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Perbandingan hasil pemeriksaan Immunodiffusion Test (IDT) aspergillus dengan deteksi galaktomanan pada pasien terduga aspergilosis paru invasif di Laboratorium Parasitologi FKUI = Comparison of aspergillus Immunodiffusion Test (IDT) to galactomannan detection in suspected invasive pulmonary aspergillosis patients at Parasitology Laboratory, FMUI

Rizky Farandi Mubasir, author

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Abstrak

Latar belakang: Diagnosis aspergilosis paru invasif (API) cukup sulit dilakukan karena karakteristik klinis dan hasil pencitraan yang tidak spesifik. Biopsi tidak bisa dilakukan karena risiko komplikasi Deteksi antigen galaktomanan (GM) digunakan untuk metode noninvasif karena sensitivitas dan spesifisitas yang tinggi, namun mahal dan jarang tersedia. Uji imunodifusi (IDT) bisa menjadi alternatif karena lebih murah dan mudah, namun perlu diketahui akurasi IDT pada pasien terduga API.
Tujuan: Mengetahui nilai diagnostik IDT dibandingkan terhadap deteksi GM dalam mendiagnosis API.
Metode: Pengumpulan serum dilakukan di Laboratorium Departemen Parasitologi FKUI sejak Oktober 2019—Oktober 2020 pada pasien terduga API yang berasal dari berbagai rumah sakit di Jakarta. Serum diperiksan menggunakan IDT dan deteksi GM. Metode IDT menggunakan antigen crude Aspergillus buatan Laboratorium Departemen Parasitologi FKUI, sedangkan deteksi GM menggunakan kit PlateliaTM (Bio-Rad, Prancis).
Hasil: Sebanyak 92 sampel serum pasien diuji. Proporsi hasil deteksi GM dan IDT berturut-turut sebesar 31.5% dan 42.4%. Hasil menunjukkan bahwa sensitivitas dan spesifisitas IDT berturut-turut sebesar 33.33% dan 69.81%. Selain itu, rasio kemungkinan positif dan negatif berturut-turut sebesar 1.10 dan 0.95. Nilai duga positif dan negatif serta akurasi berturut-turut sebesar 44.83%, 58.73%, dan 54.35%. Tidak ada beda proporsi IDT terhadap deteksi GM (P>0.05)
Simpulan: Nilai diagnostik IDT sama dibandingkan terhadap deteksi GM.
.....Background: The diagnosis of invasive pulmonary aspergillosis (API) is quite challenging because of non-specific clinical characteristics and imaging results. A biopsy cannot be performed because of the risk of complications. Galactomannan antigen (GM) detection is used as a noninvasive method because of its high sensitivity and specificity, but it is expensive and rarely available. Immunodiffusion test (IDT) can be an alternative method, because it is cheaper and easier, but it is necessary to know the accuracy of IDT in patients suspected of API.
Objective: Determine the diagnostic value of Aspergillus IDT compared to GM detection in diagnosing API.

Methods: Serum collection was carried out at the Parasitology Laboratory of FMUI from October 2019-October 2020 in patients suspected of API from various hospitals in Jakarta. The sera were examined using the Aspergillus IDT and GM detection. The IDT method uses crude Aspergillus antigen that was conducted at the Parasitology Laboratory of FMUI, while GM detection uses the PlateliaTM kit (Bio-Rad, France).
Results: A total of 92 patient serum samples were tested. The proportion of detection results for GM and IDT was 31.5% and 42.4%, respectively. The results showed that the sensitivity and specificity of IDT were

33.33% and 69.81%, respectively. Also, the positive and negative likelihood ratios are 1.10 and 0.95, respectively. Positive and negative predictive values and accuracy were 44.83%, 58.73%, and 54.35%, respectively. There was no difference in the proportion of IDT to GM detection (P> 0.05).
Conclusion: IDT diagnostic value is the same as compared to GM detection.