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Molecular identification of *Strongyloides stercoralis* infection in a severe pulmonary patient with pemphigus from Hainan Province of China

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Objective: To describe a case of *Strongyloides (S.) stercoralis* infestation with severe lung involvement in a patient who had pemphigus and treated with prednisone and to analyze the molecular characteristics of the *S. stercoralis* isolate.

Methods: A 54-year-old Chinese man living in rural area of the Hainan Province, China. He had a 1-year history of pemphigus and took prednisone for more than six month. He was admitted to the hospital with a 1-week history of abdominal pain, nausea and vomiting. Two days before admission, he presented with cough, expectoration, and shortness of breath after activity accompanied by fever. Computed tomography (CT) of the chest was performed at different stage of admission. Gastric juice, sputum and stool sample smears were examined under light microscope. The larvae of *Strongyloides* were found from gastric juice, sputum and stool samples of the patient and the genomic DNA of the larvae was extracted. PCR amplification of the cytochrome c oxidase subunit 1 (*cox1*) gene was carried out for the DNA sample and the products were sequenced.

Results: CT of the chest on day 1 of admission showed inflammation in the tongue segment of the upper lobe of the left lung and the lower lobe of both lungs and the subsequent CT of the chest revealed extensive bilateral pulmonary infiltrates. PCR amplification and sequencing analysis of the *Strongyloides* larvae directly collected from the gastric juice, sputum and stool samples on day 10 of admission showed that 100% homology with the sequence of *S. stercoralis* isolated in a human from Iran (GenBank No. MG995852). Clinical and imageological improvement was achieved after treatment of albendazole (600 mg/day).

Conclusions: This is the first case report of pulmonary *S. stercoralis* infection in a patient with pemphigus treated with prednisone in Hainan Province of China. We suggested that strongyloidiasis should be routinely investigated in patients presenting with nausea, vomiting, diarrhea, cough or expectoration which were accompanied by fever, especially for patients with low immune function or immune deficiency.

Keywords: Pulmonary; *Strongyloides stercoralis*; Pemphigus; Hainan

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