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Dengue Virus Infection and Guillain–Barré Syndrome: A Systematic Review of Clinical Characteristics, Outcomes, and Predictors of Severity

Background

Dengue virus (DENV) is a mosquito-borne flavivirus causing significant morbidity in tropical and subtropical regions. While not classically neurotropic, DENV has been increasingly associated with neurological complications, including Guillain–Barré syndrome (GBS). This review synthesizes evidence on epidemiology, clinical features, outcomes, and predictors of severity in dengue-associated GBS.

Methods

We systematically searched PubMed and Embase (April 2025) using terms for dengue and GBS. Eligible studies were case reports/series with individual-level data on laboratory-confirmed or clinically diagnosed dengue preceding GBS.

Results

Thirty-six publications describing 56 patients from Asia, Latin America, and other endemic regions were included. The mean age was 34.9 years (range 1.5–73), with 57% male. Ninety-five percent had symptomatic dengue; thrombocytopenia occurred in 43%. Median latency from dengue onset to GBS was 7 days. Motor weakness was universal; facial palsy (32%), bulbar weakness (28.6%), sensory deficits (33.9%), and autonomic dysfunction (18%) were common. Electrophysiology showed AMSAN (33.9%), AIDP (32.1%), and AMAN (12.5%). Albuminocytologic dissociation was present in 62.5% of CSF samples. IVIG was administered in 76.7%, plasmapheresis in 14.3%; 25% required mechanical ventilation. Outcomes were favorable in most: 57% achieved full recovery, 32% partial recovery, and 5.4% mortality.

Conclusions

Dengue-associated GBS resembles other post-infectious forms but shows a high proportion of axonal subtypes. Prognosis is generally good with standard therapy. Although severe cases, particularly those with thrombocytopenia, are more likely to require ICU care. Clinicians in endemic areas should maintain a high index of suspicion for GBS in the post-dengue period to enable timely diagnosis and management.

Keywords

Dengue virus, Guillain-Barré syndrome (GBS), Neurotropic infection, Axonal neuropathy, acute inflammatory demyelinating polyneuropathy, acute motor axonal neuropathy

Biography

Dr. Effiong is a Clinical Research Fellow at the Clinical Research Centre, Ninewells Hospital, NHS Tayside, Dundee, UK. He holds an MBBS, an MPH, and a PgCert in Global Health and Humanitarian Medicine. His research interests include infectious diseases and neurology. He has contributed to several publications reflecting his focus on systematic reviews and evidence synthesis while supporting clinical trials delivery. He is committed to advancing research and clinical practice in infectious diseases, neurology, and global health.

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