Systematic selection of prognostic features in patients with severe head injury.

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Abstract
In this study small sets of clinical features were identified that, when combined, yield high quality predictions of long term outcome. The study is based on a series of 305 consecutive head-injured Dutch patients, all of whom had been in coma for at least 6 hours. The overall social outcome was assessed after 6 months using the Glasgow outcome scale. Predictions of outcome were made by assigning probabilities to each possible outcome category. The prognostically most promising features recorded during the early post-traumatic course were identified, and powerful combinations of prognostic features were selected on admission and 1, 3, 7, 14, and 28 days after the start of coma by an appropriate statistical method. At each time point, optimal prediction required sets of only three to five features, typically including age in decades, depth and duration of coma as assessed by the Glasgow coma scale, pupil reactivity to light, and spontaneous and reflex eye movements. The method described allows bedside predictions in individual patients and provides a tool for comparing the severity of injury between series of patients.

PMID: 7393417 [PubMed - indexed for MEDLINE]