

# Bloodflow Infection by E.coli/K. Pneumoniae Cause Fatal Risks

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Prevalence of bloodflow infection caused by E.coli/K. pneumoniae has increased all over the world. Previous reports stated this infection contributes to fatalities, but the research methodology is inaccurate.

Osman Sianipar, lecturer of Clinical Pathology and Laboratory of Faculty of Medicine UGM, revealed all risks of fatalities due to infection of bloodflow by E.coli/ K.pneumoniae that produces ESBL enzymes does not differ in meaning from those by non-producing ESBL enzymes. Fatality risk seems different in the subject that receives unsuitable antimicrobial prescription in the subject with leukocytosis, and in adult subjects.

"A third of patients that are infected have received unsuitable prescription of antimicrobial definitive therapy," he said in the Faculty's Auditorium on Tuesday (26/9) in his doctoral promotion.

According to Osman Sianipar, such prescription mostly (67,65 percent) use cephalosporin of which most is multiple antimicrobial prescription. The number of fatalities in the subject groups that have cephalosporin prescription is fewer than those of non-cephalosporin ones.

"Most of E. Coli isolates are B2 dan D1 phylogenetic group that is extraintestinal virulent strain while the least is B1 or A group. K.pneumoniae sp pneumoniae isolate with K1 genotype, K2 genotype and non K1/K2 genotype sequentially amounts to 14.8 percent, 11.1 percent and 22. 2 percent," he revealed.

As a result, said Osman, bloodflow infection caused by K. pneumoniae/E. coli producing ESBL enzyme generally cannot be used as fatality predictor, except in subject group that receives antimicrobial prescription that is unsuitable in definitive therapy, subject with leukocytosis, and in adult group subject. Inaccurate figure of antimicrobial prescription in definitive therapy is pretty high so he suggested training on antimicrobial use for the doctor so that the rates of pain and fatality of bloodflow infection caused by both bacteria can be reduced.

Defending dissertation titled *Fatality Risk of Bloodflow Infection Caused by E. coli/ K. pneumoniae Producing Extended-spectrum  $\beta$ -lactamase Enzyme*, Osman said antimicrobial prescription of cephalosporin group in empirical therapy is high enough, but seen from the resistance which is higher than 50 percent. Ampicillin resistance rate and combination of ampicillin/sulbactam is high enough, eventhough prescription of both antimicrobia is few.

"Antimicrobial prescription of cephalosporin group, ampicillin and combination of ampicillin/sulbactam ought to be avoided in bloodflow empirical therapy. Combined prescription of antimicrobial piperacillin/tazobactam can also be combined with gentamicin or amikacin is suggested for bloodflow infection empirical therapy," he said, accompanied by his promoter, Prof. dr. Budi Mulyono, MM., Sp.PK(K) and co-promoters, Prof. dr. Iwan Dwiprahasto, M.Med.Sc., Ph.D, and Prof. drh. Widya Asmara, SU., Ph.D.

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