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ANURAK MUNSRICHOOM: DIAGNOSING AND MONITORING CRYPTOCOCCAL MENINGITIS IN AIDS PATIENTS DURING TREATMENT BY PCR. THESIS ADVISORS: ANGKANA CHAIPRASERT, Dr. rer. nat., CHULURAT PRARIYACHATIGUL, Ph.D., SOMSIT TUNSUPHASWADIKUL, M.D. 126 p ISBN 974-663-994-3.

A PCR system using specific primers CPL1 and CPR4 based on 18S rRNA gene was evaluated for diagnosing cryptococcal meningitis in 160 AIDS patients highly suspected of carrying this disease. When comparing PCR with conventional laboratory methods, it revealed 79.7% (47/59) sensitivity compared to LA with 100% (128/128) sensitivity. Lower sensitivity of PCR was explained by the presence of some *Taq* inhibitors in CSF and/or the inefficient method for lysing yeast cells. *C. neoformans* was isolated from 120 in 128 CSF samples (93.7%) on the first day of patient registration. India ink preparation of pellet from centrifuged CSF showed 96.9% (124/128) positive for encapsulated yeasts. Most of the patients in this study had disseminated cryptococcosis with 80.1% (125/156) positive hemoculture by using automate Bactec 9240 culture system and 8.8% (12/136) positive urine culture.

The patients were divided into two groups and treated with amphotericin B or combination of amphotericin B and itraconazole. The outcome for each patient was determined by both clinical and microbiological examination. In monitoring the patients during treatment and prophylaxis, isolation of the yeast by culture method was the most appropriate criterion for success or failure or relapse. PCR, LA and India ink preparation could not be used solely for this purpose. There were no significant differences in survival rate : 61.6% (37/60) / 68.9% (51/74) ($p = 0.274$), success rate : 26.7% (16/60) / 59.5% (44/74) ($p = 0.268$), mortality rate : 36.7% (22/60) / 31.1% (23/74) ($p = 0.278$) and relapse rate : 16.7% (1/6) / 13.3% (2/15) ($p = 0.435$) in the two groups of these patients. The combination therapy with amphotericin B and itraconazole could be recommended as an alternative regimen for cryptococcal meningitis because it revealed higher success (44/74) than (16/60) in the amphotericin B monotherapy. Fifty-eight patients were given itraconazole in a dose of 400 mg/day as prophylaxis for one year. At the 7th month and 12th month of prophylaxis, there were only 29 patients (50%) came for follow-up. There were 3 relapsed patients (14.3%) during one year. PCR was negative in all specimens obtained from success cases at the end of prophylaxis.

C. neoformans strains in this study were almost sensitive to amphotericin B and to itraconazole. Determination of MIC by E-test revealed the value range from 0.032-0.5 μg/ml for amphotericin B and from 0.003-1.5 μg/ml for itraconazole. The MIC values obtained by E-test were not much different from those obtained by macrotube dilution method from previous studies. The yeast strains isolated from AIDS patients during 1996-1998 revealed predominately A/D serotype (around 99.6%). This figure was the same as the one reported by other investigators both in Thailand and worldwide.