Uji diagnostik metode Real-Time Multiplex Polymerase Chain Reaction Strip terhadap Real-Time Polymerase Chain Reaction Tunggal untuk deteksi Multi-Patogen pada uveitis : analisis Humor Akuos = Diagnostic study of Real-Time Multiplex Polymerase Chain Reaction Strip assay in comparison with Single Real-Time Polymerase Chain Reaction for Multi-Pathogen detection in uveitis : Aqueous Humor analysis

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Abstrak

<b>Latar Belakang: Uveitis infeksi di Indonesia berkisar antara 30-60% dari total kasus uveitis. Identifikasi patogen etiologi infeksi sangat penting agar dapat diberikan terapi antimikroba yang sesuai dengan segera sehingga komplikasi kebutaan dapat diminimalisir. Dewasa ini, perkembangan teknologi biologi molekuler menggunakan metode Polymerase Chain Reaction (PCR) untuk deteksi uveitis infeksi sedang berkembang pesat.
Tujuan: Melakukan uji validasi diagnostik pada metode PCR Multiplex dibandingkan dengan metode PCR Tunggal.
Metodologi: Uji diagnostik untuk menentukan sensitivitas dan spesifisitas dari alat Real-Time PCR Multiplex terhadap PCR Tunggal dari spesimen cairan intraokular humor akuos yang diambil dari parasentesis bilik mata depan. Dilakukan pemeriksaan PCR terhadap patogen Mycobacterium tuberculosis (M.tuberculosis), Toxoplasma gondii (T.gondii), Herpes Simplex Virus (HSV), Varicella Zoster Virus (VZV), Cytomegalovirus, dan Treponema pallidum.
Hasil: Dilakukan analisis uji diagnostik pada 46 subjek penelitian. Didapatkan hasil sensitivitas sebesar 57.14% dan spesifisitas sebesar 100%. Positivity rate terbanyak didapatkan untuk patogen VZV (n=4), dan tidak didapatkan hasil positif terhadap deteksi patogen M.tuberculosis. Patogen T.pallidum berhasil dideteksi sebanyak 4.34% (n=2) oleh PCR Multiplex.
Kesimpulan: Metode PCR Multiplex pada penelitian ini memiliki sensitivitas yang rendah dengan spesifisitas yang tinggi. Hasil positif pada PCR Multiplex dapat bermanfaat untuk mendiagnosis pasien dengan uveitis infeksi.
.....Background: In Indonesia, infectious uveitis represents 30-60% of the country’s total uveitis cases. The identification of etiological pathogens is imperative to immediately select and administer the appropriate antimicrobial therapy in infectious uveitis, thereby complications of blindness can be minimized. Currently, the development of molecular biology technology using the Polymerase Chain Reaction (PCR) method for detection of infectious uveitis pathogens is growing rapidly.
Objective: To compare the diagnostic validation test results of the Multiplex PCR method and Single PCR method.
Method: Diagnostic test to determine the sensitivity and specificity of the Multiplex Real-Time PCR device against the Single PCR of aqueous humor intraocular fluid specimens taken from anterior chamber paracentesis. PCR examinations were carried out to identify the pathogens of Mycobacterium tuberculosis (M.tuberculosis), Toxoplasma gondii (T.gondii), Herpes Simplex Virus

(HSV), Varicella Zoster Virus (VZV), Cytomegalovirus, dan Treponema pallidum.

Result: A diagnostic test analysis was performed on 46 study subjects. The results obtained 57.14% sensitivity and 100% specificity. Highest positivity rate was obtained for VZV pathogens, while positive results were not obtained for M.tuberculosis. There were 4.34% of subjects (n = 2) of T. pallidum were detected by PCR Multiplex.

Conclusion: The PCR Multiplex method in this study has low sensitivity with high specificity. A positive result on Multiplex PCR can be useful for diagnosing patients with infectious uveitis.