
Original Article

INFLUENCE OF OCCUPATION OF THE INDEX CASES
IN RECENT OUTBREAKS OF TUBERCULOSIS

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Abstract [Purpose, materials and methods] In order to elucidate risk factors of TB outbreaks, 223 outbreaks reported between 2000 and 2006 in Japan were analyzed according to sex, occupation and outbreaking place of the index case.

[Results] In male, the most frequent occupation was permanent workers who infected contacts mainly at workplaces, followed by unemployed people at general hospital or nursing home for the aged. The third was students who infected contacts mostly at school, followed by customer relations workers at companies or amusement places. In female, the most frequent occupation was students who infected contacts at school. Second most frequent was unemployed who infected contacts at general hospitals and nursing homes for the aged, followed by nurses at general hospitals or mental hospitals. Frequent outbreak places were workplaces, schools, general hospitals, amusement places and mental hospitals in male, and general hospitals and schools in female. The risk of becoming the source of TB outbreak was high in teachers/doctors, students, unemployed as well as customer relations workers

in male, and teachers/doctors, students as well as nurses in female.

[Discussion] The most important point to prevent outbreaks of TB is to find out TB suspects with relevant symptoms for tuberculosis as early as possible to minimize patient's delay, especially from people with high risk of TB infection to others such as teachers/doctors, students and medical nurses. As most frequent job and place were general permanent workers at workplaces, TB control activities to minimize patient's delay at general workplace is also important.

Key words: Tuberculosis outbreak, Source case, Job status

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Original Article

A HOSPITAL BASED STUDY ON EVALUATION OF CAUSES OF DEATH IN 52 PATIENTS WITH PULMONARY TUBERCULOSIS

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Abstract [Purpose] To examine the clinical problems of died cases with pulmonary tuberculosis.

[Methods] Clinical findings of 52 patients with active pulmonary tuberculosis, who had died in our hospital between April 2005 to March 2007, were analyzed.

[Results] Mean age was 72.3 ± 10.6 years old, 9 cases (17.3%) were relapsed, and 35 cases (67.3%) had cavity on the chest X-ray. 34 cases (65.4%) were PS4 and none was PS0 or PS1 on admission. Complications were malignancy in 11 cases, diabetes mellitus in 10 cases, and respiratory diseases in 6 cases. 15 cases (28.8%) were treated with drugs including INH, RFP and PZA, 14 cases (26.9%) with drugs including INH and RFP, 16 cases (30.8%) with the other drugs, and 7 cases (13.5%) were not able to be administered any drug. 35 cases (67.3%) died of tuberculosis and 17 cases (32.7%) died of non-tuberculous conditions.

[Conclusion] Many died cases were under very poor general condition, needed frequent care, had many kind of compli-

cations and had difficulty with standard treatment on admission. Tuberculous death were observed highly, but death by complications were observed in many cases. It is necessary to control complications and enlighten society and doctors about importance of early diagnosis and treatment of tuberculosis continuously.

Key words: Pulmonary tuberculosis, Cause of death, Tuberculous death, Non-tuberculous death

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Case Report

A CASE OF TUBERCULOSIS WITH MULTIPLE LUNG NODULES,
ABDOMINAL LYMPHADENOPATHY, AND SPLENOMEGALY

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and ¹Yutsuki NAKAJIMA

Abstract Abdominal tuberculous lymphadenitis is very rare. We report a case of pulmonary tuberculosis showing marked abdominal lymphadenopathy and splenomegaly. A 95-year-old man was admitted to our hospital because of abnormal chest X-ray and body weight loss in last 6 months. He had low grade fever with no abdominal pain. He did not have past history of tuberculosis. Laboratory examination showed mild renal dysfunction and mild glucose intolerance. Soluble interleukin 2 receptor was highly elevated (3800 U/ml). Tumor markers, such as carcinoembryonic antigen (CEA), cytokeratin 19 fragment (CYFRA), and progastrin-releasing peptide (Pro GRP) were all within normal limit. Chest X-ray showed multiple nodules in bilateral lung fields. Chest computed tomography showed multiple nodules in bilateral lungs, especially in upper part of lungs, right hilar lymphadenopathy and upper mediastinal lymphadenopathy. Abdominal and pelvic enhanced computed tomography showed marked abdominal lymphadenopathy and splenomegaly (67×49 mm). Abdominal lymph nodes were hepatoduodenal (50×50 mm), splenic hilar (40×25 mm), upper paraaortic (30×60 mm), and small superior mesenteric (10×10 mm) lymph nodes. FDG-PET showed accumulation in the nodules of right lung field, right hilar lymph nodes, upper mediastinal lymph nodes, and abdominal lymph nodes. Bronchial lavage fluid (BAL) smear for acid-fast bacilli was positive, polymerase chain reaction for *Mycobacterium tuberculosis* was positive and acid-fast bacilli was

cultured. Transbronchial lung biopsy specimen demonstrated non-specific intraalveolar organization and alveolitis. The patient was diagnosed as pulmonary tuberculosis, but about abdominal lymphadenopathy and splenomegaly we had to differentiate malignant lymphoma, and for definite diagnosis, laparotomy was necessary. But considering his age and general condition, we followed up carefully with anti-tuberculosis therapy. Pulmonary tuberculosis, abdominal lymphadenopathy and splenomegaly all showed marked improvement 4 months after starting anti-tuberculosis therapy with isoniazid, rifampicin, and ethambutol, so we clinically diagnosed abdominal tuberculous lymphadenitis and splenic tuberculosis.

Key words: *Mycobacterium tuberculosis*, Abdominal lymphadenitis, Splenomegaly, FDG-PET, Malignant lymphoma, Soluble interleukin 2 receptor

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A CASE OF MULTIPLE-DRUG-RESISTANT PULMONARY TUBERCULOSIS IN A HEMODIALYSIS HOSPITAL

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Abstract A 42-year-old male with chronic renal failure was diagnosed as multiple-drug-resistant pulmonary tuberculosis, 9 months after the onset of hemodialysis. During the period before the diagnosis of tuberculosis, he visited regularly the hemodialysis hospital, accordingly many patients with hemodialysis and the hospital staffs had close and long contact with the patient. Our health center planned and conducted contact examinations among them, with QFT-TB test and chest X-ray. Patients with hemodialysis are regarded as immunocompromised hosts, one of the high risk groups for infections. The result of QFT-TB test of patients were negative, however, we have to consider the possibility of false-negative. So we followed up by monthly chest X-ray examination all hemodialysis patients for 2 years, and finally, it was found that

secondary infection of multiple-drug-resistant tuberculosis among immunocompromised hosts did not occur.

Key words: Multiple-drug-resistant tuberculosis (MDR-TB), Hemodialysis, Immunocompromised host, QuantiFERON (QFT-TB), Contact examination

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Report and Information

SPANISH FLU RELATED DATA

Tadao SHIMAO

Abstract Swine flu epidemic is a current topic, and data relating to Spanish flu pandemic from 1918 to 1920 were presented for your information. Monthly trend of number of deaths due to influenza, acute bronchitis, pneumonia and bronchopneumonia together with PTB, other TB and TB of all forms from 1917 to 1920 was presented in Table 1 and Fig. 1. Flu epidemics in early 1917 and from winter 1917 to spring 1918 were so-called common seasonal flu epidemic, however, new pandemic started from October 1918, and the number of deaths due to flu increased 14 times compared with previous month in October, 19 times in November, and the pandemic reached the summit, and started to decrease from December, however, marked decline was seen only after April 1919. The number of deaths due to flu started to increase again from November 1919, and reached its summit again in January 1920, and the pandemic ended in July.

The age- and sex-specific mortality rate due to influenza in 1918 was shown in Fig. 2. The rate was high among infants, 20s and 30s and elderly, and by sex, the rate of female was higher below 35 and lower above 35.

The number of deaths due to acute bronchitis and pneumonia and bronchopneumonia fluctuated in parallel with that of influenza, and deaths due to these conditions were very difficult to differentiate, and the impact of flu could better be evaluated by summing up all these three conditions, the sum of deaths due to three conditions was expressed as influenza

related death. The proportion of deaths due to three conditions by age group was shown in Fig. 3. The proportion of acute bronchitis was high in infants and elderly, and in the other age groups, influenza occupied around 30% and pneumonia and bronchopneumonia around 70% of influenza related death.

Total number of deaths due to influenza related diseases from 1918 to 1920 was 816,884, and the annual rate was 489.4 per 100,000. Annual age- and sex-specific mortality rate due to influenza related diseases was shown in Fig. 4, and it showed similar pattern with that of influenza.

Because of huge excess death of TB patients due to influenza and related diseases, TB mortality in Japan, which had been increasing since 1884, started to decrease since 1919, and TB mortality which had been decreasing slowly since the beginning of 20th century in European countries and the US, the decline was accelerated since 1919.

Key words: Spanish flu, Pandemic of influenza, Excess death of TB patients

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TUBERCULOSIS ANNUAL REPORT 2008

— Series 1. Summary of TB Notification Statistics in 2008 —

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Abstract Annual reports of tuberculosis (TB) statistics in Japan have been compiled mainly using the output of the database obtained through the nationwide computerized tuberculosis surveillance system which has been operated since 1987. This system has been revised several times, with the latest revision conducted in 2007 when much new information was added. However, feedback of information from the system to researchers and people engaged in TB control has been inadequate. Therefore, a plan was drawn up to provide TB epidemiological statistics in Japan on “Kekkaku”: a series of about ten reports will be issued. This is the first report of the series for 2009.

The report can be summarized as follows. The TB notification (incidence) rate fell below 20 per 100,000 in 2007 and continued to decline, reaching 19.4 in 2008. However, 24,760 TB patients were newly notified in 2008. For sputum smear

positive pulmonary TB, the patient count was 9,809 with an incidence rate of 7.7 per 100,000 in 2008. Since June 2007, it has been legally compulsory to notify latent TB infections (LTBI) requiring treatment; the number in 2008 was 4,832 cases.

Key words: Tuberculosis, Incidence rate, Trend, Sex-age specific, Monthly report, Latent TB infection, Extra-pulmonary TB

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