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A prospective investigation of febrile illnesses among US forces in Somalia revealed dengue viruses as an important identifiable cause. 90 consecutively admitted patients temperatures of at least 38.1° C were studied. Flavivirus infection was confirmed by positive dengue IgM and/or hemagluttinin inhibition tests in 15 of 84 individuals tested. Dengue viruses were isolated from 14 cases with acute flavivirus infection; viral serotypes included dengue 2 (12 cases), dengue 3 (1 case), and mixed dengue 2/3 infection (1 case). Our report documents the detection of dengue 3 in north-east Africa.

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Dengue serotypes 2 and 3 in US forces in Somalia

Niranjan Kanesa-thasan, Lauren Iacono-Connors, Alan Magill, Bonnie Smoak, David Vaughn, Doria Dubois, Jeanne Burrous, Charles Hoke

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Dengue serotypes 2 and 3 in US forces in Somalia

SIR—More than 25 000 US military personnel were stationed in Somalia during Operation Restore Hope in 1992–93. Personnel with fever were admitted to a central hospital facility. We did a prospective investigation of febrile illnesses between March and May, 1993, which revealed dengue viruses as an important identifiable cause of fever.

90 consecutively admitted patients with temperatures of at least 38·1°C were studied. Daily examinations and malaria smears were done; admission and discharge sera were collected and frozen in liquid nitrogen. Flavivirus infection was confirmed by positive dengue IgM and/or haemagglutination inhibition tests in 15 of 84 individuals tested. Positive serological tests were found only in cases of clinically suspected arboviral illness (abrupt onset of fever, severe headache, and myalgias without other illnesses). Arboviruses were sought in 81 available admission sera. Viral isolations were carried out at two separate laboratories. In one, acute sera were inoculated into *Toxorhynchites splendens* mosquitoes, and flaviviruses were identified with indirect immunofluorescence (IFA) of mosquito squash preparations by use of polyvalent flavivirus antibody.[1] Viral isolates were identified with serotype-specific dengue monoclonal antibodies in an enzyme immunosorbent assay. In the other laboratory, sera were placed directly on C6/36 cells (*Aedes albopictus* mosquito cell line) and plaques were sought after 14 days' incubation. Dengue viruses were identified by IFA of cell monolayers by use of monoclonal antibodies.[2] Culture fluids were tested by nested reverse transcriptase-polymerase chain reaction (RT-PCR) for dengue viruses.[3] In addition, they were tested by plaque reduction neutralisation with serotype-specific polyclonal sera.

Dengue viruses were recovered from 14 of 15 cases with acute flavivirus infection. Both methods of isolation were equivalent in recovery of viruses. Viral serotypes included dengue 2 (12 cases), dengue 3 (1 case), and mixed dengue 2/3 infection (1 case). The dual infection was evidenced by both IFA and RT-PCR; inoculation of *T splendens* yielded only one dengue serotype (dengue 2).

Our report documents the detection of dengue 3 virus in north-east Africa. Dengue 3 virus was originally isolated in Africa during an epidemic in Mozambique in 1985.[4] Dengue serotypes 1 and 2 have previously been described in this region. Dengue viruses were responsible for 17% (14/81) of acute febrile illnesses in US forces in Somalia during this study. Dengue was the most common cause of fever in an endemic population from this region, in which 21% showed evidence of infection.[5] The appearance of dengue 3 in north-east Africa may reflect newly introduced virus or fortuitous recognition of circulating virus. The documented presence of three circulating serotypes of dengue virus may lead to the appearance of severe dengue (dengue haemorrhagic fever and dengue shock syndrome) in the region. We conclude that disease caused by dengue virus should be of increasing concern to medical personnel in north-east Africa. In addition, dengue infection should be considered in the evaluation of acute febrile illness in travellers returning from the region.

Niranjan Kanesa-thasan, Lauren Iacono-Connors, Alan Magill, Bonnie Smoak, David Vaughn, Doria Dubois, Jeanne Burrous, Charles Hoke

Division of Communicable Diseases and Immunology and Division of Preventive Medicine, Walter Reed Army Institute of Research, Washington DC 20307-5100, USA; and Department of Virology, Armed Forces Research, Institute for Medical Sciences, Bangkok, Thailand

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