Case report

Potential dual dengue and SARS-CoV-2 infection in Thailand: A case study

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ABSTRACT

Coronavirus disease 2019 (Covid-19) has non-specific clinical and laboratory characteristics that might be similar to other viral infection including dengue. Two Covid-19 cases with ‘false-positive’ dengue serology have been reported in Singapore but no public health consequence was described [2]. We describe a Thai patient with an initial diagnosis of dengue fever who was later confirmed to also infect with SARS-CoV-2. The Covid-19 infection appeared to spread to one family member and one healthcare worker.

A 35-year-old salesman with no underlying past medical history, no history of recent travel abroad, but had frequent encounters with Chinese tourists, developed a high-grade fever, myalgia, productive cough, and nausea and vomiting on January 25, 2020. He went to a local private hospital on January 28 and was prescribed some medications for his symptoms.

On January 30, 2020, he went to another private hospital because his symptoms deteriorated. Two Covid-19 cases with ‘false-positive’ dengue serology have been reported in Singapore but no public health consequence was described [2]. We describe a Thai patient with an initial diagnosis of dengue fever who was later confirmed to be co-infected with SARS-CoV-2. The Covid-19 infection appeared to spread to one family member and one healthcare worker.

A 35-year-old salesman with no underlying past medical history, no history of recent travel abroad, but had frequent encounters with Chinese tourists, developed a high-grade fever, myalgia, productive cough, and nausea and vomiting on January 25, 2020. He went to a local private hospital on January 28 and was prescribed some medications for his symptoms.

On January 30, 2020, he went to another private hospital because his symptoms deteriorated. His blood cell counts were within normal ranges (white blood cells 7.5 × 10^3/ul, neutrophils 84%, lymphocytes 12%, hemoglobin 13.6 g/dl, hematocrit 39.8%, platelet 184 × 10^3/ul) and tested positive for both dengue IgM and IgG but negative dengue NS1 antigen. Nasopharyngeal swab tested negative for influenza A, influenza B, and respiratory syncytial virus. Chest radiography revealed minimal reticular infiltration and he was admitted for a provisional diagnosis of dengue fever. On February 2, he developed dyspnea and had persistent fever, thrombocytopenia (140 × 10^3/ul), reduced hematocrit 36.4%, and elevated alanine aminotransferase (ALT) 53 U/L (reference range 0–40 U/L).

On February 3, his chest radiography showed progressive bilateral alveolar infiltration and nasopharyngeal swabs obtained from the patient tested positive for SARS-CoV-2 by real-time reverse-transcription-polymerase-chain-reaction (RT-PCR) assay performed at the Department of Medical Sciences, Ministry of Public Health.

On February 5, he was referred to Bamrasnaradura Infectious Diseases Institute (BIDI) and admitted to an airborne infection isolation room (AIIR). The blood samples collected on February 3 and 5 were rechecked and tested negative for dengue virus by RT-PCR whereas dengue serology was negative for NS1 antigen and IgM but positive for IgG. Hence, recent dengue virus infection was likely.

The delayed diagnosis of Covid-19 because of the positive dengue rapid tests led to spreading the virus to a 35-year-old nurse who wore gloves but did not wear a mask during the blood sampling and his 3-year-old daughter. The nurse was considered the first Thai healthcare worker who got Covid-19 infection. His wife, mother, 10 work colleagues and 24 hospital staff tested negative for Covid-19.

Informed consent

The written informed consent for service was obtained from the patient.

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The authors declare no conflict of interest.

Additional information

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