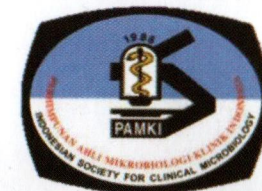




ANNUAL SCIENTIFIC MEETING 2019
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CERTIFICATE

This certificate is presented to

Dr. dr. Netti Suharti, M.Kes

as

ORAL PRESENTER

of

**Clinical Collaboration on Infectious Diseases Management in
Global Health Era**

Malang, 14th-15th September 2019

Prof. Dr. dr. Noorhamdani AS, SpMK(K)
Chairman of Organizing Committee

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Chairman of PAMKI

DIAGNOSTIC TEST LATEX AGLUTINATION OF POLYCLONAL ANTIBODY IN Mycobacterium tuberculosis SPUTUM SUSPEK TUBERCULOSIS PATIENT

By:
Dr. dr. Netti Suharti, M.Kes

BACKGROUND

- Health Problem of Indonesia**
 - Tuberculosis is still a health problem in the world
- Based on Provinces**
 - West Sumatra was ranked 14th of all provinces with a proportion of confirmed bacteriological tuberculosis patients at 65.3% (Ministry of Health of the Republic of Indonesia, 2016)
- Methods for Diagnostic**
 - Various methods have been developed to obtain diagnostic tools for TB that are fast, simple, inexpensive, and do not require special ability in examination
- Latex Agglutination for TB Diagnostic**
 - Latex agglutination of polyclonal antibody tests based on the agglutination reaction formed due to the interaction between antigen and antibody

Objective

- The aims of this study were performed to assess sensitivity, specificity, positive predictive value, and negative predictive value of the latex agglutination test to Lowenstein Jensen culture

Materials and Methods

- This examination is conducted against 100 suspected tuberculosis patients at the Microbiology Laboratory of the Medical Faculty of Andalas University from January 2018 to January 2019.
- Latex agglutination test use polyclonal antibody that was harvested from the immunization of rabbits using crude protein from filtrate culture Mycobacterium tuberculosis.
- Polyclonal antibodies obtained are coated into latex particles, then reacted with a test sample and observe the agglutination. The results are included in 2x2 table, then put into the diagnostic formula

Results

1. Crude Protein

Sample Code	Absorbance	Concentrate (mg/mL)
Fia	0.3840	6.90
Fib	0.2820	5.00
C61	0.1710	1.91
C71	0.6760	16.14

From this research, the highest concentration of crude protein was 16.14 (C71). The highest concentration of crude protein were used as an immunogen to be injected subcutaneously and intravenously in rabbits with a concentration of 0.5 mg / mL. Crude protein acts as an immunogen and plays a role in inducing antibody formation in rabbits

Determination of Antibody Absorbance Value

Absorbance value of rabbit polyclonal antibodies

Sample Code	Control	Absorbance
KH23	1.607	2.164
KP23	1.612	2.081
KH13	1.809	1.971
KP13	1.634	2.224

This study got the highest absorbance values of 2.224 and 2.164 (KP13 and KH23), while the absorbance values of KP23 and KH13 were 2.018 and 1.971

Sensitization of Latex Particles

Absorbance value of rabbit polyclonal antibodies

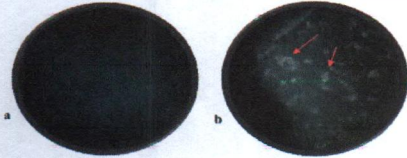


Figure 1. Agglutination test results a. Picture of negative agglutination test results that are marked with no lump formed b. Picture of positive agglutination test results marked by the formation of lumps (white patches)

6/9/2020

Latex agglutination tests were compared with culture tests Lowenstein Jensen

Latex Agglutination	Culture Test		Total
	Positive	Negative	
Positive	23	13	36
Negative	2	62	64
Total	25	75	100

The results of this study, obtained 25 patients with positive culture results and 75 people with negative results. The sensitivity and specificity latex agglutination of polyclonal antibody test were 92% and 82.67%. Positive predictive value and negative predictive value are 63.89% and 96.86%

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Discussion



Previous study with latex agglutination techniques were obtained the sensitivity and specificity of the agglutination test were 90.2% in pulmonary tuberculosis patients and 85.7% in extra pulmonary tuberculosis patients (Bhaskar et al., 1996)



A limitation of this examination was the use of unrefined rabbit serum from other ingredients that will affect the agglutination reaction which may cause an examination to be less specific

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Conclusion

- The conclusion of this study is the latex agglutination of polyclonal antibodies have a good sensitivity values and negative predictive values.



6/9/2020

Thank you