

# Efek ampisilin subkadar hambat minimal pada S. Hemolitik Beta Grup A terhadap daya Fagositosis Makrofag = Effect of ampicillin at sub mic on the phagocytosis by macrophage of streptococcus hemolytic beta group A

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Abstrak

## **ABSTRAK**

Ruang Lingkup dan Cara Penelitian: Streptokok hemolitik beta grup A (SH-A) adalah kuman patogen pada manusia menyebabkan radang tenggorok dan kulit dengan sequelae demam rematik. SH-A mempunyai protein M pada dinding selnya yang menyebabkan kuman tersebut tahan terhadap fagositosis. Tujuan penelitian ini adalah untuk mengetahui pengaruh ampisilin subkadar hambat minimal (sub KHM) terhadap daya fagositosis makrofag. Kuman SH-A dicampur dengan ampisilin sub KHM (1/4 KHM dan 1/8 KHM) dengan makrofag dan diinkubasi selama 60 menit dan 120 menit. Penelitian ini menggunakan SH-A strain standar WHO (Ceko), dan ampisilin trihidrat diperoleh dari PT Kalbe Farma. Makrofag diambil dari peritoneal mencit strain CBR umur 4-8 minggu. Sebagai kontrol dilakukan terhadap kuman yang dibiakkan dalam kaldu Todd Hewitt yang mengandung ampisilin sub KHM tanpa dicampur makrofag.

Hasil dan Kesimpulan: Terdapat penurunan populasi kuman pada perbenihan yang mengandung makrofag tanpa ampisilin setelah diinkubasi 120 menit karena penurunan pH pada media. Populasi kuman menurun setelah kuman dicampur ampisilin sub KHM pada inkubasi 60 menit dan 120 menit dibandingkan dengan kontrol. Prosentase fagositosis makrofag dan indeks fagositosis makrofag terhadap kuman yang dicampur ampisilin sub KHM pada inkubasi 60 menit dan 120 menit meningkat. Dengan demikian dapat diambil kesimpulan bahwa secara in vitro daya fagositosis makrofag meningkat setelah dicampur ampisilin sub KHM pada inkubasi 60 menit dan 120 menit.

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## **ABSTRACT**

Effect Of Ampicillin At Sub Mic On The Phagocytosis By Macrophage Of Streptococcus Hemolytic Beta Group A  
Scope and Method of Study: Streptococcus beta-hemolyticus group A (SH-A) is pathogenic for man, the most usual causative agent for acute streptococcal upper respiratory tract and skin diseases with sequelae namely rheumatic fever. The bacterial cell wall contains protein M, a virulence factor, which is responsible for the resistance to phagocytic activity of macrophage. The aim of this research was study the phagocytosis of streptococci grown in subminimum inhibitory concentration (sub MIC) of ampicillin by macrophage after incubation for 60 and 120 minutes. SH-A was obtained from Ceko Colaboratorium (standard strain of WHO), and ampicillin trihydrate was from Kalbe Farma. The mice were kindly supplied by Central Biomedical Research, Jakarta; age 4-8 weeks, were free from infections, and used as macrophage source.

Findings and Conclusions: The number of bacteria in the medium containing macrophage after incubation for 60 minutes increase, but after 120 minutes decreases, probably due to the low pH medium. The population of bacteria decreases in the medium treated with sub MIC of ampicillin after incubation for 60

and 120 minutes. Percentage of relative effect of phagocytosis and phagocytosis index of macrophage seem to be increasing after incubation of the whole component for 60 and 120 minutes. SH-A treated with sub MIC of ampicillin underwent rapid ingestion by macrophage after incubation for 60 and 120 minutes. The result showed that the hypothesis of the rapid ingestion of SH-A treated with sub MIC ampicilin by macrophage after incubation for 60 and 120 minutes could be accepted.</i>