Heart compromise and detection of dengue virus-like particles in cardiac tissue of experimentally infected murine model

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The involvement of the myocardium in human cases of dengue has been reported, but the mechanism leading to myocarditis, one of the most commonly observed pathologies, remains unclear. In this study, BALB/c mice were infected with different strains of non-neuroadapted dengue virus serotype 2 and morphological analyses of heart were performed by transmission electron microscopy. For detection and quantification of the Viral RNA, Real-Time Reverse Transcriptase PCR assay was performed. Our analyses showed involvement of heart in DENV infection. DENV-like particles were observed inside endothelial cells and cardiomyocytes. DENV RNA was detected in 15 heart and four serum samples. In three samples, we observed titers higher than that of the inocula.

Keywords: Endothelial cells, dengue virus, heart, BALB/c mice

Financial support: Instituto Oswaldo Cruz, Faperj, Capes