

Necrotizing Lung Nodules of Wegener's Granulomatosis Treated with Chinese Herbal Medicine: A Three Years Follow-Up Case Report

Chung-Hua Hsu¹, Steve G.N. Chang², Kung-Chang Hwang³, Lin-Huang Huang⁴ and Cheng-Hung Cheng^{5,*}

¹Institute of Traditional Medicine, National Yang-Ming University, and Branch of Chinese Medicine Taipei City Hospital, Taiwan; ²Department of Radiology, Taipei Hospital, Taiwan; ³Department of Pediatrics, Taipei Hospital, Taiwan; ⁴Department of Chinese Medicine, Yuan-San Veterans Hospital, Yi-Lan and ⁵Branch of Chinese Medicine Taipei City Hospital, NO 100 Kunming St, Taipei City, Taiwan

Abstract: Wegener's granulomatosis (WG) is an uncommon systemic vasculitis of unclear pathophysiology. We described the case of a 53-year-old man diagnosed with WG characterized by necrotizing lung abscess. He was dissatisfied with the lack of response to treatment of corticosteroids and antibiotics. With persistent fever and cough, he requested to switch to Chinese herbal medicine (CHM) for further treatment instead. After two weeks of treatment, there was dramatic improvement and both fever and coughing subsided. The chest X-ray film showed disappearance of air-fluid level, which was compatible with the disease.

CASE REPORT

WG is an uncommon systemic vasculitis of unclear pathophysiology [1]. It usually affects the upper respiratory tract, lung and kidney [2]. Currently, a combination of corticosteroids and cyclophosphamide induces remission in most patients, but relapse often occurs [2, 3]. We reported a WG patient receiving CHM and showing improvement in his necrotizing lung abscess, and followed up the course of the disease for 3 years.

The patient was a 53-year-old man with a history of sinusitis for one year. He was treated with different antibiotics at the outpatient department and showed no improvement. Several palpable infiltrative nodules with punch-out ulcer on his chest, back and legs had been noted for 5 months before his admission. He was admitted to a hospital because of persistent fever, cough and dyspnea on exertion on September 20, 2002. Upon admission, chest radiography showed bilateral lung mass and laboratory data revealed leukocytosis with hypereosinophilia, a high erythrocyte sedimentation rate and C-reactive protein. Nasal biopsy was done and WG was suspected; however, cytoplasmic antineutrophil cytoplasmic autoantibodies (C-ANCA) were negative and periodic acid-Schiff stain also showed negative. His symptoms improved after treatment with hydrocortisone. Ten days later, he was discharged with oral prednisolone 15 mg each day. The patient tapered prednisolone to 5 mg each day by himself due to the side effect of puffy face. Another 10 days later, the symptoms of exertion dyspnea, intermittent chest tightness and productive cough with yellowish sputum were noted. High fever developed on October 28, 2002 and a chest

film showed progression of bilateral lung lesion. Under the impression of left lung abscess and right lung mass, he was admitted again (Fig. 1). After admission, chest CT was performed and showed a well-encapsulated mass in bilateral lower lung field with air-fluid level on the left side (Fig. 2). Echo-guided biopsy of the right lung lesion showed necrotizing inflammation. The serum C-ANCA level was evaluated for WG again, the level still pending. He was dissatisfied with the lack of response to the treatment of corticosteroids and antibiotics with persistent fever and cough still noted. He requested to discontinue the treatment of corticosteroids and antibiotics, and switched to CHM. He was discharged 7 days later and visited our clinic for treatment of CHM.

According to the traditional Chinese medicine theory, lung abscess occurs due to deficiency of Yin and heat in the lung, A CHM powder named Tao Lei Chao Deo Decoction, which was extracted from 12 different kinds of herbs (Radix Ginseng, Radix Glycyrrhizae, Radix Angelicae, Radix Paoniae Alba, Rhizoma Ligustici Chuanxiong, Radix Astragali, Rhizoma Atractylodis Macrocephalae, Poria, Radix Platycodi, Flos Lonicerae, Angelica Dahurica, Gleditsia Sinensis Lam) made up the formula. The patient was prescribed to take 5 gm of the formula after each meal; that is, 3 times each day making a total daily dose of 15 gm. Moreover, Flos Lonicerae 20 gm, Herba Houttuyniae 20 gm, Radix Isatidis 20 gm and Radix Asteris 15 gm were mixed with 600 ml of water and simmered at a low heat for 20 minutes. The decoction thus obtained was also given to the patient every day. Dramatic improvement in fever and cough was noted after two-week treatment. The following chest X-ray film showed disappearance of air-fluid level, which was compatible with the disease (Fig. 3). He had not received any other treatment including antibiotics and corticosteroids.

He was kept on CHM treatment for one year (Fig. 4). Although some minor symptoms such as coughing and stuffy

*Address correspondence to this author at the Branch of Chinese Medicine Taipei City Hospital, NO 100 Kunming St, Taipei City, Taiwan; Tel: +886-2-23887088, Ext. 3828; Fax: +886-2-23899170; E-mail: owlherbs@yahoo.com.tw

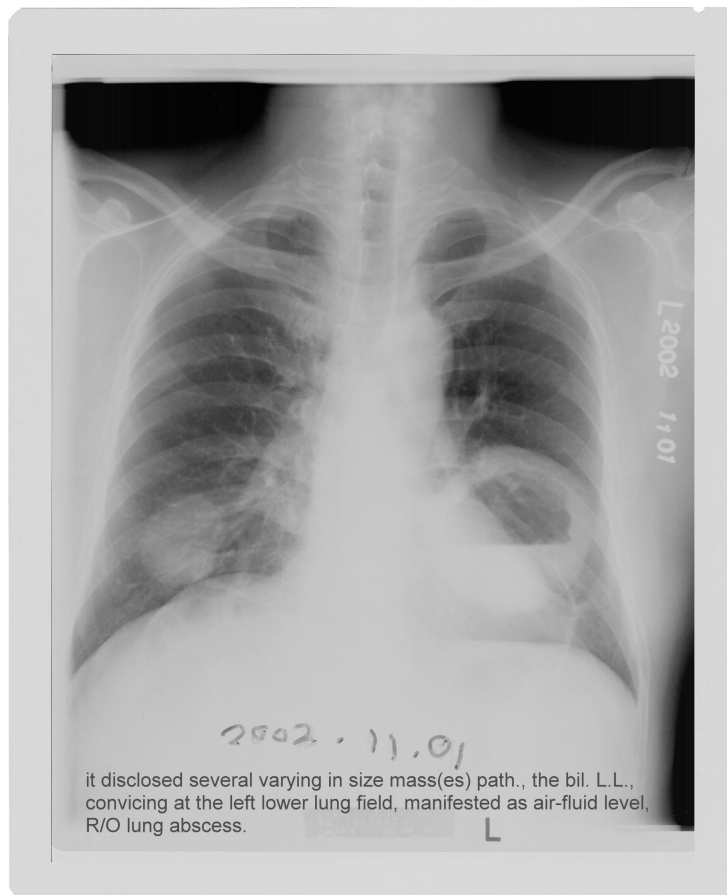


Fig. (1). Bil LL convincing at lower lung field. Manifested air-fluid level, R/O lung abscess.

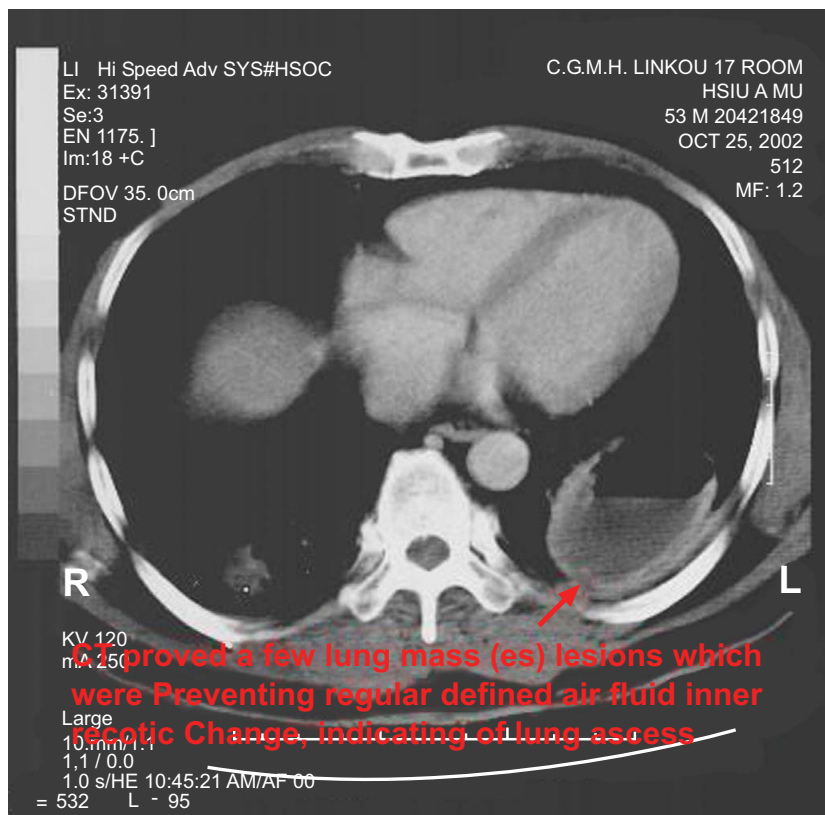


Fig. (2). CT scan: air-fluid level, R/O lung abscess.

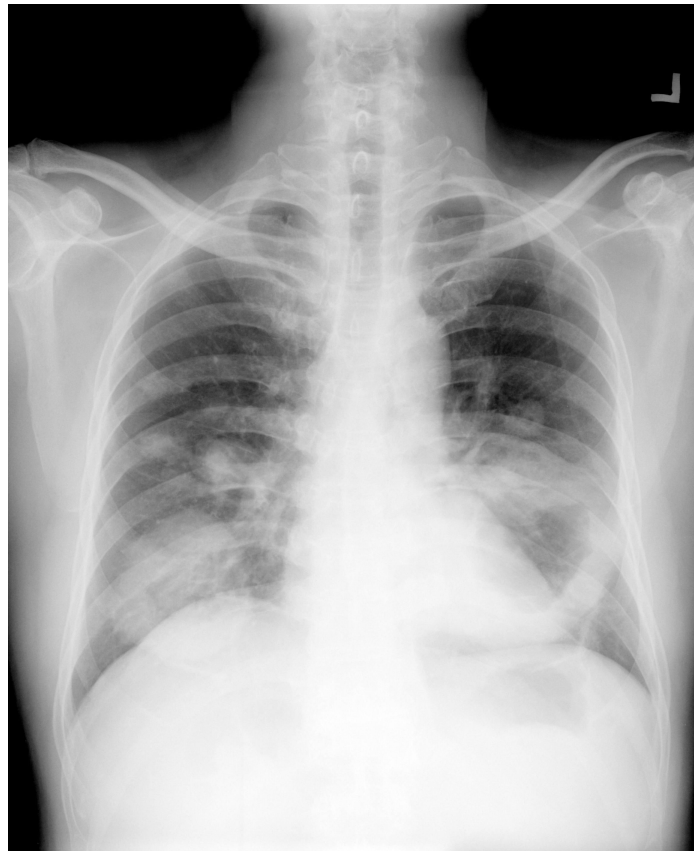


Fig. (3). Air-fluid level disappeared after taking CHM for 2 weeks.



Fig. (4). Regression change after follow-up for a few months.

nose were noted during this year, he did not receive any corticosteroid. He felt better and stopped medication the next year. Unfortunately fever, cough blood-tinged sputum, and progressive hemoptysis were noted on December 13, 2005. Under the impression of WG remission, he was admitted again. The C-ANCA level was evaluated and showed positive. After the treatment of corticosteroids and antibiotics, he was improving one week later and was discharged.

DISCUSSION

WG was first described by Klinger in 1993, and studied by other researchers [4]. The clinical presentation of WG can be diverse. Disease of the upper respiratory tract is the most common presenting feature of WG. Pulmonary involvement is one of the features of WG. It occurs in 45% of patients at presentation and 87% during the course of the disease [2]. Cough, hemoptysis and pleuritis are the most common pulmonary symptoms. The most common chest film includes pulmonary infiltration and nodules [5]. Our case is compatible with the WG clinical presentations.

WG is one of the ANCA-associated small vessel vasculitis [6, 7]. There is a strong and specific association with autoantibodies. The presence of such antibodies is a strong indicator for a diagnosis of WG. Several serum analyses for the C-ANCA showed negative in the beginning and changed to positive 3 years later. The result supported our initial diagnosis.

The recommended treatment of WG is cyclophosphamide and corticosteroids. This treatment is effective. In WG, respiratory tract infection frequently accompanies initial symptoms [8]. The bacteria pathogen is a risk factor for disease relapse due to immune dysbalance [9]. In our case, the pulmonary abscess might be the initial presentation or the result of immune dysbalance. After taking corticosteroids. Although antibiotics was given, the lack of response to the medication prompted him to switch to CHM for further treatment, which has been rarely reported. According to *Treatise on Febrile Disease (Shang Han Lun)*, a variety of herbal formulas have

been used to treat patients with infectious diseases for over 1800 years. CHM is generally well accepted among the Chinese population. Prescriptions for infectious diseases were made according to clinical presentations, rather than laboratory-confirmed pathogens, which were beyond their knowledge at that time. CHM employed for treating infectious disease had been reported [10]. The experience is worth our learning. Although the findings of our case report need to be verified in a large sample, the initial results showed the benefit of CTM on WG. The definitive benefits need to be further determined.

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