Peningkatan Diagnolistik Mikrobiologi Penderita Dengan Kecurigaan Tuberkulosis Ekstrapulmoner

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Abstrak

Dewasa ini, insiden tuberkulosis ekstrapulmoner semakin meningkat. Konfirmasi bakteriologi sering sulit karena kuman da1am jumlah sedikit di tempat infeksi dapat menimbulkan keru3akan jaringan dan kuman menginfeksi tempat yang sulit untuk pengambilan spesimen. Hingga saat ini, di Indonesia belum ada laporan angka keberhasilan isolasi mikobakterium dari penderita dengan kecurigaan tuberkulosis ekstrapulmoner. Pada penelitian ini dilakukan pemeriksaan mikroskopis basil tahan asam, biakan dan pemeriksaan PCR terhadap 83 spesimen penderita dengan kecurigaan tuberkulosis ekstrapulmoner. Biakan dilakukan secara duplo pada dua macamjenis media padat yaitu media Lowenstein-Jensen (LJ) dan media LJ mengandung asam piruvat 2% serta satu macam media cair yaitu Middlebrook 7H9. Ekstraksi DNA menggunakan metoda Boom dan reaksi PCR dilakukan untuk mendeteksi fragmen DNA sebesar 123 bp pada 186110. Hasil biakan lebih tinggi didapatkan pada pemakaian kedua macam media padat secara bersamaan daripada pemakaian satu jenis media padat. Sebanyak 20 (24,1 %) isolat mikobakterium berhasil diisolasi. Empat isolat (4,8%) adalah MOTT dan sisanya adalah M. tuberculosis. Hasil perneriksaan PCR mendapatkan sensitivitas 87,5% hila biakan digunakan sebagai baku emas. Analisis statistik kornbinasi pemeriksaan pcwarnaan basil tahan asarn dan PCR menggunakan biakan dan P A sebagai baku emas atau biakan M tuberculosis dan PCR menggunakan pemeriksaan mikroskopis dan PCR sebagai baku standard menunjukkan basil berbeda bermakna (p= 0,017 dan p= 0,009) sehingga kombinasi pemeriksaan ini dapat digunakan untuk meningkatkan diagnosis penderita dengan kecurigaan tuberkulosis ekstrapulmoner.
.....The incidence of extrapulmonal tuberculosis (EPTB) is rising in the recent years. Bacteriological confirmation ofEPTB is often difficult because low amount of bacteria may cause severe infection and the location of infection renders the specimen collection to be difficult. Until now, data conseming mycobacterium isolation and detection rate of M tuberculosis causing EPTB in Indonesia is not available.ln this study we examined 83 specimens from patients with suspected EPTB by microscopic acid-fast staining, culture and PCR assay. Cultures were done in duplo on two kinds of solid media (LowensteinJensen (LJ) and LJ with pyruvic acid 2%) and on one liquid medium (Middlebrook 7H9). The PCR assay was based on the detection of a 123 bp DNA fragment of the insertion sequence 186110. DNA was isolated with silica method. The results showed that isolation rate by culture on two solid media together were higher than on one solid medium only. Twenty (24,1%) mycobacterium isolates were isolated from 83 EPTB specimens. Four (4,8%) isolates were identified as MOTT and 16 (19,3%) as M tuberculosis. The s.!nsitivity of 186110 PCR for detection of M tuberculosis was 87,5% with bacterial culture as the gold standard. Combination of microscopic acid-fast staining and PCR showed in significantly difference result when culture and histopathologic finding was used as the gold standard (p= 0,00 17). Combination of culture and PCR also showed in significantly defference result when microscopic acid-fast staining and histopathologic finding was used as the gold standard (p= 0,009). We conclude that combination of two assay i.e. acid-fast staining and PCR or bacterial culture and PCR, are more sensitive than using one method only, resulting in better

diagnosis of patients with suspected EPTB.