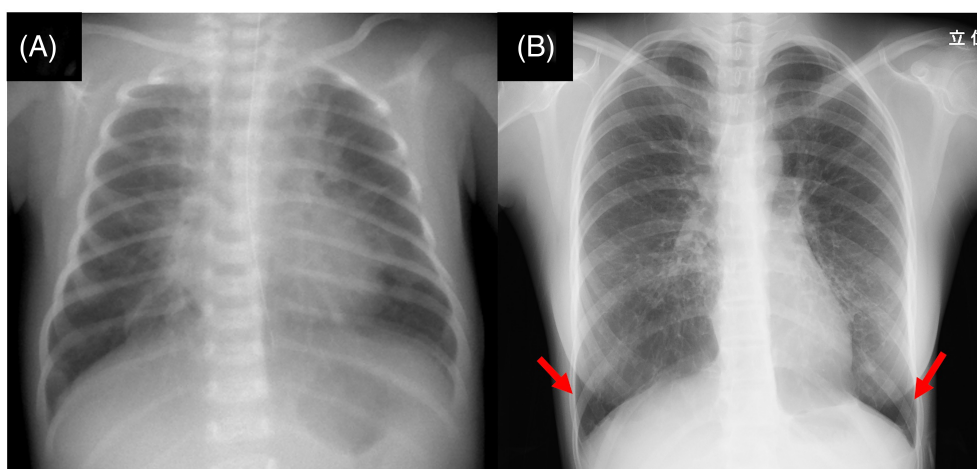


FIGURE 1 Findings from chest radiography. (A) Chest radiography at 0 years old with respiratory syncytial virus infection. No congenital abnormalities are apparent. (B) Chest radiography showed thickening of the bronchial walls and permeability in bilateral lower lung fields at the initial visit (arrow).

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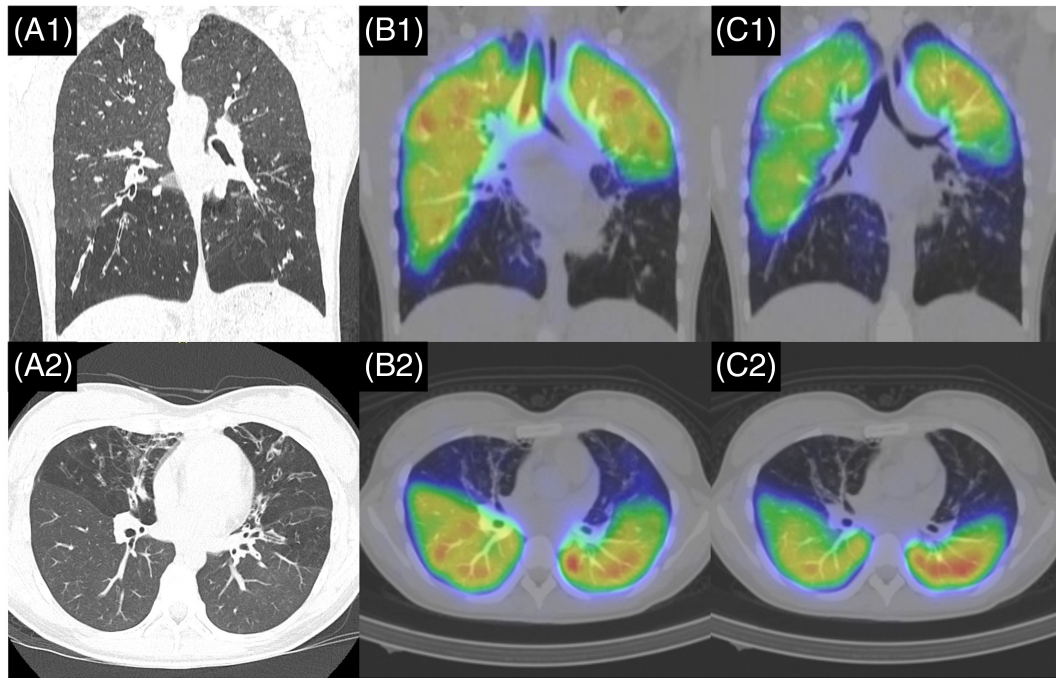


FIGURE 2 Findings from single photon emission computed tomography (SPECT)/computed tomography (CT). (A-1, 2) CT shows bronchial wall thickening and bronchiectasis, with emphysematous changes predominantly in bilateral lower lobes and the right middle and left upper lobes. (B-1, 2) SPECT/CT images of lung ventilation shows ventilation defects in bilateral lower lobes and the right middle and left upper lobes. (C-1, 2) SPECT/CT images of lung perfusion shows perfusion defects in bilateral lower, right middle, and left upper lobes. In particular, lung perfusion SPECT/CT showed markedly decreased perfusion in the lower lung fields.

AUTHOR CONTRIBUTIONS

MH wrote the manuscript. MH, MA, and TI contributed to the data collection. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

None declared.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

The authors declare that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images.

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