



Evaluation of Cases with Hypersensitivity Pneumonia

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Dear Editor,

We wanted to draw attention to hypersensitivity pneumonia (HP) with a case series of 11 patients. HP, classified in the category of interstitial lung diseases, occurs as a result of the immunological reaction that develops in the lung parenchyma with repeated inhalation of lung-sensitive antigen. This immunological reaction is a combination of type 3 and type 4 overreaction. Although the severity of the disease varies with the density of the inhaled antigen, more than 300 antigens have been identified. These antigens may be from the living environment, profession or hobby. The most frequently identified occupational exposures are agricultural workers handling livestock and bird feeders. In the classification, those with symptoms lasting less than 6 months are classified as acute HP, while those with symptoms longer than 6 months are classified as chronic or fibrotic HP. HP begins with symptoms of fever, cough, shortness of breath and weakness within hours of exposure to a certain antigen, and the complaints regress when the exposure ends. The severity and duration of exposure determine the development of chronic or acute form. In diagnosis, it is sufficient to determine the exposure in the history and observe distinct ground glass areas and nodular opacities in the upper and middle lobes on High-Resolution Computed Thoracic Tomography (HRCT). (Figure 1-2)

Demonstration of specific IgG developed for the antigen in the blood, lymphocyte count above 50% in bronchoalveolar lavage (BAL) and low CD4/CD8 ratio are useful in diagnosis. While obstruction and restriction are observed in the respiratory function test (PFT), a decrease in diffusion capacity (DLCO) is observed. In cases where a diagnosis cannot be made, lung biopsy is required for definitive diagnosis.

The most important step in treatment is preventing exposure. Symptoms typically improve with prevention of exposure. Steroids are used in medical treatment. In our case series, the complaints of all 11 patients had an acute onset and included cough, shortness of breath and sputum. The diagnosis was made by observing ground glass areas and patchy consolidation in the patients' HRCTs and by detecting exposure in their histories. Of the 11 patients, 4 were bird feeders and 5 were engaged in animal husbandry. Two patients were working as carpenters. HP was diagnosed because the radiological images of the patients were typical and exposure was detected. Steroid treatment was started in 10 of the patients, while one were weaned from antigen exposure. As a result of treatment and precautions, significant clinical and radiological improvement was observed. Comparative radiological images after steroid treatment are shown in pictures 1-4. The general characteristics of the patients are listed in the prepared table.

We have no foundation support and no conflict of interest.

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Figure 1: HRCT findings of case eleven before and after steroid treatment

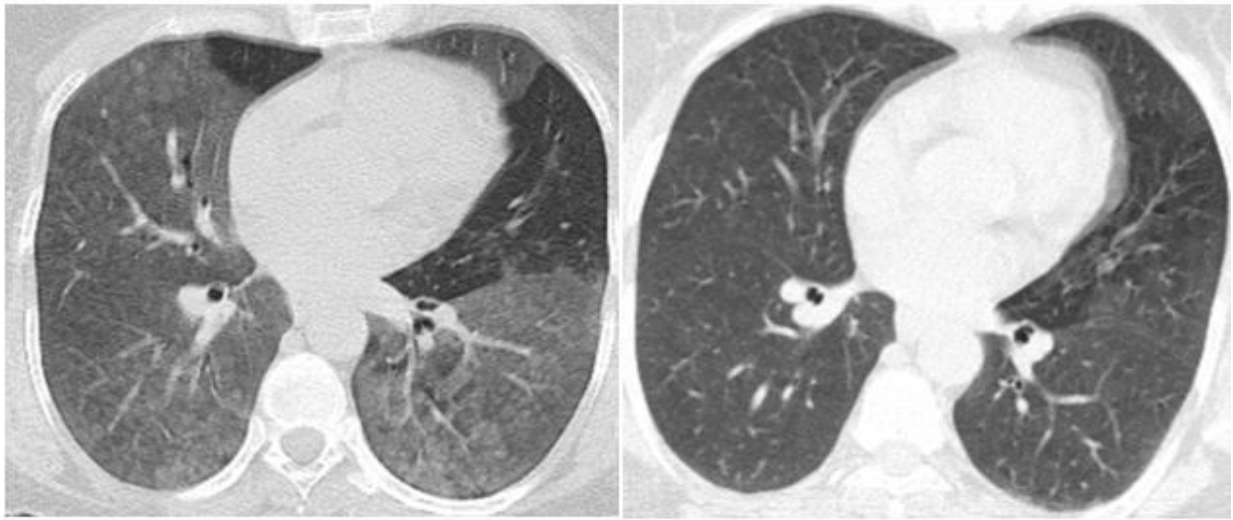


Figure 2: HRCT findings of case nine before and after steroid treatment

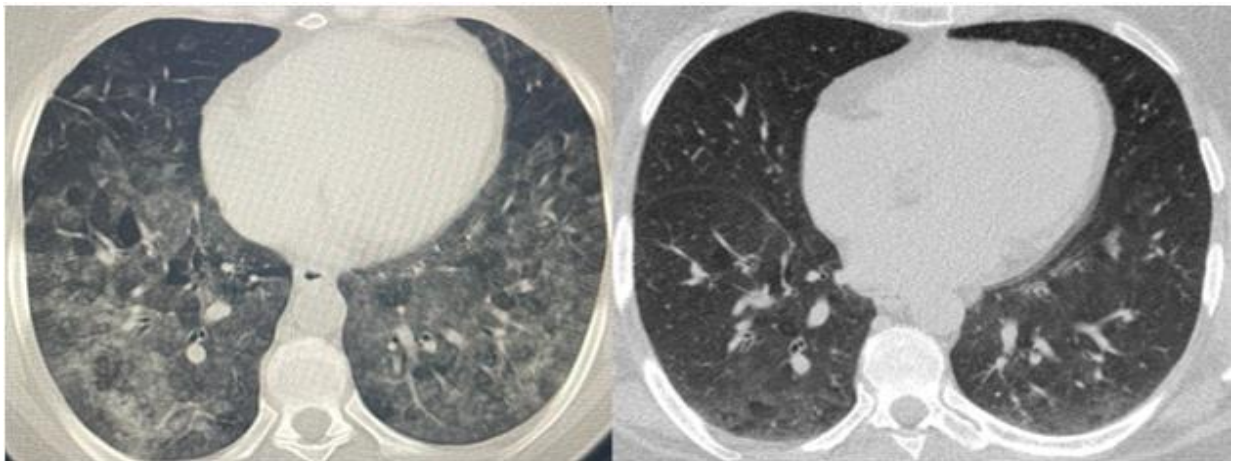


Table 1. : The general characteristics of the patients are listed in the prepared table.

Cases	Age/Gender	Complaint	Smoking	Exposure	HRCT	PFT	Treatment
Case 1	24/Female	Shortness of Breath Cough Sputum	Non-smoker	Animal Husbandry	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Restriction	Steroid
Case 2	51/Male	Shortness of Breath Cough Sputum	Non-smoker	Carpentry	Centrilobular nodules Mosaic attenuation	Normal	Steroid
Case 3	66/Male	Shortness of Breath Cough Fever	Non-smoker	Animal Husbandry	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Obstruction	Steroid
Case 4	39/Male	Shortness of Breath Cough Sputum	Smoker	Bird Feeder	Centrilobular nodules Ground-glass opacity	Normal	Steroid



		Fever					
Case 5	65/Male	Shortness of Breath Cough	Non-smoker	Bird Feeder	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Obstruction and Restriction	Steroid
Case 6	36/Male	Shortness of Breath Cough Sputum	Smoker	Bird Feeder	Centrilobular nodules Mosaic attenuation	Obstruction	Steroid
Case 7	55/Female	Shortness of Breath Cough	Non-smoker	Bird Feeder	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Obstruction and restriction	Steroid
Case 8	48/Male	Shortness of Breath	Smoker	Carpentry	Centrilobular nodules Ground-glass opacity	Obstruction and restriction	Steroid
Case 9	43/Female	Shortness of Breath Cough	Non-smoker	Animal Husbandry	Centrilobular nodules Ground-glass opacity	Restriction and obstruction	Steroid
Case 10	49/Female	Shortness of Breath Cough Sputum	Non-smoker	Animal Husbandry	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Normal	Discontinuation of exposure
Case 11	54/Female	Shortness of Breath Cough	Non-smoker	Animal Husbandry	Centrilobular nodules Ground-glass opacity Mosaic attenuation	Restriction and obstruction	Steroid

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