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Paper Poster Session

Travel medicine and international health

Management of dengue fever in travellers (MODFIT) study: does the WHO 2009 classification apply to travellers, and what are the best management strategies in caring for this population?

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Background: Dengue fever (DF) is caused by the infection from the Dengue virus, with the main vector being the mosquito *Aedes aegypti*. The traditional classification of Dengue fever (DF) has been updated by the revised 2009 WHO guidelines, which classify Dengue into DF, DF with warning signs and severe DF. Assessing the usefulness of these warning signs in identifying need for further medical intervention in the traveler group with DF has been inconclusive from current studies in the literature.

Material/methods: We performed a retrospective cohort study of confirmed and suspect Dengue cases from 2012-2015 across 2 main tertiary centers, Monash Health, and the Royal Darwin Hospital. We obtained demographic, epidemiological, comorbidity, serial clinical and laboratory, radiological, treatment and outcome data. Included cases had detection of Dengue virus by nucleic antigen testing, or detection of Dengue non-structural protein 1 (NS1) antigen in bloods.

Results: 85 confirmed cases were identified with a median age of 33 years. Dengue was commonly acquired in Indonesia (68%) and Thailand (11%). Hospital length of stay ranged from 1 to 10 days (mean 3 days). The most common clinical findings were fever (95%), myalgia/arthralgia (79%), headache (78%), rash (56%) and diarrhea (53%). The most common biochemical findings were leukopenia (82%), thrombocytopenia (67%) and deranged liver function tests (66%). Alarmingly, 32 (38%) had warning signs for severe DF, with the most common signs being bleeding (50%), abdominal pain (44%) and persistent vomiting (16%). Recognition of warning signs only occurred in 44% of

cases, and only 40% had close clinical fluid monitoring. One patient met the case definition for severe DF, with evidence of mucosal bleeding and myocarditis.

Conclusions: A significant proportion of our travelers with DF had warning signs for severe disease. A lack of adherence to the WHO protocol was revealed in the majority of cases. While there were no deaths and only one case of severe DF in this study group, larger studies are needed to assess the usefulness of the DF warnings signs in predicting severe disease in travelers, as well as the applicability of the guidelines for the management of DF in this group.

At present, we are expanding our study to include two further tertiary centers (Royal Melbourne Hospital and the Austin Hospital).