
Review Article

DIAGNOSIS AND TREATMENT OF TUBERCULOUS PLEURISY

— With Special Reference to the Significance of Measurement of
Pleural Fluid Cytokines —

^{1,2}Keisuke AOE, ¹Akio HIRAKI, and ²Tomoyuki MURAKAMI

Abstract Tuberculous pleurisy as well as malignant pleuritis is a representative disease presenting pleural effusion. The diagnosis of tuberculous pleurisy is made from examination of pleural effusion, but the sensitivity of smear or culture of *Mycobacterium tuberculosis* from pleural fluid is generally low. Although the pleural fluid concentration of adenosine deaminase (ADA) is useful in terms of sensitivity or specificity, the value could be high in empyema or rheumatoid pleuritis. Thoracoscopic biopsy of pleura is more sensitive rather than conventional percutaneous needle biopsy, but is more invasive. Tuberculous pleural effusion is caused by delayed allergy which macrophage and T-helper 1 cells mainly relate and the stimuli of bacterial body consecutively induces T-helper 1 cytokines. Pleural fluid interferon- γ (INF- γ) is important not only in pathogenesis but also in diagnosis. We demonstrated that INF- γ is a more sensitive and specific indicator for tuberculous pleurisy than ADA using receiver operating characteristics (ROC) analysis. Cytometric bead array (CBA)

is a tool to simultaneously measure abundance of various cytokines and is expected to be a very useful method to provide informations for understanding a feedback mechanism of cytokine network. It is needed to clear the immunity in pleural fluid and to establish the less invasive and more useful method to diagnose tuberculous pleurisy.

Key words: Tuberculous pleurisy, Diagnosis, Cytokine, INF- γ , Receiver operating characteristics curve, Cytometric bead array

Departments of ¹Respiratory Medicine and ²Clinical Research, National Sanyo Hospital Respiratory Disease Center

Correspondence to: Keisuke Aoe, Department of Respiratory Medicine, National Sanyo Hospital Respiratory Disease Center, 685 Higashikiwa, Ube-shi, Yamaguchi 755-0241 Japan. (E-mail: aoe@sanyou-dr.jp)

THE CLINICAL FEATURES OF ULTRA-OLD TUBERCULOSIS PATIENTS IN OUR HOSPITAL

Shuichi YANO, Kanako KOBAYASHI, Kazuhiro KATO, Masato MORITA,
Toshiyuki TATSUKAWA, and Toshikazu IKEDA

Abstract [Purpose] To examine the clinical features of ultra-old patients over 85 years of age who were admitted to our hospital for tuberculosis treatment.

[Methods] Clinical features of tuberculosis patients over 85 years of age who were admitted to our hospital from January, 1996 to May, 2003 were analyzed in relation to their disease status, complications and prognosis.

[Results] They showed a high tuberculin negative rate (26.2%) and a low rate of cavity formation (21.8%), and the smear positive rate of tubercle bacilli was not high (51.2%). As to the complications, cerebrovascular disorders were overwhelmingly high (62.2%) and the death rate due to side effects of drugs was high. The sputum smear positive rate was higher (70%) among patients from nursing home.

[Conclusion] The diagnosis of tuberculosis was often delayed with high mortality rate due to side effects of drugs among ultra-old patients and tuberculosis infection control measures to contacts are often needed.

Key words: Ultra-old tuberculosis, Disease status

Department of Pulmonary Medicine, National Matsue Hospital

Correspondence to: Shuichi Yano, Department of Pulmonary Medicine, National Matsue Hospital, 5-8-31, Agenogi, Matsue-shi, Shimane 690-8556 Japan.

(E-mail: yano@matsue.hosp.go.jp)

THORACIC MALIGNANCIES IN PATIENTS WITH CHRONIC TUBERCULOUS EMPYEMA

¹Atsuhisa TAMURA, ²Akira HEBISAWA, ¹Yuzo SAGARA, ¹Junko SUZUKI,
¹Kimihiko MASUDA, ¹Motoo BABA, ¹Hideaki NAGAI, ¹Shinobu AKAGAWA,
¹Naohiro NAGAYAMA, ¹Yoshiko KAWABE, ¹Kazuko MACHIDA, ¹Atsuyuki KURASHIMA,
¹Hikotaro KOMATSU, and ¹Hideki YOTSUMOTO

Abstract [Objectives] To clarify features of thoracic malignancies occurred in patients with chronic tuberculous empyema.

[Materials and methods] We analyzed clinicopathological data of 15 patients with thoracic malignancies who had chronic tuberculous empyema, encountered at Tokyo National Hospital during the period from 1977 to 2002.

[Results] There were 13 men and 2 women, with a mean age of 67 years. Most of all (13/15) patients had history of surgery for tuberculosis including artificial pneumothorax (9 cases). Malignancies consisted of pyothorax-associated lymphoma (PAL; 9 cases), lung cancer (4 cases), malignant fibrous histiocytoma (1 case), and angiosarcoma (1 case). There were no differences in background factors between PAL patients and the other patients. Common symptoms were chest pain (10 cases), fever (7 cases), and bloody sputum (4 cases) and it seemed that these symptoms were more evident in patients with PAL than in patients with other diseases. Plain chest X-ray films often failed to detect the tumor, and the diagnosis was often obtained by sputum cytology, bronchofiberscopy, transcutaneous biopsy, and resection with support of CT and/or MRI films. On radiographs, all tumors located in

empyema cavities or around empyema walls, and a pulmonary mass adjacent to the empyema wall was characteristic of lung cancer. PAL showed certainly good outcome; 40% 5-year survival rate with resection or chemoradiotherapy. On the other hand, all of lung cancer cases were diagnosed at stage III, and had poor outcome, and the remaining patients with the other malignancies also had poor outcome.

[Conclusion] Clinicians should keep in mind occurrence of several thoracic malignancies during the follow-up of patients with chronic tuberculous empyema.

Key words: Chronic tuberculous empyema, Thoracic malignancies, Pyothorax-associated lymphoma, Lung cancer

¹Department of Respiratory Diseases, and ²Pathology, Tokyo National Hospital

Correspondence: Atsuhisa Tamura, Department of Respiratory Diseases, Tokyo National Hospital, 3-1-1, Takeoka, Kiyose-shi, Tokyo 204-8585 Japan.
(E-mail: tamura@tokyo.hosp.go.jp)

C-REACTIVE PROTEIN IN PATIENTS WITH BACTERIOLOGICAL POSITIVE LUNG TUBERCULOSIS

¹Kunihiko ITO, ¹Takashi YOSHIYAMA, ¹Masako WADA, and ²Hideo OGATA

Abstract [Purpose] To investigate the usefulness of measuring C-reactive protein in the diagnosis of lung tuberculosis.

[Object] Tuberculosis patients treated by chemotherapy at Fukujuji Hospital from Jan. /1/2000 to Dec. /31/2001.

[Method] Chart review.

[Results] CRP are negative in 13.3% (95%CI: 8.9–17.7%) in sputum smear positive lung tuberculosis patients (N=226), and in 73.0% (95%CI: 62.0–84.0%) of sputum smear negative culture positive lung tuberculosis patients (N=63).

[Conclusion] Usefulness of measuring C-reactive protein in the diagnosis of bacteriological positive lung tuberculosis is limited.

Key words : Active lung tuberculosis, Erythrocyte sedimentation rate, C-reactive protein (CRP), Leukocytosis

¹Department of Research, Research Institute of Tuberculosis,

²Department of Respiratory Medicine, Fukujuji Hospital, Japan Anti-Tuberculosis Association

Correspondence to : Kunihiko Ito, Department of Research, Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association, 3-1-24, Matsuyama, Kiyose-shi, Tokyo 204-8533 Japan. (E-mail: ito@jata.or.jp)

————— Case Report —————

FOUR CASES OF *MYCOBACTERIUM XENOPI* PULMONARY DISEASE

Seigo MINAMI, Katsuhiko SUZUKI, Kazunari TSUYUGUCHI, and Mitsunori SAKATANI

Abstract *Mycobacterium xenopi* is very rare pathogen in Japan. We reported herein four cases of *M.xenopi* pulmonary disease. These patients were all male and their ages ranged from 53 to 72. They all had past history of pulmonary tuberculosis, including two cases who had been also treated for *Mycobacterium kansasii* pulmonary disease later. The bacilli could be cultured in Mycobacteria Growth Indicator Tube (MGIT) system from 10 sputum samples, but they could not be cultured on Ogawa egg media except for two samples. All four cases fulfilled the criteria for the diagnosis of nontuberculous mycobacteria pulmonary disease proposed by the Japanese Society for Tuberculosis. Combination chemotherapy including isoniazid, rifampicin, and ethambutol was started in all four cases when mycobacteria were detected under tentative diagnosis of the relapse of tuberculosis or *Mycobacterium kansasii* disease. Sputum converted to culture negative by the

chemotherapy in two cases. In one case, the chemotherapeutic regimen was changed to rifampicin, ethambutol, and clarithromycin after the bacteriological identification of *M.xenopi*, and the new regimen was found to be effective. In the final case, both of the regimens were finally ineffective.

Key words : *Mycobacterium xenopi*, Nontuberculous mycobacteria

Department of Respiratory Medicine, National Kinki-Chuo Hospital for Chest Diseases

Correspondence to : Seigo Minami, Department of Respiratory Medicine, National Kinki-Chuo Hospital for Chest Diseases, 1180, Nagasone-cho, Sakai-shi, Osaka 591-8025 Japan.

ERRATUM

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Reference No. 26 should have been as follows,

Abe C, Hirano K, Wada M, et al.: Resistance of *Mycobacterium tuberculosis* to four first-line anti-tuberculosis drugs in Japan, 1997. Int J Tuberc Lung Dis. 2001 ; 5 : 46–52.

We apologize for any confusion.