# Interaksi Antibakteri In Vitro Fosfomisin dan Beberapa Antibiotik Lain terhadap Kuman Gram Negatif Panresisten = In Vitro Antibacterial Interaction Fofosmycin with Several Other Antibiotics Against Panresistant Gram Negative Bacteria

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Abstrak

[Masalah resistensi antimikroba yang berkembang menyebabkan munculnya kuman panresisten yang resisten terhadap semua antimikroba yang tersedia Munculnya bakteri panresisten ini menggambarkan suatu titik akhir yang mengkhawatirkan karena tidak tersedia pilihan terapi antibiotik yang rasional Peningkatan kejadian resistensi antibiotik disertai penurunan produksi antibiotik baru sehingga diperlukan evaluasi dari kombinasi antibiotik yang sudah ada Fosfomisin adalah antibiotik lama yang tidak memiliki resistensi silang dengan golongan antibiotik lain sehingga berpotensi menimbulkan interaksi yang sinergis terhadap bakteri resisten Penelitian ini bertujuan untuk mengetahui interaksi antibakteri in vitro kombinasi fosfomisin dan beberapa antibiotik lain yaitu doripenem moksifloksasin kolistin dan amikasin terhadap kuman batang Gram negatif panresisten Pada penelitian ini dilakukan uji kombinasi antibiotik menggunakan metode Etest terhadap 15 isolat kuman panresisten yang terdiri dari Acinetobater baumanii n 8 Pseudomonas aeruginosa n 5 dan Klebsiella pneumoniae n 2 Interaksi yang terjadi dinilai berdasarkan indeks Fractional Inhibitory Concentration FIC yaitu sinergi bila indeks FIC le 0 5 indiferen bila indeks FIC 0 5 sampai 4 dan antagonis bila indeks FIC 4 Isolat kuman berasal dari berbagai jenis spesimen yang diperiksakan di laboratorium otomasi RSUPNCM Interaksi antibakteri in vitro yang terjadi terhadap isolat kuman A baumanii P aeruginosa dan K pneumoniae panresisten baik dengan kombinasi fosfomisin dan amikasin fosfomisin dan doripenem fosfomisin dan moksifloksasin serta fosfomisin dan kolistin pada semua isolat bersifat indiferen 100 Tidak ditemukan interaksi yang bersifat sinergi atau antagonis Katakunci panresisten sinergi indiferen antagonis Etest Acinetobacter baumanii Pseudomonas aeruginosa Klebsiella pneumoniae indeks FIC ;The evolving problem of antimicrobial resistance in Pseudomonas aeruginosa Acinetobacter baumannii and Klebsiella pneumoniae has led to the emergence of clinical isolates to pandrug resistant PDR isolates i e resistant to all available antibiotics The emergence of pandrug resistant PDR bacteria represents a worrying endpoint in the development of antimicrobial resistance The increased incidence of antibiotic resistance accompanied by decreased production of new antibiotics required the evaluation of combinations of existing antibiotics The aim of this study to evaluate the in vitro antibacterial interaction of combination fosfomycin with doripenem amikacin colistin and moxifloxacin against PDR Gram negative bacteria We evaluated antibiotic combinatinons against 15 panresistant clinical isolates which consisted of Acinetobater baumanii n 8 Pseudomonas aeruginosa n 5 dan Klebsiella pneumoniae n 2 The in vitro antibacterial interactions were evaluated by determination of fractional inhibitory concentration FIC index Synergy was defined as FIC index le 0 5 indiferen as FIC index 0 5 to 4 and antagonism as FIC index 4 The isolates were collected at RSUPNCM hospital from various clinical specimens The in vitro antibacterial interaction against A baumannii P aeruginosa and K pneumoniae panresistant isolates either with the combination of fosfomycin and amikacin fosfomycin and doripenem fosfomycin and moxifloxacin as well as fosfomycin and colistin showed indifferent to all isolates 100 No interaction was found synergistic or antagonistic Keywords

panresistant synergy indifferent antagonism Etest Acinetobacter baumanii Pseudomonas aeruginosa Klebsiella pneumoniae FIC index , The evolving problem of antimicrobial resistance in Pseudomonas aeruginosa Acinetobacter baumannii and Klebsiella pneumoniae has led to the emergence of clinical isolates to pandrug resistant PDR isolates i e resistant to all available antibiotics The emergence of pandrug resistant PDR bacteria represents a worrying endpoint in the development of antimicrobial resistance The increased incidence of antibiotic resistance accompanied by decreased production of new antibiotics required the evaluation of combinations of existing antibiotics The aim of this study to evaluate the in vitro antibacterial interaction of combination fosfomycin with doripenem amikacin colistin and moxifloxacin against PDR Gram negative bacteria We evaluated antibiotic combinatinons against 15 panresistant clinical isolates which consisted of Acinetobater baumanii n 8 Pseudomonas aeruginosa n 5 dan Klebsiella pneumoniae n 2 The in vitro antibacterial interactions were evaluated by determination of fractional inhibitory concentration FIC index Synergy was defined as FIC index le 0 5 indiferen as FIC index 0 5 to 4 and antagonism as FIC index 4 The isolates were collected at RSUPNCM hospital from various clinical specimens The in vitro antibacterial interaction against A baumannii P aeruginosa and K pneumoniae panresistant isolates either with the combination of fosfomycin and amikacin fosfomycin and doripenem fosfomycin and moxifloxacin as well as fosfomycin and colistin showed indifferent to all isolates 100 No interaction was found synergistic or antagonistic Keywords panresistant synergy indifferent antagonism Etest Acinetobacter baumanii Pseudomonas aeruginosa Klebsiella pneumoniae FIC index ]