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Practice Patterns for Neurosurgical Utilization and Outcome in Acute Intracerebral Hemorrhage: Intensive Blood Pressure Reduction in Acute Cerebral Hemorrhage Trials 1 and 2 Studies.

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Abstract

BACKGROUND: The prognosis in acute spontaneous intracerebral hemorrhage (ICH) is related to hematoma volume, where >30 mL is commonly used to define large ICH as a threshold for neurosurgical decompression but without clear supporting evidence.

OBJECTIVES: To determine the factors associated with large ICH and neurosurgical intervention among participants of the Intensive Blood Pressure Reduction in Acute Cerebral Hemorrhage Trials (INTERACT).

METHODS: We performed pooled analysis of the pilot INTERACT1 (n = 404) and main INTERACT2 (n = 2839) studies of ICH patients (<6 h of onset) with elevated systolic blood pressure (SBP, 150-220 mm Hg) who were randomized to intensive (target SBP < 140 mm Hg) or contemporaneous guideline-recommended (target SBP < 180 mm Hg) management. Neurosurgical intervention data were collected at 7 d postrandomization. Multivariable logistic regression was used to determine associations.

RESULTS: There were 372 (13%) patients with large ICH volume (>30 mL), which was associated with nonresiding in China, nondiabetic status, severe neurological deficit (National Institutes of Health stroke scale [NIHSS] score ≥ 15), lobar location, intraventricular hemorrhage extension, raised leucocyte count, and hyponatremia. Significant predictors of those patients who underwent surgery (226 of 3233 patients overall; 83 of 372 patients with large ICH) were younger age, severe neurological deficit (lower Glasgow coma scale score, and NIHSS score ≥ 15), baseline ICH volume > 30 mL, and intraventricular hemorrhage.

CONCLUSIONS: Early identification of severe ICH, based on age and clinical and imaging parameters, may facilitate neurosurgery and intensive monitoring of patients.