

## Original Article

IMPORTANCE OF MONITORING THE DRUG DOSAGE AND TREATMENT DURATION  
FOR THE MANAGEMENT OF TUBERCULOSIS PATIENTS  
AT PUBLIC HEALTH CENTERS

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**Abstract** [Purpose] On the basis of actual field data, we investigated the importance of monitoring the drug dosage and treatment duration for the supportive care of patients with tuberculosis who were being treated at public health centers.

[Patients & Methods] Data of the drug dosage of principal anti-tuberculosis drugs and the treatment duration for the registered patients with tuberculosis at the Shinjuku-ku Public Health Center were analyzed.

[Results] The actual dosage of rifampicin and isoniazid according to the "recommended" dosage was administered to 57.3% (67/117) and 82.0% (114/139), respectively, patients with tuberculosis registered at the Shinjuku-ku Public Health Center. In contrast, in patients with tuberculosis who were treated at a highly specialized tuberculosis hospital, the rates were 81.0% (98/121) and 93.5% (86/92), respectively; for both drugs, the rates were significantly higher in this hospital than in the Shinjuku-ku Public Health Center. For the treatment duration, of 92 patients registered at the Shinjuku-ku Public Health Center who could have completed standard treatment in the standard duration, the actual treatment durations were shorter than the standard duration in 15.2% of the patients (14/92; -32 to -1 days), and longer than the standard duration in 77.2% (71/92; 2 to 146 days); the total superfluous

treatment days for the latter 71 patients were 1,877 days. The treatment durations were more than 2 weeks shorter or longer than the standard duration for 31 patients, and in 71.0% (22/31) of these patients, no specific reason could be determined as to why the treatment durations were not standard.

[Conclusion] In a significant number of patients, the drug dosage and treatment duration were not according to the standard values. By using this data about the management of the drug dosage and treatment duration for the supportive care of patients with tuberculosis treated at public health centers, we may improve quality of the provided supportive care.

**Key words:** Tuberculosis, Standard regimen, Dosage, Treatment duration, DOT

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**Case Report**

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**DEVELOPMENT OF EOSINOPHILIC PNEUMONIA IN A PATIENT  
WITH LATENT TUBERCULOSIS INFECTION RESULTING FROM ISONIAZID**

Nobuaki UMEDA, Yuya INADA, and Takashi MAMOTO

**Abstract** We report a 37-year-old patient with latent tuberculosis infection who received isoniazid (INH) anti-tuberculosis chemoprophylaxis. However, he developed fever and productive cough 3 weeks after treatment. Chest radiography and computed tomography showed bilateral infiltrative shadows in upper fields. Bronchoalveolar lavage fluid revealed a high proportion of eosinophils, and histological examination of biopsied lung tissue showed interstitial thickening with eosinocyte infiltration. Based on these findings, the patient was diagnosed with drug-induced eosinophilic pneumonia. His febrile condition and dry cough resolved after discontinuation of INH. Chest X-rays showed improvement of infiltrative shadows. This case report highlights the potential

for INH-induced pneumonitis during the course of anti-tuberculosis chemoprophylaxis.

**Key words:** Isoniazid, Eosinophilic pneumonia, Drug-induced pneumonitis, Latent tuberculosis infection

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## A YOUNG CASE OF PULMONARY TUBERCULOSIS WITH ATYPICAL TUMOR SHADOW ON CHEST COMPUTED TOMOGRAPHY AND ITS DIFFICULTY IN DIAGNOSIS

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Kozue MIYAZAKI, Naoki YAMAOKA, and Toshihiko KURAOKA

**Abstract** [Background] Diagnosis of pulmonary tuberculosis is usually made by diagnostic imaging such as chest X-ray or computed tomography (CT), and sputum test including smear and polymerase chain reaction (PCR) test. However there is difficulty in making diagnose when atypical imaging and negative sputum test are presented, followed by diagnostic delay.

[Case] A 26-year-old man from Philippines consulted other clinic because of dry cough and was pointed out mass shadow in right upper lung field in his chest CT. He visited our office because of positive interferon gamma release assay, but repeated sputum test could not find tuberculosis. Bleeding from mass lesion failed to perform biopsy by bronchoscope, and we failed to find tuberculosis by smear and PCR test from bronchial brushing and wash. Transthoracic needle biopsy from his mass lesion revealed multiple non-caseous granuloma, and lead to make a decision about starting medication. Four weeks later sputum culture from his first visit revealed positive, and diagnosis of tuberculosis was made.

[Discussion] For avoiding therapy delay it is important to perform invasive diagnostic procedure including histological examination and clinical decision of starting medication, when conservative diagnostic procedure such as sputum test or diagnostic imaging present atypical finding for diagnosing tuberculosis.

**Key words:** Tumor shadow, Pulmonary tuberculosis, Transthoracic needle biopsy, Non-caseous granuloma

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 Report and Information
 

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## TUBERCULOSIS ANNUAL REPORT 2012

## — (3) Case Finding and Condition of Tuberculosis on Diagnosis —

Tuberculosis Surveillance Center (TSC), RIT, JATA

**Abstract** Tuberculosis (TB) case findings from 2012 nationwide TB surveillance data in Japan were reviewed for diagnosis delay, proportion of far-advanced cavitory lesions, co-existing human immunodeficiency virus (HIV) infection and diabetes mellitus (DM), and drug susceptibility testing (DST).

Among 21,283 new TB cases in 2012, 82.4% were detected when patients sought medical attention for TB symptoms or visited medical facilities for other chief complaints.

Among 16,432 patients with pulmonary TB, 25.8% had only respiratory symptoms, 31.7% had both respiratory and non-respiratory symptoms, 16.7% had only non-respiratory symptoms, and 0.6% had unknown symptoms. The rest (25.2%) were asymptomatic.

The proportion of patient and doctor delays among 12,197 symptomatic pulmonary TB cases was analyzed. A large proportion—approximately 25–30%—of patients aged 35–64 years with symptomatic pulmonary TB exhibited a patient delay of  $\geq 2$  months. Like patient delay, the proportion of patients with a total delay (i.e., the sum of the patient and doctor delays) of  $\geq 3$  months decreased after 55 years of age. Moreover, the proportion of patients aged  $\geq 65$  years with a doctor delay of  $\geq 1$  month was higher than patients aged  $< 65$  years. A large proportion—approximately 30%—of patients with symptomatic smear-positive TB were  $< 60$  years of age with a total delay of  $\geq 3$  months due to longer patient delays. Meanwhile, the proportion of patients—approximately 15%—with a doctor delay  $\geq 1$  month was relatively stable across all age groups.

The proportion of patients with pulmonary TB with advanced lung cavities increased from 1.5% in 1975 to approximately 2

% and remained stable from 1985 to 2007.

From 2007 to 2012, 366 patients with HIV infection had newly notified TB, 314 (85.8%) and 52 (14.2%) men and women, respectively, including 76 (20.8%) non-Japanese patients.

Newly notified TB cases with DM comprised 14.3% (3,036/21,283) of the total cases in 2012 : 16.4% (2,127/12,988) of men and 11.0% (909/8,295) of women.

The surveillance system obtained DST results for 8,347 (74.1%) of 11,261 culture-positive pulmonary TB cases in 2012. Among previously untreated cases, the proportions of patients with multi-drug resistant TB, any isoniazid resistance, and any rifampicin resistance were 0.5%, 4.0%, and 0.6%, respectively; the proportions in previously treated cases were 4.0%, 12.1%, and 4.7%, respectively. The proportions in previously untreated cases have remained stable for 6 years (2007–2012).

**Key words:** Tuberculosis, Delay to diagnosis, Bacteriologically-positive, Cavity, Complication, Anti-tuberculosis drug susceptibility test

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