

USE OF QuantiFERON®TB-2G TEST ON HIGH-RISK GROUPS OF TUBERCULOSIS INFECTION AT OUR HOSPITAL

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Abstract [Purpose] To investigate the infection rate of tuberculosis in high-risk employees at our hospital.

[Methods] We measured interferon gamma levels in 40 employees and evaluated the infection rate in doctors working in the Tuberculosis Ward (D group), nurses in the Tuberculosis Ward (N group), and other high-risk employees (O group).

[Results] The overall infection rate including probable infection was 6/40 (15.0%). The infection rate in the N group was 0%, while those in the D and O groups were 27.3% and 20.0% respectively. No new infection of tuberculosis was observed after the introduction of tuberculosis infection measure manual of our hospital.

[Conclusion] Our hospital's tuberculosis infection measure manual was effective in decreasing the new tuberculosis

infection despite a high infection rate in high-risk employees at our hospital.

Key words: High-risk group, Hospital infection measure, QuantiFERON®TB-2G

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EXAMINATION OF ADMINISTRATIVE DOSAGE OF CYCLOSPORINE DURING THE ANTI-TUBERCULOSIS CHEMOTHERAPY INCLUDING RIFAMPICIN

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Abstract [Aims] In the treatment of tuberculosis with rifampicin in patients treated with prednisolone and cyclosporine, we have to increase the dosage of these drugs. Although prednisolone dosage is recommended to be doubled, there is no established consensus about cyclosporine dosage. Our aim is to review the current situation at our institution regarding the dosage of cyclosporine administered to tuberculous patients after the addition of rifampicin to the treatment regimen.

[Methods and Results] We reviewed patients' clinical status and how dosages of cyclosporine were altered during a course of tuberculosis treatment including rifampicin in 4 patients (2 interstitial pneumonitis, 2 collagen vascular disease) who were being treated with cyclosporine between 2001 and 2003. Prednisolone had been also administrated in all patients and the dosage was doubled from the beginning of the treatment. The appropriate dosage of cyclosporine was found to be 2.5–3.5 (average 3) times that of initial dosage, and it required 5–12 weeks (average 8.3) measurements of trough levels and 6–27 (average 12) weeks until appropriate trough levels were

obtained.

[Conclusions] The appropriate dosage of cyclosporine was found to be approximately 3 times that of the initial dosage in all patients, but it required a long term and frequent measurements of trough levels before reaching this goal. It seems that trebling the dosage of cyclosporine from the start of anti-tuberculosis chemotherapy will be an efficient way to achieve good clinical outcome.

Key words : Rifampicin, Cyclosporine, Prednisolone, Drug interactions, Tuberculosis

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Original Article

REEVALUATION ON PATHOGENESIS OF EPITUBERCULOSIS IN INFANTS AND CHILDREN WITH TUBERCULOSIS

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Abstract [Object] We try to reevaluate the pathogenesis of epituberculosis in infants and children with tuberculosis, because most studies on epituberculosis were done more than 50 years ago.

[Subject and methods] Nineteen children (less than 1 y/o: 12, 1 y/o: 2, 2 y/o: 3, and 4 y/o: 2) were studied by CT imaging and bronchofiberscopy in addition to gastric *Mycobacterium tuberculosis* examination and regular chest XP.

[Results] In 13 of total 19 patients (68%), lobar or segmental epituberculosis occurred after starting antituberculous chemotherapy, including a case in which epituberculosis of right upper lobe was recognized at the time of diagnosis of tuberculosis and after starting chemotherapy, epituberculosis of right middle lobe was observed. CT imaging revealed that all 19 patients had enlargement of mediastinal and/or hilar lymphonodes compressing neighboring bronchi, and 16 of total 19 patients (84%) demonstrated relevant parenchymal infiltration. Gastric *Mycobacterium tuberculosis* was positive in 15 out of 19 patients (79%). Bronchofiberscopy was done in 16 patients, and it demonstrated mass lesion of various size on the bronchial wall in 13 patients (81%).

[Conclusion] The present study demonstrated that epituberculosis predominantly occurred in tuberculosis infants less than one year old, which was different from the previous reports.

The CT imaging also makes clear that epituberculosis may be the atelectasis of lobe or segment which occurs mostly due to compression of bronchi by the enlargement of mediastinal and/or hilar lymphonodes and their early exacerbation after starting chemotherapy. Bronchofiberscopy also elucidated that bronchial wall mass lesion resulted from perforation of lymphonodes may partially contribute to the formation of epituberculosis.

Key words: Epituberculosis, Primary complex of pulmonary tuberculosis, Mediastinal and hilar lymphonode, Bronchial wall tumor, Early exacerbation

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————— Case Report —————

A CASE OF PULMONARY MULTI-DRUG RESISTANT TUBERCULOSIS
WITH LEFT DESTROYED LUNG, TREATED WITH PNEUMONECTOMY

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Abstract A 31-year-old woman complained of cough and fever for 2 months. She was admitted to a hospital and was diagnosed as pulmonary tuberculosis. She received combination therapy with isoniazid, rifampicin, ethambutol, and pyrazinamide. As the drug susceptibility test revealed that the isolated strain was multi-drug resistant, the regimen was changed to pyrazinamide, ethionamide, cycloserine, enviomycin, and levofloxacin. The chemotherapy was not effective, so she received pneumonectomy for left destroyed lung. After surgical treatment, her sputa converted to negative for tubercle bacilli. Surgical treatment such as pneumonectomy is considered to be useful in a case of multi-drug resistant pulmonary tuberculosis.

Key words: Multi-drug resistant tuberculosis, Drug susceptibility test, Chemotherapy, Surgical treatment, Negative conversion of bacilli

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