Evaluation of the Four Score Coma Scale Compared to Glasgow Coma Scale in Acute Stroke Patients
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Problem: Acute Stroke patient families are increasingly expecting to obtain accurate patient prognosis in order to make healthcare decisions. Currently we utilize the Glasgow Coma Scale (GCS) to assist in prognosis prediction.

Evidence: The GCS is a widely accepted tool in the evaluation of level of consciousness and predictor of prognosis. The Full Outline of Unresponsiveness (FOUR) score is a tool to measure patient responsiveness by using best motor, eye, brainstem and respiratory measures.

Strategy: The FOUR score would provide more accurate and in depth assessment of adult patients with acute stroke than the GCS, since it includes brainstem reflexes. Therefore providing a more accurate prognosis prediction.

Practice Change: Acute Stroke patients were identified from inpatient census at two large primary stroke centers. The advance practice nurse (APN) will perform the GCS & Four Score Coma Scale assessments.

Evaluation: The GCS and the FOUR score were obtained on admission, day 1, 2 and 3 and then weekly thereafter. At the time of discharge the patient was evaluated for both measures as well as a modified Rankin Score which is a measure of disability outcome after stroke. Inter-rater reliability in scale administration was established by the investigators.

Results: Of the 100 patients analyzed three-quarters of the patients suffered an ischemic stroke with 35% discharged home, 57% to rehab, LTAC, SNF or hospital, and an 8% mortality rate. 25% of the sample had a Modified Rankin score of 2 or below at discharge while 75% had poor outcomes (Modified Rankin 3-6). A Spearman’s rho showed a statistically significant correlation between the Last Glasgow (-.618) and Four scores (-.620) and the modified rankin scores. However, there was not a significant difference between scales.

Recommendations: We anticipated that the FOUR score would demonstrate significant advantages over the GCS because of its emphasis on physiologic parameters. However, results did not indicate any real differences between scales. The investigators found neither tool was complete and that further expansion and testing of the FOUR score tool should include a component of verbal response.

Bibliography:

