Korelasi klinis dan hasil kultur jamur aspergillus yang diisolasi dari sputum induksi pada kanker paru karsinoma bukan sel kecil = Clinical correlation and culture results of aspergillus fungi isolated from sputum induction of non-small cell lung carcinoma patients

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Abstrak

Latar belakang: Pasien kanker paru berpotensi mengalami infeksi oportunistik yang dapat memperburuk luaran klinis, bahkan kematian. Salah satu penyebab infeksi oportunistik itu adalah jamur Aspergillus sp. Diagnosis dini masih menjadi tantangan, tetapi sangat penting dilakukan agar tata laksana dapat dioptimalkan.
Tujuan: Penelitian ini bertujuan untuk mengetahui korelasi klinis dengan hasil kultur jamur Aspergillus pada pasien kanker paru karsinoma bukan sel kecil (KPKBSK) di RSUP Persahabatan serta uji kepekaannya terhadap vorikonazol.
Metode: Studi potong lintang ini dilakukan pada pasien KPKBSK yang memenuhi kriteria inklusi. Prosedur biakan jamur dari sputum induksi dilakukan pada medium Agar Sabouraud Dekstrosa (ASD) menggunakan metode high volume. Identifikasi spesies dilakukan dengan pemeriksaan mikroskopik, dilanjutkan dengan uji kepekaan Aspergillus menggunakan metode difusi cakram. Data klinis pasien diperoleh dari rekam medis.
Hasil: Dari 70 pasien KPKBSK yang memenuhi kriteria inklusi, terdapat pasien laki-laki 61,4%, dengan rerata usia 59,83 9,18 tahun. Profil klinis lain menunjukkan jenis adenokarsinoma 74,3%, stadium lanjut kanker paru 78,6%, tampilan status 1 40%, perokok aktif 60%, dan indeks brinkman berat 31,4%. Gejala klinis berupa sesak napas 81,4%, nyeri dada 71,4%, berat badan turun 71,4%, batuk 45,7%, hemoptisis 28,6%, dan demam 8,6%. Riwayat komorbid berupa diabetes melitus 18,6%, bekas tuberkulosis 12,9%, dan asma/penyakit paru obstruktif kronik 1,4%. Proporsi Aspergillus yang diisolasi dari sputum induksi didapatkan pada 43 pasien (61,4%), dengan 67 isolat. Distribusi spesies Aspergillus terdiri atas Aspergillus niger 22,1%, Aspergillus fumigatus 17,9%, dan Aspergillus flavus 7,9%. Analisis statistik menunjukkan terdapat hubungan bermakna antara jenis kelamin laki-laki, gejala klinis batuk dan demam dengan hasil kultur Aspergillus ($p<0.05$). Uji kepekaan 59 isolat Aspergillus sp. terhadap vorikonazol menunjukkan hasil sensitif 57,6%, intermediet 34,6%, dan resisten 19,3%.
Simpulan: Pada penelitian ini terdapat hubungan bermakna antara jenis kelamin laki-laki, gejala klinis batuk, dan demam dengan hasil kultur Aspergillus ($p<0.05$). Tiga puluh sembilan dari 59 isolat Aspergillus spp. masih sensitif terhadap vorikonazol.
.....Background: Lung cancer patients have the potential to experience opportunistic infections that can worsen clinical outcomes, even death. One of the causes of opportunistic infection is the fungus Aspergillus sp. Early diagnosis remains a challenge, but it is necessary for optimal management.
Objective: This study aims to determine the clinical correlation with the results of Aspergillus culture in patients with non-small cell lung carcinoma (NSCLC) at Persahabatan Hospital and their susceptibility to voriconazole.
Methods: This cross-sectional study was carried out on NSCLC patients who met the inclusion criteria. The

procedure of fungal culture from induced sputum was performed on Sabouraud Dextrose Agar (SDA) medium using the high volume method. Species identification was conducted with microscopic examination, followed by Aspergillus susceptibility test using the disc diffusion method. Patients' clinical data obtained from medical records.
Results: Out of 70 NSCLC patients who met the inclusion criteria, there were male patients 61.4%, with a mean age of 59.83 ± 9.18 years. Clinical profiles of NSCLC patients were adenocarcinoma 74.3%, advanced lung cancer 78.6%, performance status 1 40%, active smokers 60%, and severe Brinkman index 31.4%. Clinical symptoms of shortness of breath 81.4%, chest pain 71.4%, weight loss 71.4%, cough 45.7%, hemoptysis 28.6%, and fever 8,6%. A history of comorbid diabetes mellitus 18.6%, former tuberculosis 12.9%, and asthma/chronic obstructive pulmonary disease 1.4%. The proportion of Aspergillus isolated from induction sputum was found in 43 patients (61.4%), as many as 67 isolates. The distribution of Aspergillus species consisted of Aspergillus niger 22.1%, Aspergillus fumigatus 17.9%, and Aspergillus flavus 7.9%. Statistical analysis showed that there was a significant relationship between male gender, clinical symptoms of cough, and fever with the results of Aspergillus culture ($p < 0.05$). Susceptibility test for 59 isolates of Aspergillus sp. to voriconazole showed sensitivity of 57.6%, intermediate 34.6%, and resistance 19.3%.
Conclusion: In this study, there was a significant relationship between male gender, clinical symptoms of cough, and fever with Aspergillus culture results ($p < 0.05$). Thirty-nine out of 59 Aspergillus spp. isolates were still sensitive to voriconazole.