A Clinical Prognostic Model For Time To Achieve Independent Walking In Children With Guillain-Barré Syndrome

Peerada Chaweekulrat[1], Oranee Sanmaneechai[1,2*]

[1]Department of Pediatric, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

[2]Center of excellent neuromuscular diseases, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

***Corresponding author:**
Oranee Sanmaneechai, M.D.
Division of Neurology, Department of Pediatrics
Faculty of Medicine Siriraj Hospital, Mahidol University
2 Wanglang Road, Bangkoknoi, Bangkok 10700, Thailand
Phone: (+66) 2-419-5890; Fax: (+66) 2-418-2238
E-mail: oranee141@gmail.com , oranee.san@mahidol.ac.th
ORCID ID: 0000-0002-4557-0387

Abstract

Guillain-Barré Syndrome (GBS) is a severe, post-infectious, immune-mediated peripheral neuropathy. Clinical features and outcomes in children differ from adults and there is no prognostic model to predict outcome in pediatric patients. We aimed to evaluate factors associated with outcome in pediatric GBS patients and to develop a prognostic model. Forty-one patients admitted with GBS between 2005 and 2018 were identified by retrospective chart reviews. Factors potentially associated with independent walking were assessed. We found that GBS disability score and results of nerve conduction study (NCS) were associated with walking disability. A clinical scoring system was developed based on regression coefficients from a Cox's proportional hazard model. We included disability score and NCS results in clinical prediciton model. Scores range from 0 – 5. A score of 5 require 34 days to achieve independent walking while a score of 0 required 5 months (mean: 158 days, p-value = 0.008). This simple scoring system for pediatric patients based on 2 factors provided outcome data in detail as a time (in days) to achieve independent walking, an important milestone of recovery for

communication with parents and assist clinicians to optimize treatment to achieve early rehabilitation.

Keywords: Guillain-Barré Syndrome, Prognostic factors, Predictive score