

# Korelasi Klinis dan Hasil Uji Kepekaan Jamur Aspergillus yang Diisolasi dari Sputum Pasien Tuberkulosis Paru = Correlation of Clinical Characteristics and Susceptibility Study of Aspergillus Isolated from Sputum of Pulmonary Tuberculosis Patients

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## Abstrak

Latar belakang: Pasien tuberkulosis (TB) paru rentan mengalami infeksi oportunistik, termasuk oleh Aspergillus (aspergilosis paru). Keberadaan Aspergillus dikonfirmasi dengan uji kultur. Uji kepekaan Aspergillus terhadap obat anti-jamur (OAJ) dilakukan untuk mengetahui pilihan OAJ yang tepat. Itrakonazol merupakan salah satu OAJ pilihan untuk aspergilosis paru. Resistensi OAJ dapat disertai gejala klinis yang luas. Penelitian ini bertujuan untuk mengetahui karakteristik klinis pasien dikaitkan dengan hasil uji kepekaan Aspergillus terhadap itrakonazol.

Metode: Penelitian potong-lintang ini dilakukan pada Juli-November 2021 dan merupakan bagian dari penelitian sebelumnya. Isolasi Aspergillus dari sputum pasien TB paru dilakukan menggunakan medium agar Sabouraud. Karakteristik klinis yang diteliti meliputi usia, jenis kelamin, indeks massa tubuh (IMT), dan gejala. Adapun uji kepekaan jamur dilakukan dengan metode cakram sesuai protokol.

Hasil: Penelitian ini menyertakan 28 isolat Aspergillus sp. yang berasal dari sputum 28 pasien TB paru. Jumlah pasien laki-laki lebih dominan (24 orang). Rerata usia  $50 \pm 15,1$  tahun, dengan kelompok usia terbanyak < 60 tahun (21 pasien). Sebanyak 12 pasien (42,9%) memiliki IMT rendah. Gejala klinis yang didapatkan meliputi: batuk (42,9%), batuk darah (35,7%), sesak (39,3%), nyeri dada (14,3%), dan rasa lelah (35,7%). Kultur sputum menunjukkan pertumbuhan 28 isolat Aspergillus, terdiri atas: 14 isolat Aspergillus fumigatus, 6 isolat Aspergillus flavus, dan 8 isolat Aspergillus niger. Uji kepekaan Aspergillus terhadap itrakonazol menunjukkan 23 isolat sensitif, 3 isolat intermediat, dan 2 isolat resisten. Analisis statistik menunjukkan tidak terdapat hubungan bermakna antara karakteristik klinis pasien dengan hasil uji kepekaan jamur.

Kesimpulan: Tidak terdapat hubungan bermakna antara karakteristik klinis pasien dengan hasil uji kepekaan Aspergillus terhadap itrakonazol dalam penelitian ini.

.....Introduction: Pulmonary tuberculosis (TB) patients are susceptible to opportunistic infections, including Aspergillus infections (aspergillosis). The presence of Aspergillus was confirmed by a culture test, followed by its susceptibility study to antifungal. Antifungal resistance is generally accompanied by serious symptoms, so clinical observations are important for better clinical awareness. This study aims to determine the relationship between clinical characteristics and susceptibility study of Aspergillus to itraconazole.

Method: This cross-sectional study was carried out from July-November 2021, as part of the previous study on aspergillosis in TB patients. Aspergillus was isolated from the sputum of pulmonary TB patients using Saboraud's agar dextrose medium. Clinical characteristics obtained through patient's history including age,

gender, body mass index, and symptoms The fungal susceptibility test was carried out by disc diffusion method according to the protocol after treatment.

**Result:** This study included 28 isolates of *Aspergillus* from the sputum of 28 pulmonary TB patients. The number of males were dominant (24 from 28 patients) than females. The mean age was  $50 \pm 15.1$  years, with the commonest age group < 60 years (21 patients). Total of 12 patients (42.9%) had a low body mass index. Clinical symptoms included: cough (42.9%), hemoptysis (35.7%), dyspnea (39.3%), chest pain (14.3%), and fatigue (35.7%). The sputum culture showed 14 *Aspergillus fumigatus* isolates, 6 *Aspergillus flavus* isolates, and 8 *Aspergillus niger*. The susceptibility test of *Aspergillus* to itraconazole revealed 23 sensitive isolates, 3 intermediate isolates, and 2 resistant isolates. Statistical analysis showed that there was no relationship between the patient's clinical characteristics and the antifungal susceptibility test of itraconazole.

**Conclusion:** There was no significant correlation between the patient's clinical characteristics and the antifungal susceptibility test to itraconazole in this study