

Dengue Antibodies in a Suburban Community in Malaysia

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Sir,

Dengue virus infection is endemic in this country. In 2001, there were 3,638 cases of dengue fever (DF) and 128 dengue haemorrhagic fever (DHF) cases in Selangor, with 6 deaths from DHF¹. Up to September of 2002, there was a 30% rise in the number of reported dengue infections in Selangor².

Dengue fever is caused by any of the four serotypes of the dengue virus. Patients with previous dengue infection of one serotype are at risk to secondary dengue infection due to another serotype. In endemic areas, there is a co-circulation of several different dengue serotypes and a high prevalence of dengue antibodies in the population³. This favours the occurrence of secondary dengue infections that may lead to complications such as DHF and dengue shock syndrome (DSS).

We postulated there was a high prevalence of dengue antibodies in our population due to previous infections. To confirm this, we conducted a small compressive study using the PanBio [PanBio Pty Ltd, Australia] Dengue Indirect IgG enzyme-linked immunosorbent assay (ELISA) kit. The test system measures IgG induced by all dengue serotypes and quantitates in PanBio units. This test provides a quantitative

measurement of dengue IgG at low enough levels to detect past exposure and is more sensitive than the 'Rapid Strip Test' commonly used for dengue screening.

We conducted this cross-sectional study on our patients from Puchong, Malaysia. The serum samples were collected over a period of 13 months (from December 2000 to December 2001) from 85 patients. There were 39 female (45.9%) and 46 male (54.1%). The youngest patient was 5 years old and the oldest was 71 years old. Mean age in this study samples was 42.8 years. The overall seropositive rate was 76.5%. In our patients below 20 years old the seropositivity was only 33%. Those in the age-group 21-40 years recorded seropositivity of 63% and the 41-60 age-group a seropositivity of 88%. The 61-80 years age-group had the highest seropositivity of 100%. This confirmed that seroconversion rate increased with increasing age, indicating the continuous exposure to the dengue virus in an endemic area. The results concluded that there is a high level of dengue virus exposure in this community.

The high positivity of the dengue antibodies in our population makes secondary dengue infection (and the risk of DHF and DSS) a major health risk. Doctors in primary care need to be vigilant always and doing the WHO standard

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tourniquet test⁴ is recommended should dengue fever be suspected, especially in a rural setting where immediate laboratory tests cannot be

performed. The strategy for dengue control and prevention also needs to be reviewed to be effectively implemented.

References

1. Selangor Health Department. Epid Newsletter. Vol.4 Issue 1 Jan 2002; 2.
2. Selangor placed on dengue alert. The Star 2002; Oct 12; 12 (col 1).
3. WHO. Dengue and Dengue Haemorrhagic Fever. WHO Report on Global Surveillance of Epidemic-prone Infectious Diseases. Chapter 6. 2000.
4. WHO. Dengue Haemorrhagic Fever. Diagnosis, treatment, prevention and control. 2nd Ed. 1997; 19.