Introduction

Although complete recovery after stroke is the ideal, full recovery in most is not realistic. Increased survival rates have resulted in a greater number of patients with disabilities due to stroke. Early assessment and rehabilitation can lead to improved functional outcomes and diminished hospitalization costs. Therefore, there is a need for a comprehensive and objective rehabilitation assessment and prediction system which can assist with treatment choices and consent during the acute phase management of stroke.

A Scoring System for Predicting Recovery to a Grade of Minim Physical Assistance after Stroke

Claire E. Davenport, MD; Barbara E. Bates, MD, MBA; and Margaret G. Stinson, MD

(Albany Medical College, Albany NY; Veterans Affairs Medical Center, Albany; NY; and Physical Medicine and Rehabilitation, Albany Medical College, Albany, NY; Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, Philadelphia, PA, and Department of Physical Medicine and Rehabilitation, University of Pennsylvania, Philadelphia, PA)

A 57 year old right handed man with history of diabetes mellitus type 2 presents to a VA hospital from home. He was found down in his home after approximately 36 hours had passed. He is found to have ischemic stroke of his right middle cerebral artery. The emergency department staff requests admission assessment and treatment.

The Grade IV prognostic index utilizes a physical and cognitive grading system that serves as a quantitative measure to guide treatment choices and consent during the acute phase management of stroke.

Clinical Case Application

Seven out of thirty-five variables in the final model were assigned points (Figure 1) for predicting physical assistance levels following stroke. Physical grade IV (minimal assistance) or above including patients with severe impairments, extensive disabilities, and/or limited functional performance are excluded from the analysis because the independent variable of interest is to distinguish between and predict grades III and IV. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes.

Methods

A Grade IV prognostic index was developed by logistic regression modeling of a cohort developed from Vet- erans Health Administration (VHA) administrative data. A 45-year window of the data was included to develop the prediction score system and a validation cohort.

Functional independence Measure (FIM) physical and cognitive stages were determined at initial rehabilitation assessment and transformed into quartiles using median cut-offs on the 18 physical and 5 cognitive and outcome stages to establish the initial stage. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes.

Although complete recovery after stroke is the ideal, full recovery in most is not realistic. Increased survival rates have resulted in a greater number of patients with disabilities due to stroke. Early assessment and rehabilitation can lead to improved functional outcomes and diminished hospitalization costs. Therefore, there is a need for a comprehensive and objective rehabilitation assessment and prediction system which can assist with treatment choices and consent during the acute phase management of stroke.

A 57 year old right handed man with history of diabetes mellitus type 2 presents to a VA hospital from home. He was found down in his home after approximately 36 hours had passed. He is found to have ischemic stroke of his right middle cerebral artery. The emergency department staff requests admission assessment and treatment.

The Grade IV prognostic index utilizes a physical and cognitive grading system that serves as a quantitative measure to guide treatment choices and consent during the acute phase management of stroke.

Clinical Case Application

Seven out of thirty-five variables in the final model were assigned points (Figure 1) for predicting physical assistance levels following stroke. Physical grade IV (minimal assistance) or above including patients with severe impairments, extensive disabilities, and/or limited functional performance are excluded from the analysis because the independent variable of interest is to distinguish between and predict grades III and IV. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade I (total assistance), physical grade II (maximal assistance), and physical grade III (moderate assistance) were included in the analysis. Veterans with severely limited functional performance, such as those who are critically ill and not expected to survive, were excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes. Veterans who were initially at physical grade IV (minimal assistance) or above were also excluded because the focus of the study is to determine clinical care trajectories rather than survival outcomes.