EDITORIAL

View of clinical microbiology and infectious diseases

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INTRODUCTION

Journal of Clinical Microbiology and Infectious diseases covers the latest developments in microbiology and virology, Infectious diseases across a variety of disciplines, including Biology, Medicine and Veterinary medicine.

Among many topics, discussion about treatment such as chemotherapy and surgical resection and prevention are proceeded.

Other coverage includes Protozoology, Helminthology, Entomology, Morphology, Biochemistry, Physiology, Parasitology, Immunology, Ecology and Epidemiology.

SCOPE OF THE CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES

Research concerned with Infectious agents, Genetics and phenotypes of host susceptibility towards infectious disease or colonization, Use of animal models to study bacterial infections and the imaging are also recommended.

The journal welcomes full articles presenting original research results, invited editorials, and reviews on the topics above.

Studies could primarily be performed from a scientific point of view with both emphasis on molecular features and clinical presentation of infections. Papers on the translational basic research findings will be prioritized.

Through international experts in each field, the journal contributes to current and emerging approaches to the diagnosis, treatment, management, and prevention of infection diseases.

RESEARCHER EXERTION

As belows, 3 researchers' works were shown. They were engaged in Carbapenem-resistant Enterobacteriaceae (CRE) infection.

The World Health Organization has warned antimicrobial resistance as "one of the three greatest threats to human health." Carbapenems are often considered as drugs of last strategy in the treatment of antibiotic-resistant Gram negative infections. CRE might be extensively drug resistant and now has been spreading worldwide. The WHO prioritized CRE as a top priority pathogen in their 2017 global antibiotic-resistant bacteria priority list.

CRE such as Escherichia coli, Klebsiella pneumoniae, and Enterobacter species are of particular importance as they are associated with poor clinical prognosis and are common causes for a number of serious infections including bacteremia, urinary tract infection, intra-abdominal infections and pneumonia and device-associated infections.

Invasive infections due to CRE are associated with mortality ranging from 26–44% (Matthew E. Emerging Infectious Diseases. 2014). CRE infections have increased over the past 15 years while new and effective antibiotics had not controlled CRE. This result may be due to pharmacologic limitations of available treatment. Haley J. suggested that there is a limitation of treatment options for CRE infections (Treatment Options for Carbapenem-Resistant Enterobacteriaceae Infections. Open Forum Infect Dis. 2015 Apr; 2(2): ofv050.). Clinicians have been considered to re-evaluate the use of agents, which have been historically rarely used due to efficacy and/or toxicity concerns, such as polymyxins, fosfomycin, and aminoglycosides.

Thaden reported an overview of agents, ceftazidime-avibactam, fosfomycin, tigecycline, minocycline, pipeline, meropenem-vaborbactam, imipenem-relebactam, plazomicin, and eravacycline (Role of newer and re-emerging older agents in the treatment of infections caused by carbapenem-resistant Enterobacteriaceae. Virulence. 2017; 8(4): 403–416). In the article, the pharmacokinetic issues were shown around 4 emerging agents to treat CRE – ceftazidime-avibactam, fosfomycin, tigecycline, and minocycline.

Ng has given a great suggestion that combination therapy of Zidovudine (azidothymidine/AZT) and Tigecycline would effective on CRE infections (Repurposing Zidovudine in combination with Tigecycline for treating CRE infections. European Journal of Clinical Microbiology and Infectious Diseases 2017). Drug repurposing of an approved drug for a new therapeutic indication, is elucidated to be a reasonable solution to this problem. A total of 1,163 FDA-approved drugs were screened for activity against a clinical CRE using a single-point 10 μM assay. Hit compounds were then assessed for their suitability for repurposing. By a bactericidal/static determination assay, a time-kill assay and a checkerboard assay, the candidate was tested to evaluate its suitability in combination with Tigecycline against CRE infections. Zidovudine was shown to be the most promising candidate. This research will contribute to promising therapy for CRE infection. This research desires great praise.

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