Predictive value of an early Glasgow Outcome Scale score for severe Traumatic Brain Injury (TBI) patients

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Background.— Glasgow Outcome Scale (GOS) is a useful outcome scale for TBI patients. Its early assessment by neurologists predicts later disability, and evaluations at 1, 9, and 15 months post-TBI are highly correlated. This global disability evaluation is often used by critical care practitioners to assess prognosis for these patients.

Objectives.— To study the validity of early GOS score assessed at the end of intensive care for later prognosis for severe TBI patients. It is part of a larger regional prospective inception cohort study assessing the care network and one-year outcome after a severe TBI in the Parisian area (France), the Paris-TBI study.

Methods.— All adult patients with severe TBI (initial Glasgow Coma Scale score of 8 or less) in the Parisian area were recruited prospectively by mobile emergency services. Between July 2005 and April 2007, 504 patients were recruited, acute care mortality rate was 45%. GOS was assessed by critical care practitioners at discharge from intensive care and at one year by a trained neuropsychologist, for 119 patients of the cohort. Construct validity measure of early GOS used initial severity variables. Its predictive value used comparison and correlation measure with one-year GOS.

Results.— Patients were male in 83%, mean age was 35.7 ± 16.1, mean initial Glasgow Coma Scale score was 5.7 ± 1.8. Early GOS score showed strong correlation with initial severity variables. Early and late evaluations of GOS were significantly correlated (r = 0.001), but correlation was poor, with a Spearman's coefficient of 0.33, and a weighted kappa statistic of 0.32 (95% confidence interval = [0.16–0.49]). One-year GOS was more favourable than early GOS for 39 (33%) patients, identical for 53 (45%) patients, and worse for 27 (23%) patients.

Discussion.— This suggests that for several patients, early GOS evaluation underestimated real disabilities. Early assessment of disability by critical care practitioners is a poor predictor of outcome for severe TBI patients, and should not be used to inform patients or families on prognosis of TBI, or for decisions on post-acute care.


Who gets admitted to rehabilitation? Perceptions of clinicians and managers in two Canadian provinces working in clinical programs for persons with a brain injury?

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Context.— Variations in admission practices to post-acute rehabilitation care for persons with a traumatic or acquired brain injury (TBI/ABI) have been reported in the literature suggesting care systems may not be optimal or equitable, and that there is a need for evidence-based practice guidelines valid across different healthcare contexts.

Objective.— To document stakeholders’ perceptions of admission policies and practices within TBI/ABI inpatient rehabilitation programs in two Canadian provinces and to examine variations in perceived admission practice in publicly-funded facilities.

Study population.— Health care professionals, including program managers, caring for persons with TBI/ABI in 16 inpatient rehabilitation facilities in Quebec and Ontario (n = 250).

Methods.— An ongoing web-based survey including general questions about program policies and questions related to two clinical vignettes of a patient with a TBI and an ABI (non-traumatic anoxic brain injury). Survey content was developed following item generation by a group of experts/clinicians from across the continuum of care for persons with TBI/ABI. Respondents indicated whether their program had policies or guidelines to assist when admitting patients to their program, outcome measures used to assist in these decisions and clinical characteristics of persons they would likely admit to their program.

Results.— To date, 28 professionals responded to the survey; 82% of them reported their program had a policy/guideline to assist in admission decisions, but only 22% reported the guideline was «always respected». The Functional Independence Measure (FIM), Glasgow Coma Scale score and Berg Balance Scale were among the tools used to assist in admission decisions. Preliminary results suggest variation across facilities and provinces in the admissibility of patients who are reluctant to participate in rehabilitation therapies, who are confused and require constant supervision, have chronic psychiatric illnesses or are verbally and/or physically aggressive.

Discussion.— The variability across facilities in the perceptions of admissibility of patients with certain clinical characteristics suggests that uniform rehabilitation admission criteria do not exist in Quebec and Ontario. They may also reflect the varying level of expertise and capacity of the different facilities and their different mandates. The results also highlight the need to develop decision-making algorithms to assist in identifying rehabilitation candidates.


Holistic rehabilitation program and returning to school for children with traumatic brain injury

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Keywords: UEMS; Physical and Rehabilitation Medicine; Quality of Care; Programmes of Care; Europe; Slovenia; Traumatic brain injury; Child; Quality of life; School reentry