Abstract

Serotypes of imported dengue fever cases in South Korea, 2018-2020

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Dengue fever is a mosquito-borne disease caused by the dengue virus (DENV), which occurs in several countries. A large number of dengue cases have recently been reported, particularly in Southeast Asia and South and Central America. All DENV infections in Korea are imported cases, and no reports of autochthonous outbreaks in Korea have been confirmed so far. In this article, we analyzed the dengue fever laboratory test data during 2018-2020 to investigate the distribution status of DENV serotypes and the suspected infection area for dengue imported cases in Korea. A total of 2,812 dengue laboratory tests were performed from 2018 to 2020, of which 17.2% were confirmed positive. The number of dengue laboratory tests and patients was highest in August, and most of the suspected infection regions for dengue fever were Southeast Asia and the Philippines. All four serotypes of DENV were introduced into Korea. The serotypes DENV1 and 2 were the most common, followed by DENV3 and DENV4. To block the DENV spread by management of dengue cases will be important to prevent the spread of DENV in Korea by importation from other countries and virus localization. Confirmation of virus importation by continuous analysis of virus serotype and infection origin area could be used as important data for monitoring the occurrence of autochthonous dengue virus in Korea.

Keywords: Dengue fever, Dengue virus, Serotype

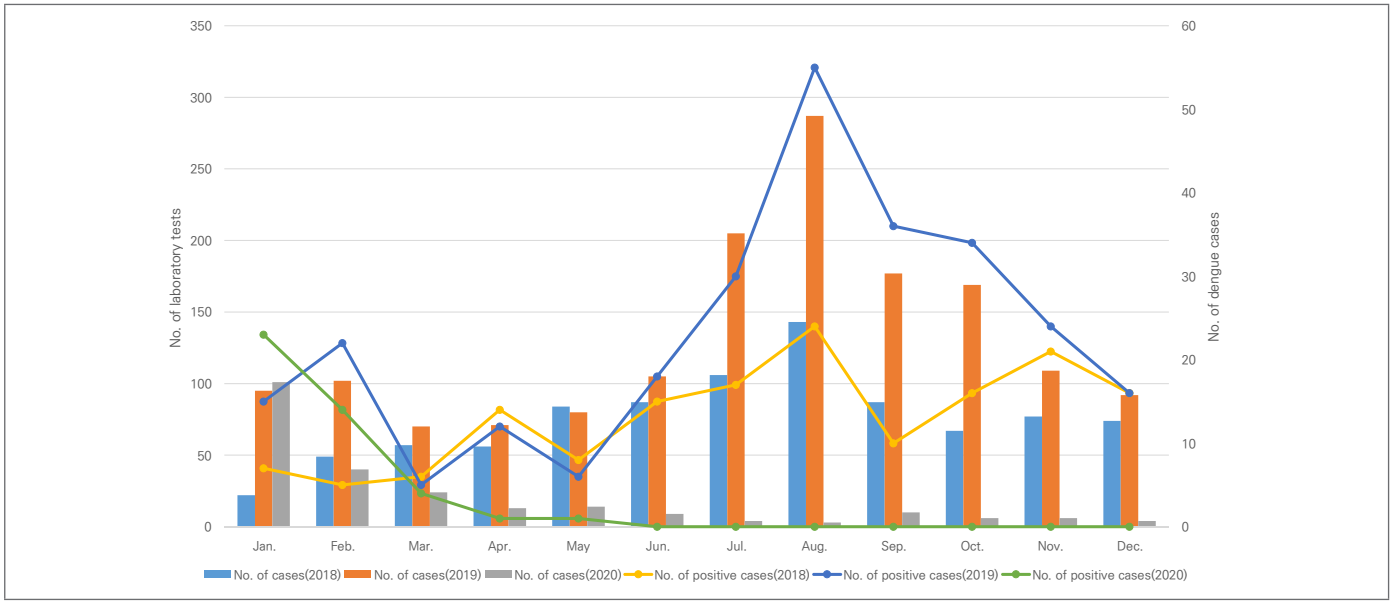

Figure 1. Monthly distribution of imported dengue cases and laboratory tests, 2018–2020

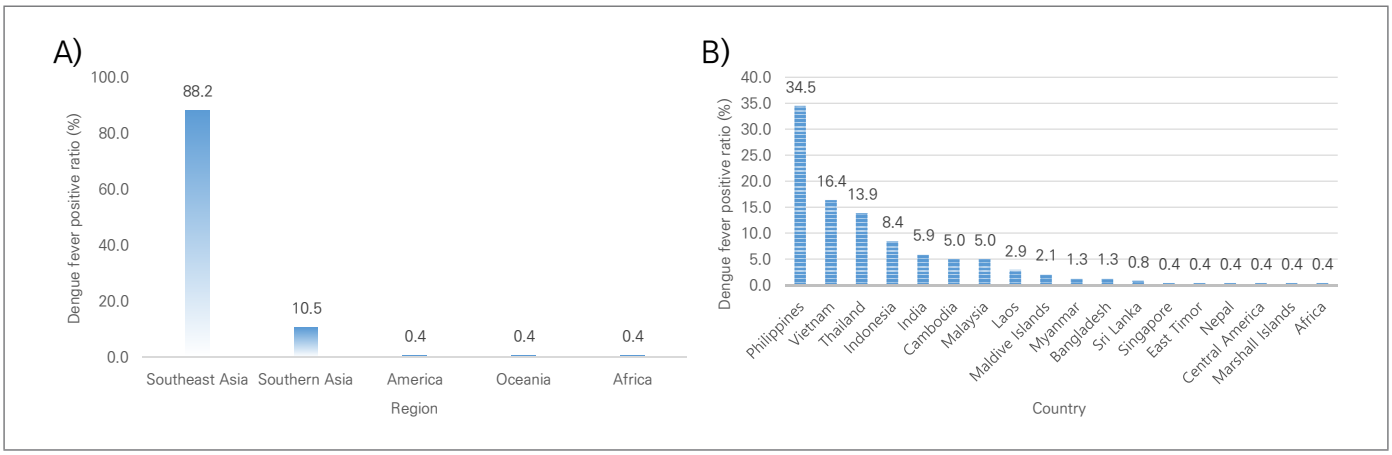

Figure 2. Distribution of imported dengue virus by (A) regions and (B) countries, 2018–2020

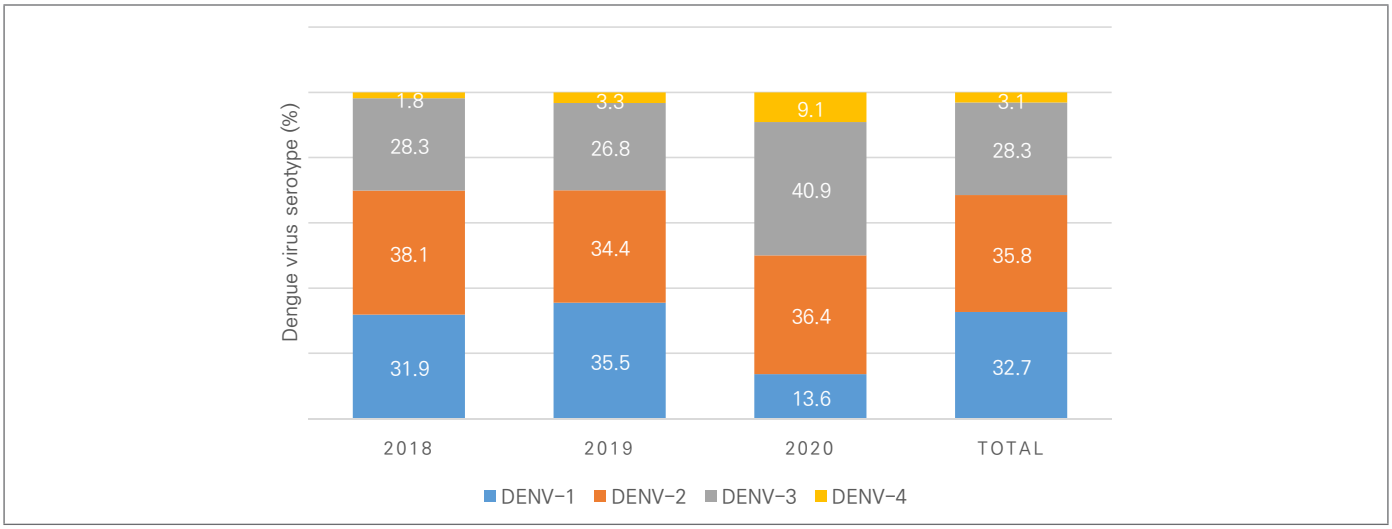

Figure 3. Distribution of imported dengue virus serotypes by year, 2018–2020

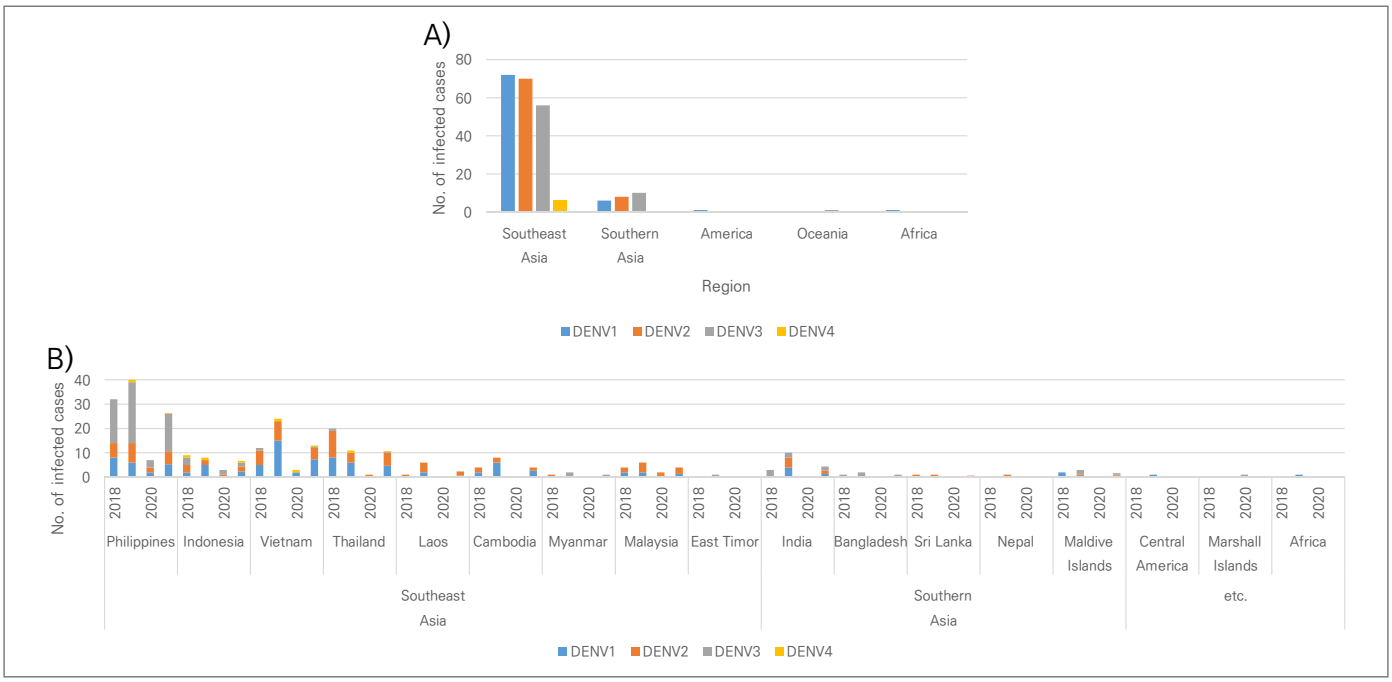

Figure 4. Distribution of imported dengue virus serotypes by (A) regions and (B) countries, 2018–2020