

POSITIVE SPUTUM SMEAR RESULTS AFTER TWO CONSECUTIVE NEGATIVE SMEARS DURING TREATMENT OF PULMONARY TUBERCULOSIS

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Abstract [Objectives] During treatment of pulmonary tuberculosis, sputum smear may turn positive after 2 consecutive negative results. In the present study, we analyzed the infectivity in such cases.

[Subjects and Methods] The study involved 201 patients with sputum smear positive pulmonary tuberculosis who were admitted to our hospital between January 2004 and June 2009. Chart review was performed on the bacterial culture results and clinical course of patients in whom the sputum smear test turned to positive after 2 consecutive negative smears.

[Results] There were 37 such cases (42 events). The event occurred after the treatment of 2 weeks or longer and less than 1 month in 6 cases (7 events). The culture examination of the smear-positive sputum was negative in only 1 of these cases. There were 9 cases who turned smear positive after the treatment period of 1 month or longer and less than 2 months, and 6 of these cases showed negative results in the bacterial culture of the smear positive sputum. In these cases, the grade of smear positivity was generally low and subsequent tests yielded negative results. There were 22 cases (26 events) in which this phenomenon was observed after treatment for 2 months or longer. Subsequent bacterial culture yielded negative

results in all but 1 of these cases.

[Discussion and Conclusion] In patients whose sputum smears gave positive results after 2 consecutive negative smear tests, the bacterial load of the sputum decreased or disappeared after treatment for 1 month or longer, and bacterial discharge was almost completely absent after treatment for 2 months or longer. If the clinical condition is favorable in such cases, we may judge that they are no longer infectious.

Key words : Pulmonary tuberculosis, Criteria for discharge from hospital, Smear-positive and culture-negative, Smear test reversion to positive

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Original Article

THE ASSOCIATION BETWEEN SMOKING AND SPUTUM SMEAR-POSITIVE PULMONARY TUBERCULOSIS IN OSAKA CITY

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Abstract [Purpose] This study aimed to analyze and evaluate the association between tuberculosis (TB) and smoking in order to obtain basic information for the control of smoking.

[Methods] Of the 637 patients with sputum smear-positive pulmonary tuberculosis who were newly registered in Osaka City in 2009, 581 patients whose smoking status was identified were selected as study subjects. Data on the following were collected: patient characteristics, presence or absence of underlying conditions, patient's delay and doctor's delay in the diagnosis of TB, presence or absence of cavities, and degree of smear positivity. The patients were divided into the following three groups according to their smoking status: (1) never smokers (those who have never smoked), (2) former smokers (those who had smoked, but quit), and (3) current smokers (those who smoke currently).

[Results] (1) Patient characteristics: The subjects consisted of 413 males and 168 females, with mean ages of 65.7, 55.4, and 70.2 years for never smokers, current smokers, and former smokers, respectively. (2) Comparison with the national adult smoking rate (National health and nutrition survey 2009, Ministry of Health, Labour and Welfare): The prevalence of current smoking among male patients with sputum smear-positive pulmonary TB in Osaka was 62.4–82.4% among men in their 20s to 60s, and 27.5% among men in their 70s, which is higher than the national average. For female patients, the prevalence of current smoking was 46.2% among women in

their 20s and 45.5% among women in their 30s, which is clearly higher than the national average. This was also true for those aged 40 years or older. (3) Severity of TB disease and smoking status: The presence of a cavity was significantly associated with being a male patient, being a current smoker, and longer patient's delay. Sputum smear grades (2+) and (3+) were significantly correlated with being under 59 years old, being a current smoker, and longer patient's delay.

[Conclusion] The prevalence of current smokers was significantly higher among sputum smear-positive pulmonary TB patients in Osaka than the national average. More smokers had cavitory lesions and a high degree of smear positivity, which may lead to poorer treatment outcomes, and may also expose more surrounding people to infection.

Key words : Tuberculosis, Smoking, Cavity, Degree of smear positivity, Patient's delay

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Report and Information

TUBERCULOSIS ANNUAL REPORT 2010**— (3) Childhood Tuberculosis —**

Tuberculosis Surveillance Center (TSC), RIT, JATA

Abstract The number of newly notified childhood tuberculosis (TB) cases (TB in patients aged 0–14 years) in Japan in 2010 was 89, which corresponds to a notification rate of 0.53 per 100,000 population. The annual notified numbers and rates of childhood TB decreased steadily until 2006, after which the number dropped to below 100 and have since remained stable. Among the 89 childhood TB patients notified in 2010, 30 (33.7%) were aged 0–4 years, 26 (29.2%) were 5–9 years, and 33 (37.1%) were 10–14 years.

In 2010, the number and proportion of TB patients aged 10–14 years were remarkably increased as compared to those in previous years. In the same year, 25 (28.1%) extrapulmonary TB cases were reported in children, while no TB meningitis or miliary TB cases were reported. The number of foreigners with childhood TB increased from 5 in 2008 and 3 in 2009 to 9 (10.1%) in 2010.

In 2010, 30 patients (33.7%) with TB symptoms were identified at medical institutions, and 40 (44.9%) were identified by contact investigation of household members. These accounted for nearly 80% of the childhood TB cases detected, similar to the trend in previous years.

Of the 47 prefectures in Japan, 15 reported no cases of childhood TB in 2010. Childhood TB cases were concentrated in the metropolitan areas such as the Tokyo Metropolitan Area (23 cases) and Kanagawa Prefecture (9 cases). In recent years, the number and rate of childhood TB cases in Japan have remained low; however, further efforts to eliminate childhood TB will require early detection and treatment of infectious cases, efficient contact investigations, and sustaining good TB prevention practices.

Key words: Tuberculosis, Childhood tuberculosis, Age, Trend, Prefectures, Mode of detection

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