

THE PRESENT SITUATION OF MEASURES AGAINST TUBERCULOSIS IN HEMODIALYSIS FACILITIES IN CHIBA PREFECTURE

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Abstract [Purpose] To observe the current situation of tuberculosis and its control measures in hemodialysis facilities in Chiba Prefecture, Japan.

[Method] Questionnaires on medical dialysis and tuberculosis were sent to hemodialysis facilities in Chiba Prefecture.

[Results] The questionnaires were answered by 55 of 127 facilities. Of the respondents, 46 (83.6%) were not aware of the recommendation of treatment for latent tuberculosis infections in Japanese patients. Moreover, 30 (54.5%) facilities did not examine patients for tuberculosis prior to the initiation of hemodialysis. Of the 21 facilities that did assess patients for tuberculosis infection, only 5 (23.8%) performed a tuberculin skin test or QuantiFERON[®]TB-2G. Three of the five (60.0%) that were treating tuberculosis by themselves expressed fear or uncertainty about the diagnosis and treatment of latent tuberculosis infections. During January 2006 through December 2007, tuberculosis patients were detected in 11 facilities, and the proportion of extrapulmonary tuberculosis among these patients was 52.4%. Seven facilities reported that they took no

control measures against tuberculosis.

[Conclusion] It is important to inform medical dialysis facilities about latent tuberculosis infections, the early diagnosis of tuberculosis, and the combination of nosocomial infection control. It is also important for experts in hemodialysis and tuberculosis to work closely together.

Key words: Tuberculosis, Hemodialysis, Immunocompromised host, Measures of tuberculosis, Latent tuberculosis infection, Nosocomial infection

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TRENDS IN TUBERCULOSIS INFECTION AMONG FOREIGNERS IN JAPAN ACCORDING TO WORK STATUS

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Abstract [Purpose] TB among foreigners is presently a serious issue in some developed countries and could become so in Japan. The purpose of this report is to assess the epidemiological situation of TB among foreigners in Japan.

[Materials and Methods] The trend of TB reporting among foreigners in Japan was examined with regard to work status.

[Results] The number of reported TB cases among employees and students in Japan increased between 1998 and 2008, but that among housekeepers was level throughout the same period. The increase among employees and students might be due to the increased numbers of foreign employees and students. In the case of housekeepers, the increase in the number of permanent residents did not lead to an increase in TB among these housekeepers. Estimates of TB reporting rates decreased during the study period, so the changes in reporting rates would not have caused the increase in TB cases. This downward trend may have been caused by an increase in longer-term residents and a decrease in TB incidence in home countries. Even though the TB reporting rate is decreasing, the rates in those countries are much higher than in Japan in the same work categories.

[Discussion] To control the spread of TB, it is important to identify high-risk individuals. The Japanese TB control pro-

gram should further strengthen mass health examination programs for foreign housekeepers and employees (especially temporary and daily employees), case-finding based on individuals' access to hospitals or clinics when suffering from TB symptoms, and flexible and periodic adjustment of TB control activities for foreigners according to future changes in the number and distribution of foreigners in Japan. Furthermore, improving the TB epidemiological situation in home countries might contribute to the downward trend of TB reporting rates among foreigners in Japan. Therefore, Japanese assistance in TB control activities in surrounding countries such as China, South Korea, and the Philippines might contribute to TB control activities for foreigners in Japan.

Key words: Tuberculosis, Foreigners, Labor status, Incidence

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CLINICAL APPLICATION OF LINE PROBE ASSAY (LiPA) FOR RIFAMPICIN (RFP)-RESISTANT GENE EXAMINATION IN SPUTUM FROM TUBERCULOSIS PATIENTS

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Abstract [Introduction] Preventing the spread of drug-resistant tuberculosis is a clinically important challenge. In this effort, rifampicin (RFP)-resistant gene examination by line probe assay (LiPA) was evaluated for its clinical application for rapid detection of tuberculosis.

[Methods] The RFP-resistant gene was examined in a total of 110 samples of sputum obtained from patients that were definitively diagnosed with pulmonary tuberculosis by auto-LiPA. The difference in detection sensitivity between the results of the smear and culture examinations was evaluated. Culture-positive samples were compared with the results of the drug susceptibility test.

[Results] Smear-positive samples were LiPA positive in 69 of 73 samples (sensitivity: 94.5%), and smear-negative samples were LiPA positive in 25 of 37 samples (67.6%). More than half of the samples were LiPA positive, even those that were culture-negative or contaminated. Comparison of the 76 culture-positive samples with the results of the drug susceptibility test found that all samples were wild type among the RFP-sensitive strains. Among the 8 RFP-resistant strains, 6 were mutation type. All samples shown to be mutation type were obtained from patients with multi-drug resistant tuberculosis.

[Discussion] Using LiPA, the amount of smear can be used as a factor for detection of RFP-resistant genes. Detection was possible even with culture-negative and contaminated samples, allowing more rapid diagnosis of patients with multi-drug resistant tuberculosis.

Key words: Multi-drug resistant tuberculosis (MDR-TB), Rifampicin, Line Probe Assay, *rpoB* gene, Smear examination, Culture examination

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THE PATHOGENESIS OF THE BOWEL INFECTION WITH THE *MYCOBACTERIUM TUBERCULOSIS*

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Abstract The prevalence of primary intestinal tuberculosis is increasing with social change and medical progress. However, it remains unknown whether or not primary intestinal tuberculosis exists without the involvement of other internal organs. This review verifies hypotheses about infectious courses of intestinal tuberculosis. We also evaluate the significance of bowel infection. As a result, we found some patients with intestinal tuberculosis who do not have tuberculosis lesions in other internal or external organs, and the tubercle bacillus, which is ordinarily transmitted with airborne droplet nuclei, might cause oral transmission by several factors.

Key words: Intestinal tuberculosis, Infection route

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