

Surveillance of clinical, laboratory and serological features in travelers with dengue fever returning to Europe

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Objectives: To contribute to the understanding of epidemiology, clinical and laboratory characteristics of imported dengue fever.

Methods: Clinical, laboratory and serological data of travellers with dengue fever were collected prospectively within the framework of the European network for imported infectious disease surveillance (TropNetEurop) and the German network SIMPID.

Results: Between July 2003 and December 2004, a total of 97 probable and confirmed cases of acute dengue infections were reported, including two patients with dengue hemorrhagic fever (2.1%). Most infections were acquired on the Indian subcontinent (n=33), in Southeast Asia (n=35), in Central America (n=13), and in East Africa (n=7). Clinical bleeding was noted in n=14 (14.6%) patients, most often manifested as petechiae. Fever (89.7%), headache (78.4%), retro-orbital pain (53.6%), skin-rash (45.4%) and pruritus (18.6%), muscle pain (43.3%), and diarrhoea (22.7%) were the most frequent clinical features. In 39 patients a tourniquet test was performed with results being positive in 18 (46%).

Blood examination during the acute phase revealed leukopenia in 72% (59 of 82), thrombocytopenia in 66.7% (54 of 81), and elevated lactate dehydrogenase levels in 70.6% (36 of 51 patients). Levels of glutamate oxaloacetate transaminase (GOT) were increased in 67.9% (55 of 81). In four cases the GOT-elevation was more than 5-fold above normal (maximum 588 U/L). Serological data showed a secondary immune response in n=15 (18%) travellers.

Conclusions: Health-care providers should consider dengue as a differential diagnosis in febrile travellers returning from the tropics after excluding malaria, especially in patients with leukopenia, thrombocytopenia and mildly increased liver enzymes.