Malignant brain edema (MBE) due to hemispheric infarction can result in brain herniation, poor outcomes, and death; outcome may be improved if certain interventions, such as decompressive craniectomy, are performed early. We sought to generate a prediction score to easily identify those patients at high risk for MBE. 121 patients with large hemispheric infarction (LHI) (2011 to 2014) were included. Patients were divided into two groups: those who developed MBE and those who did not. Independent predictors of MBE were identified by logistic regression and a score was developed. Four factors were independently associated with MBE: baseline National Institutes of Health Stroke Scale (NIHSS) score (p = 0.048), Alberta Stroke Program Early Computed Tomography Score (ASPECTS) (p = 0.007), collateral score (CS) (p<0.001) and revascularization failure (p = 0.013). Points were assigned for each factor as follows: NIHSS ≤ 8 (= 0), 9-17 (= 1), ≥ 18 (= 2); ASPECTS≤ 7 (= 1), >8 (= 0); CS<2 (= 1), ≥2 (= 0); revascularization failure (= 1),success (= 0). The MBE Score (MBES) represents the sum of these individual points. Of 26 patients with a MBES of 0 to 1, none developed MBE. All patients with a MBES of 6 developed MBE. Both MBE development and functional outcomes were strongly associated with the MBES (p = 0.007 and 0.002, respectively). The MBE score is a simple reliable tool for the prediction of MBE [1].

[1]

Jo K, Bajgur SS, Kim H, Choi HA, Huh PW, Lee K. A simple prediction score system for malignant brain edema progression in large hemispheric infarction. PLoS One. 2017 Feb 8;12(2):e0171425. doi: 10.1371/journal.pone.0171425. PubMed PMID: 28178299.

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