

Letter

H7N9 viral pneumonia: asymmetric and irregular changes on computed tomography

To the editor: In March 2013, three urban residents were admitted to hospitals with acute infections of the lower respiratory tracts. Later, it was found that the infections were caused by a newly emergent reassortant avian-origin virus: influenza A (H7N9).¹

On 3 April 2013, a 67-year-old male with no history of chronic pulmonary disease was admitted to the emergency unit with fever for the last three days. On admission, he had a temperature of 39.7°C, a blood pressure of 110/50 mmHg (1 mmHg=0.133 kPa), and an oxygen saturation of 94.6%. On auscultation, there notably was decreased breath sounds on the area of the left lower lobe. On 6 April 2013, respiratory specimens (throat swab) were collected by the CDC in Shanghai and the avian-origin influenza A (H7N9) was identified.

Laboratory tests showed that the patient had neutrophilia, lymphocytopenia, and that the alanine aminotransferase and aspartate aminotransferase levels were increasing. The laboratory tests were performed on 5 April 2013.

On 3 April 2013, a chest CT showed an inferior lingular segment of the left lung with ground-glass opacities (GGO) and consolidation in the peripheral distribution (Figure 1A). On 5 April 2013, the second chest CT was performed following the hormonotherapy. Apparently, the lesions of the inferior lingular segment were absorbed (Figure 1B). On 10 April 2013, the third chest CT was administrated following a rapid deterioration of symptoms. New lesions appeared at the apicoposterior segment and basal segment (Figures 1C–E). On 16 April 2013, another CT was performed; lesions of the apicoposterior segment in the left lung were advanced, while the lesions of the basal segment were absorbed (Figures 1F–H).

Most of the clinical symptoms are similar to those observed in the regular seasonal influenza: fever, cough, sore throat, headache, and fatigue. The majority of the infections with H7N9 are seen in the

middle-age and elderly people.

The patient was confirmed with infection by influenza A (H7N9) virus. When there was deterioration of both symptoms and radiology, we had excluded the cryptococcal, fungal, and other opportunistic I infection.

The notable CT findings which consisted of a mixed pattern of ground-glass opacities and areas of consolidation, with a predominantly multifocal or diffuse pattern, mainly located in a peripheral distribution were similar to the manifestation of H1N1 pneumonia.² The lesions in the lung were changing rapidly and the extent of lesions is not symmetrical. No pleural effusion or enlarged lymph nodes was observed in the patient.

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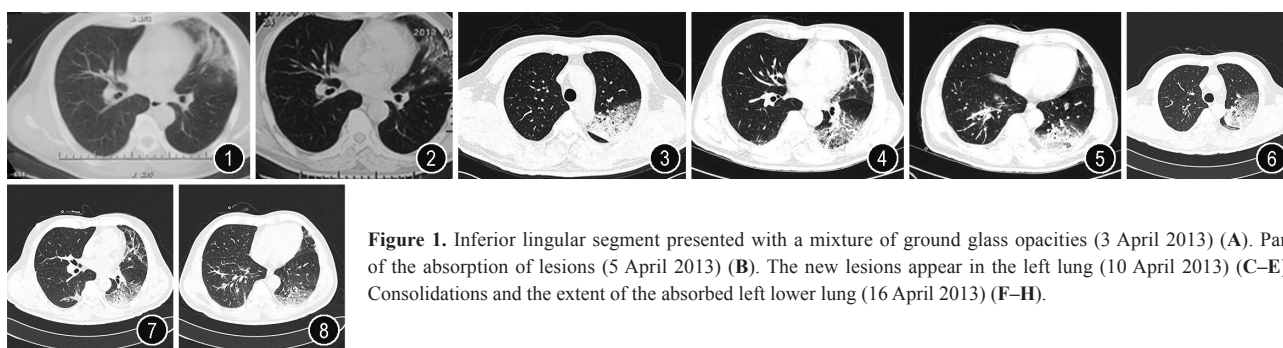


Figure 1. Inferior lingular segment presented with a mixture of ground glass opacities (3 April 2013) (A). Part of the absorption of lesions (5 April 2013) (B). The new lesions appear in the left lung (10 April 2013) (C–E). Consolidations and the extent of the absorbed left lower lung (16 April 2013) (F–H).