

# THE USE OF AN IN HOUSE SCORING SYSTEM SCALE VERSUS GLASGOW COMA SCALE IN NON-TRAUMATIC ALTERED STATES OF CONSCIOUSNESS PATIENTS : CAN IT BE USED FOR TRIAGING PATIENTS IN SOUTHEAST ASIAN DEVELOPING COUNTRIES?

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**Abstract.** Non-traumatic Altered States of Consciousness (ASC) are a non-specific consequence of various etiologies, and are normally monitored by Glasgow Coma Scale (GCS). The GCS gives variable results among untrained emergency medicine personnel in developing countries where English is not the first language. An In House Scoring System (IHSS) scale was made by the first author for the purpose of triaging so as to quickly assess patients when seen by medical personnel. This IHSS scale was compared to the GCS to determine its specificity and sensitivity in the accident and emergency department (ED) of Hospital Universiti Sains Malaysia (HUSM). All patients with non-traumatic ASC were selected by purposive sampling according to pre-determined criteria. Patients were evaluated by the two systems, IHSS and GCS, by emergency physicians who were on call. Patient demographics, clinical features, investigations, treatment given and outcomes were collected and followed for a period of 14 days. A total of 221 patients with non-traumatic ASC were studied, 54.3% were males. The mean age of the patients was 56 years old. The mean overall GCS score on presentation to the ED was 10.3. The mean duration of ASC was 11.6 hours. One hundred thirty patients (58.8%) experienced ASC secondary to general or focal cerebral disorders. The mortality rate was 40.3% 2 weeks after the ED visit. Fifty-four point three percent of the patients were awake and considered to have good outcomes while 45.7% of the patients had poor outcomes (comatose or dead) 2 weeks after the ED visit. The mean overall GCS score, verbal and motor subscores as well as the IHSS had significantly decreased (worsened) after treatment in the ED. A poor IHSS scale, hypertension, current smoking, abnormal pupillary reflexes and acidosis were associated with a worse 2-week outcome. The mean age and WBC count was lower and the mean overall GCS score and eye, verbal and motor subscores were higher as well as those having a lower IHSS scale for the good outcome category. Multivariate analysis revealed that smokers and hypertensives were at higher risk for a poor outcome. Higher eye scores on the GCS were associated with fewer poor outcomes. There was significant agreement between the IHSS scale and GCS scores in the assessment of non-traumatic ASC. The sensitivity and specificity of the IHSS score versus GCS were 71.9% and 100.0%, respectively.

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