

ISOLATION OF DENGUE VIRUS TYPE 2 IN RIO DE JANEIRO

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Dengue virus type 1 was introduced in Rio de Janeiro, in 1986, spreading to other parts of the country (H. G. Schatzmayr et al., 1986, *Mem. Inst. Oswaldo Cruz*, 81: 245-246; R. M. R. Nogueira et al., 1988, *Mem. Inst. Oswaldo Cruz*, 83: 219-225). This was the only type of dengue virus isolated during the following four years throughout the coast of Brazil, where *Aedes aegypti* is present.

By the end of April 1990, dengue virus type 2 was isolated from a 56-year-old patient, with classical dengue infection in the State of Rio de Janeiro. The blood sample was inoculated into cultures of the C6/36 cell line and typed by indirect immunofluorescence with dengue serotype-specific monoclonal antibodies and anti-mouse IgG conjugate. The patient lived in the city of Niterói, which is located across the Guanabara Bay, and linked to the urban area of Rio de Janeiro, by a bridge with heavy commuter traffic.

The isolation of dengue virus type 2, occurred exactly 4 years after the detection of the first strains of dengue type 1, and probably resulted from a similar route of entry into the country during the summer time.

By late May, 17 strains of dengue type 2 had already been isolated in the cities of Niterói and Rio de Janeiro, some as far as 40 km away from the original isolation, showing a rapid virus dissemination, as expected, in the existing epidemiological situation.

In addition to the 17 patients with virus

isolation, 13 more cases from Niterói gave high IgM response (MAC-ELISA) to dengue virus type 2, including 4 with a response only against this type.

During the same period (April/May 1990), 83 strains of dengue type 1 were isolated, showing that both dengue virus types are circulating. A total of 1959 dengue cases have been notified in the State of Rio de Janeiro, from January to May 1990, 85.6% of which in the last two months.

An evaluation of the clinical aspects of the cases, show that all patients with dengue virus type 2 presented with classical dengue, and no hemorrhagic disease. The main clinical signs and symptoms of the patients with dengue virus type 2 isolation were: cephalalgia and fever (100%), prostration (92.8%), myalgia (85.7%), arthralgia (71.4%), retro-orbital pain (71.4%), nausea (64.2%), asthenia (57.1%), anorexia (50%), exanthem (35.7%), lumbar pain (28.6%), pruritus (21.4%) and diarrhea (14.3%). Only one case showed gingival hemorrhage. The probably cases, identified only by IgM, show similar clinical signs and symptoms.

Dengue virus infections became endemic in Rio de Janeiro after the introduction of dengue virus type 1 in 1986, while vector indices have been kept constant in spite of efforts directed to vector control. Molecular characterization of the isolated dengue virus type 2 strains is in progress.