

## **Dengue virus serotypes circulating in Colombo during 2004**

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### **ABSTRACT**

Dengue fever (DF) and dengue haemorrhagic fever (DHF) are endemic in Sri Lanka. Since 1989, several outbreaks of dengue have occurred in the country and the most recent epidemic occurred in 2004, where the incidence of DF/DHF reached dramatic proportions.

In this study we report findings of a study that investigated the virus serotypes circulating in dengue patients from Colombo during 2004. During January to December 2004, a total of 1684 febrile cases suspected of dengue were screened using a Polymerase chain reaction (PCR) based in-house assay kit with both dengue and flavivirus specific primers in a single reaction tube. Of the total clinical specimens tested, 363 were found to be positive for dengue. Dengue positive PCR products were then serotyped with a subsequent nested PCR assay using serotype specific primers. All four serotypes were found to be circulating concurrently. However, their relative abundance varied significantly. The serotypes DEN-3 (57.6%) and DEN-2 (34.6%) were identified as the predominant serotypes, whilst DEN-1 (6%) and DEN-4 (4.5%) were not very common.

The RT PCR assay used in this study facilitated the screening of acute sera for dengue viral RNA during the first four days of fever. It also facilitated the characterisation of the serotype circulating in the clinical samples with a subsequent PCR reaction. In the absence of a cure or a vaccine, such a diagnostic assay becomes very important as it allows the detection of the virus early. Also, knowledge of the circulating dengue serotype in the locality contributes towards understanding the causes of epidemics, which is vital for effective disease surveillance, monitoring and management of clinical dengue cases.