

Tentative Outline

Special Thematic Issue for The Open Infectious Diseases Journal

“Dengue Hemorrhagic Fever: Implications of Viral Factors, Host Factors, and Antiviral Drugs Therapy on Clinical Outcomes”

Guest Editor: Assoc.Prof.Dr.Wattana Leowattana

Aims and Scope

Dengue virus (DENV) infection threatens the health and wellbeing of almost 390 million people around the world. The infection with DENV, a mosquito-borne Flavivirus, may cause severe disease in human hosts called dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS) are not preventable by any known drug or vaccine. A secondary heterologous infection, with a different DENV serotype from that of prior infection, can increase the risk of DHF or DSS. The most common life-threatening clinical response to DENV infection is the dengue vascular permeability syndrome (DVPS). Antibody-dependent enhancement (ADE) was postulated to be the pathophysiological mechanism triggering DVPS, which is assigned as the host factor. Genetic host factors are another point which also important. A genome-wide association study (GWAS) identifies susceptibility loci for DSS at MICB and PLCE1. Host factors also contribute to clinical outcome based on genes in the lipid and steroid metabolism pathways. Recent discoveries concerning dengue non-structural protein 1 (NS1) have added a viral factor inducing a kinetic phenomenon. DENV NS1 that circulates in the blood throughout infection at high concentrations has direct toxic properties making DSS. Moreover, DENV NS1-induced endothelial cell-intrinsic vascular leakage is independent of inflammatory cytokines but dependent on endothelial glycocalyx components. In the absence of a universally accepted vaccine, the drugs capable of inhibiting DENV multiplication are urgent clinical needs. Due to the unavailable effective antiviral drugs therapy, good supportive care is the cornerstone of reducing fatal outcomes. Prompt recognition and immediate sufficient fluid replacement to maintain adequate intravascular volume are crucial.

Subtopics

The main included themes in this Special Issue include but are not limited to the following topics:

- The updated pathophysiology of DHF and DSS
- Genetic risk factors for dengue hemorrhagic fever and dengue shock syndrome
- The current status and challenges of antiviral development towards DENV
- The implication of dengue virus NS1 triggers endothelial permeability and vascular leak
- Platelets in the immune response to dengue virus and the immunopathology of dengue hemorrhagic fever
- Platelet-leukocyte interactions amplify inflammatory reactions in severe dengue hemorrhagic fever
- Platelet-derived extracellular vesicles in dengue hemorrhagic fever

- The impact proprotein convertase subtilisin/kexin type 9 (PCSK9) on the severity of dengue hemorrhagic fever
- The relationship of microRNA and the disease severity in dengue hemorrhagic fever
- Dengue hemorrhagic fever: the potential antiviral drugs

Schedule

- Manuscript Submission Deadline: 15 December 2020
- Peer Review Due: 10 February 2021
- Revision Due: 20 February 2021
- Announcement of Acceptance by Guest Editor: 25 February 2021
- Final Manuscript Due: 01 March 2021

Contact

Guest Editors:

Dr. Wattana Leowattana, MD., Ph.D.

Associate Professor,

Department of Clinical Tropical Medicine,
Faculty of Tropical Medicine, Mahidol University,

420/6 Rajavithi Road, Rachatawee, Bangkok 10400, Thailand

wattana.leo@mahidol.ac.th

leowattana@yahoo.com