Uji Kepekaan Obat Tuberkulosis Lini Kedua Terhadap Isolat Penderita Tuberkulosis Dengan Resisten Ganda Obat Menggunakan Drug Susceotibility Culture Plate

Rinaldi, author

Abstrak

Tuberkulosis dengan resisten ganda obat (MDR-TB) semakin meningkat dan menjadi perhatian kesehatan masyarakat di berbagai helahan dunia, terutama di negara berkembang dimana kasus ini banyak terjadi. Data dan 52 negara yang dilaporkan oleh WHO melalui glohal project on tuherculosis drug resistance surveillance menunjukkan prevalensi MDR -TB mempunyai median 1. 8 % (antara 0 sampai 18.1 %) dan 11.1 % (antara 2.9 sampai 40.8 %) untuk strain resisten pada setiap obat. Data mengenai resistensi Mycobacterium tuberculosis khususnya data MDR-TB di Indonesia masih terbatas. Metode standar untuk menguji kepekaan Mycobacterium tuberculosis seperti metode proporsi atau rasio resistensi telah banyak digunakan secara luas namun bergantung pada medium padat dan memakan waktu yang lama. Sedangkan metode BACTEC 460 memherikan hasil yang cepat namun memerlukan peralatan yang banyak dan biaya yang mahal. Pada penelitian ini kami menguji 41 isolat klinik dari pasien MDR-TB menggunakan metode DSCP. Metode DSCP menggunakan 25 sumur yang herisi medium Middlehrook 7HI0 yang mengandung obat antituberkulosis lini kedua dengan berbagai konsentrasi. Obat antituberkulosis lini . kedua : sikloserin (CYC), prothionamid (PAM), amikasin (AMK), siprofloksasin (CIF), klofazimin (CLZ), klaritromisin (CLM), rifabutin (RIB), dan ofloksasin (OFX). Hasil dan Kadar Hambat Minimum (KHM) obat dibaca antara hari ke 12 sampai 19. Hasil pengujian 41 isolat dengan metode DSCP didapatkan angka resistensi : Rifabutin (31.7 %), klaritromisin (2l.9 %), sikloserin (17.0 %), klofazimin (14.6 %), amikasin (12.1 %), prothionamid (9.7 %), siprofloksasin (9.7 %), dan ofloksasin (7.3 %) . . ? Resistensi primer MDR-TB 4 isolat (9.75 %), resistensi sekunder MDR-TB 37 isolat (90.75 %). Resistensi 1 jenis obat 6 isolat (14.2 %), resistensi 2 jenis obat 20 isolat (48.7 %), resistensi lebih dari 3 jenis obat 1 isolat (2.4 %). Metode DSCP memberikan basil yang jelas ,mudah distandarisasi, cepat dan menunjukkan KHM yang terinci.

.....Multidrug-resistant tuberculosis (MDR-TB) is an increasing public health concern in many parts of the world, especially in developing countries where most cases occur. Data from 52 countries in the World Health Organizations global project on tuberculosis drug resistance surveillance shows a median prevalence of 1.8 % (range 0 to 18.1 %) for MDR-TB strains and 11.1 % (range 2.9 to 40.8 %) for strains with any drug resistance. Data on drug resistance of Mycobacterium tuberculosis especially MDR-TB in Indonesia are very limited. Standard methods for drug susceptibility testing of Mycobacterium tuberculosis, such as the proportion method or resistance ratio method, are used generally but depend on culture on solid media and therefore time-consuming. The BACTEC 460 method is faster but demands costly equipment and expensive. In this study we examined 41 clinical isolates from patients with MDR-TB by Drug Susceptibility Culture Plate (DSCP) method. DSCP use 25 wells plate filled with Middlebrook 7HIO medium containing serial dilution of second line antituberculosis drugs. Second line antituberculosis drug: Cyclose~ne (CYC), Prothionamid (PAM), Arnikacin (AMK), Ciprofloxacin (ClP), Clofazimin (CIZ), Claritromycin (CLM), Rifabutin (RIB), and Ofloxacin (OFX). The result and MIC values are read within 12 - 19 days. Result from 41 isolates that have been tested by DSCP method showed resistance to : Rifabutin,

claritromycin, cycloserine, clofazimin, amikacin, prothionamid, ciprofloxacin , and ofloxacin were 31.7%, 21.9%, 17.1%, 14.6%, 12.2%, 9.7%, 9.7%, and 7.3% respectively. Primary resistance MDR-TB was 4 isolates (9.75 %) and secondary resistance MDR-TB was 37 isolates (90.75 %). Resistance to 1 drug was 6 isolates (14.2 %), resistance to 2 drugs was 20 (48.7 %) and resistance more 3 drugs was 1 (2.4 %). DSCP method potentially gives better result as it can be very well standardized, faster and provides detailed MIC (Minimal Inhibitory Concentration) values.