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**Hubungan Nilai *Cycle Threshold* Pemeriksaan GeneXpert MTB/RIF Ultra terhadap Nilai NLR dan LED pada Pasien Tuberkulosis Paru di Puskesmas Kota Bandar Lampung**

Xvi + 34 halaman, 5 tabel, 8 gambar dan 29 lampiran

**ABSTRAK**

Tuberkulosis disebabkan oleh bakteri *Mycobacterium tuberculosis* yang dapat menimbulkan infeksi kronis. GeneXpert MTB/RIF Ultra digunakan sebagai alat penegakan diagnosis tuberkulosis paru karena mampu mengetahui DNA bakteri serta memberikan perhitungan semi-kuantitatif jumlah bakteri dari nilai *Cycle threshold*. *Mycobacterium tuberculosis* memicu respon imun non-spesifik melalui fagositosis bakteri oleh neutrofil dan pembentukan rouleaux yang diperiksa melalui nilai NLR serta LED. Tujuan penelitian ini untuk mengetahui hubungan nilai Ct pemeriksaan GeneXpert terhadap nilai NLR dan LED pasien TB Paru di beberapa Puskesmas Kota Bandar Lampung pada bulan Maret - Mei 2024. Penelitian ini berjenis analitik prospektif dengan desain *cross sectional*. Sebanyak 36 pasien yang baru terdiagnosis TB paru menjadi sampel. Didapat responden terbanyak didominasi oleh pasien berjenis kelamin laki-laki 24 orang (66,7%) dan pasien dengan rentan usia terbanyak yakni pada usia 55-64 sebanyak 12 orang (33,3%) dengan nilai rata – rata NLR 5,05 dan LED 66,28 mm/Jam. Data yang didapat kemudian dilakukan uji *Rank Spearman* dan diperoleh hasil *p-value* nilai Ct terhadap NLR 0,038 dengan koefisien korelasi -0,347 dan *p-value* nilai Ct terhadap LED 0,000 dengan koefisien korelasi -0,726. Dapat disimpulkan bahwa terdapat hubungan sedang antara nilai Ct terhadap NLR dan hubungan kuat antara nilai Ct terhadap LED.

Kata Kunci : Tuberkulosis, *Cycle threshold*, GeneXpert, NLR, LED

Daftar Bacaan : 46 (2013-2024)

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***The Correlation between Cycle threshold Values in Gene/Xpert MTB/RIF Ultra Test on NLR and ESR Values in Pulmonary Tuberculosis Patients at Health Centers in Bandar Lampung City***

*Xvi + 34 pages, 5 tables, 8 images and 29 attachment*

**ABSTRACT**

*Tuberculosis is caused by Mycobacterium tuberculosis bacteria that can make chronic infection. GeneXpert MTB/RIF Ultra is used as a diagnostic tool for pulmonary tuberculosis because it is able to determine bacterial DNA and provide a semi-quantitative calculation of the number of bacteria from the Cycle threshold value. Mycobacterium tuberculosis triggers a non-specific immune response through phagocytosis of bacteria by neutrophils and the formation of rouleaux which is examined through NLR and ESR values. The purpose of this study was to determine the relationship between the Ct value of GeneXpert examination and the NLR and ESR values of pulmonary TB patients at several health centers in Bandar Lampung City in March - May 2024. This study was a prospective analytic type with a cross sectional design. Total of 36 patients who were newly diagnosed with pulmonary TB were sampled. It was found that the most respondents were dominated by male patients 24 people (66.7%) and patients with the most age vulnerable were at the age of 55-64 as many as 12 people (33.3%) with a mean value of NLR 5.05 and LED 66.28 mm / hour. The data obtained was then carried out the Spearman Rank test and obtained the p-value of Ct value to NLR 0.038 with a correlation coefficient of -0.347 and the p-value of Ct value to ESR 0.000 with a correlation coefficient of -0.726. It can be concluded that there is a moderate relationship between Ct value and NLR and a strong relationship between Ct value and ESR.*

**Keywords** : Tuberculosis, Cycle threshold, NLR, ESR

**Reading List** : 46 (2013-2024)