

Kesesuaian antara Metode *Microscopic Observation Drug Susceptibility Assay* dan Ogawa pada Biakan *Mycobacterium tuberculosis*

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Abstrak

Tuberkulosis (TB) merupakan masalah kesehatan masyarakat di berbagai negara di dunia. Diagnosis pasti TB ditegakkan berdasarkan penemuan kuman *M. tuberculosis* pada pemeriksaan mikroskopik atau biakan sputum. Biakan merupakan baku emas, namun metode yang digunakan saat ini membutuhkan waktu minimal 8 minggu. *Microscopic observation drug susceptibility assay* (MODS) merupakan metode biakan untuk *M. tuberculosis* menggunakan media cair yang dapat sekaligus menguji kepekaan obat TB secara mikroskopik. Tujuan penelitian ini adalah untuk mengetahui kesesuaian metode MODS dengan metode Ogawa (media padat) untuk biakan *M. tuberculosis* pada penderita TB paru. Penelitian *cross sectional* telah dilakukan di Departemen Patologi Klinik RSUP Dr. Hasan Sadikin Bandung dan pemeriksaan spesimen dilakukan di Balai Pengembangan Laboratorium Kesehatan (BPLK) Provinsi Jawa Barat periode April–Agustus 2010. Subjek penelitian sebanyak 133 penderita yang didiagnosis tersangka TB paru. Setiap spesimen ditanam pada dua media, media cair MODS dan media padat Ogawa. Analisis statistik kesesuaian metode MODS dengan Ogawa menggunakan uji koefisien *Kappa*. Terdapat 172 spesimen dari 133 subjek. Kesesuaian antara hasil biakan *M. tuberculosis* metode MODS dan Ogawa didapatkan nilai *Kappa* 0,91 yang berarti terdapat kesesuaian yang tinggi antara metode MODS dan Ogawa. Perbandingan waktu pertumbuhan *M. tuberculosis* secara bermakna lebih cepat ($p = 0,000$) pada metode MODS, yaitu 10,1 hari (rentang 4–21 hari), dibandingkan dengan metode Ogawa, yaitu 24,8 hari (rentang 14–35 hari). Simpulan, metode MODS dan Ogawa mempunyai angka keberhasilan diagnostik yang relatif sama, keunggulan metode MODS adalah pertumbuhan *M. tuberculosis* lebih cepat dibandingkan dengan metode Ogawa. [MKB. 2011;43(2):83–8].

Kata kunci: *Microscopic observation drug susceptibility assay* (MODS), *M. tuberculosis*, Ogawa, sputum

Conformity Method Between Microscopic Observation Drug Susceptibility Assay and Ogawa Mycobacterium Culture

Abstract

Tuberculosis (TB) is a problem of public health that causing high morbidity and mortality rates in various countries in the world. The diagnosis of pulmonary tuberculosis in adults can be established based on the discovery of *M. tuberculosis* on smear or culture of sputum. Culture is the gold standard but the available method is time consuming, it is need minimal eight weeks. Microscopic observation drug susceptibility assay (MODS) is one of methods for *M. tuberculosis* culture using liquid medium that can be a simultaneously test for *M. tuberculosis* drug sensitivity. The purpose of this study was to determine the conformity of the MODS method compared with Ogawa method for cultivation of *M. tuberculosis* in pulmonary TB patients. The cross sectional research has been conducted at Clinical Pathology Department of Dr. Hasan Sadikin Hospital, Bandung and examination of the specimen done at Health Laboratory Development Unit (BPLK), West Java Province between April to August 2010. The subjects were patients who diagnosed as pulmonary TB suspect. Each collected specimen was cultured in liquid media MODS and solid media Ogawa. To analyze the conformity of MODS and Ogawa method, Kappa coefficient of agreement was used. There were 172 specimens collected from 133 subjects. The conformity between culture results of *M. tuberculosis* in MODS method and in Ogawa's method using Kappa coefficient, was high (Kappa index 0.91). The difference of growth time of *M. tuberculosis* significant ($p=0.000$), in MODS was 10.1 days (range 4–21 days) and in Ogawa method was 24.8 days (range 14–35 days). Conclusion, MODS and Ogawa's method have the relatively similar diagnostic success rate, the advantage of MODS method is, the growth of *M. tuberculosis* is faster than in Ogawa method. [MKB. 2011;43(2):83–8].

Key words: Microscopic observation drug susceptibility assay (MODS), *M. tuberculosis*, Ogawa, sputum

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