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Neurobehavioral outcome 1 year after severe head injury. Experience of the Traumatic Coma Data Bank.

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Abstract

The outcome 1 year after they had sustained a severe head injury was investigated in patients who were admitted to the neurosurgery service at one of four centers participating in the Traumatic Coma Data Bank (TCDB). Of 300 eligible survivors, the quality of recovery 1 year after injury was assessed by at least the Glasgow Outcome Scale (GOS) in 263 patients (87%), whereas complete neuropsychological assessment was performed in 127 (42%) of the eligible survivors. The capacity of the patients to undergo neuropsychological testing 1 year after injury was a criterion of recovery as reflected by a significant relationship to neurological indices of acute injury and the GOS score at the time of hospital discharge. The neurobehavioral data at 1 year after injury were generally comparable across the four samples of patients and characterized by impairment of memory and slowed information processing. In contrast, language and visuospatial ability recovered to within the normal range. The lowest postresuscitation Glasgow Coma Scale (GCS) score and pupillary reactivity were predictive of the 1-year GOS score and neuropsychological performance. The lowest GCS score was especially predictive of neuropsychological performance 1 year postinjury in patients who had at least one nonreactive pupil following resuscitation. Notwithstanding limitations related to the scope of the TCDB and attrition in follow-up material, the results indicate a characteristic pattern of neurobehavioral recovery from severe head injury and encourage the use of neurobehavioral outcome measurements in clinical trials to evaluate interventions for head-injured patients.

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